

Part 1 of 2
OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS 06/29/1990



State of Oregon
Department of
Environmental
Quality

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Revised 6/29/90

State of Oregon
ENVIRONMENTAL QUALITY COMMISSION

A G E N D A

WORK SESSION -- June 28, 1990

Executive Building -- Room 3A
811 S. W. 6th Avenue
Portland, Oregon

- 1:00 p.m. - 1. Drug Lab Cleanup: Background Briefing
- 1:45 p.m. - 2. RCRA and UST Program Delegations: Background Discussion
- 2:30 p.m. - 3. Waste Tire Program Slide Show
- 3:00 p.m. - 4. Strategic Plan: Discussion of Operating Plans
- 4:00 p.m. - 5. 1991-93 Budget: Discussion of Decision Packages

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

REGULAR MEETING -- June 29, 1990

Executive Building -- Room 3A
811 S. W. 6th Avenue
Portland, Oregon
8:30 a.m.

I. Consent Items

NOTE: These are routine items that may be acted upon 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. When a rulemaking hearing is authorized, a public hearing will be scheduled and held to receive public comments. Following the hearing, the item will be returned to the Commission for consideration and final adoption of rules. When rules are proposed for final adoption as Consent Items, a hearing has been held, no significant issues were raised, and no changes are proposed to the original draft that was authorized for hearing.

- A. Minutes of the May 24-25, 1990 Meeting
- B. Approval of Tax Credit Applications

- C. Commission Approval of Standards, Criteria, and Policy Directives for the DEQ Director Position

Authorization of Rulemaking Hearings

- D. Air Quality Rules: Amendment to General Emission Standards for Volatile Organic Compounds
- E. Grants Pass Particulate Matter (PM₁₀) Control Strategy
- F. Klamath Falls Particulate Matter (PM₁₀) Control Strategy
- G. Medford-Ashland Particulate Matter (PM₁₀) Control Strategy
- H. Clear Lake (Near Florence): Proposed Amendments to Rules Concerning Protection of Clear Lake Water Quality and Rules Establishing a Moratorium on On-Site Sewage Disposal Systems in the Clear Lake Basin
- I. Land Use Coordination: Proposed Rules to Adopt State Agency Coordination Program

Adoption of Rules (No changes are proposed following public hearing.)

(None)

Action Items (Routine items where recommendations is consistent with rules.)

- J. Waste Tire Pile Cleanup: Approval of Funds From the Waste Tire Recycling Account to Assist Coos County
- K. Waste Tire Pile Cleanup: Approval of Funds From the Waste Tire Recycling Account to Assist Klamath County
- L. Waste Tire Pile Cleanup: Approval of Funds From the Waste Tire Recycling Account to Assist Richard Mishler, Jr.

II. Public Forum

This is an opportunity for citizens to speak to the Commission on environmental issues and concerns not a part of the agenda for this meeting. Individual presentations will be limited to 5 minutes. The Commission may discontinue this forum after a reasonable time if an exceptionally large number of speakers wish to appear.

III. Action Items

- M. Review of Contested Case Decision in DEQ v Turnbull, Case No. SW-SWR-89-03
- N. Asbestos Program: Request for Adoption of Finding and Order to Require Refresher Training for Small Scale Asbestos Abatement Workers
- O. Pollution Control Bonds: Review of Agreement Provisions and Authorization of Bond Sale for Mid-Multnomah County Sewers
- P. Timber Products Company: Request for Variance for Grants Pass Plant
- Q. Timber Products Company: Request for Variance for White City Plant
- R. Tualatin Basin Watershed Management Plans: Review and Commission Action
- S. Strategic Plan: Request for Commission Approval
- Special Item. Drug Lab Cleanup: Proposed Adoption of Emergency (Temporary) Rules to Implement Cleanup Cost-Share Program

IV. Rule Adoptions

NOTE: Hearings have already been held on these Rule Adoption items; therefore any testimony received will be limited to comments on changes proposed by the Department in response to hearing testimony. The Commission also may choose to question interested parties present at the meeting.

- X. Water Quality Rules: Proposed Adoption of Rule Amendments to Clarify Requirements for Designation and Management of Water Quality Limited Segments
- Y. Water Quality Rules: State Revolving Loan Fund Rule Amendments
- Z. Water Quality Rules: Adoption of Rule Changes Affecting Permits and Approvals for Industrial and Agricultural Sources
- T. Confirmed Release Inventory: Proposed Adoption of Rule Amendments to Implement HB 3235
- U. UST Program: Proposed Adoption of Financial Responsibility Rules for Owners and Operators of 100 or More Tanks
- V. Oil Contaminated Soil Cleanup Contractors: Proposed Adoption of Amendments to Registration and Licensing Requirements for UST Service Providers to Add Certification and Licensing for Soil Cleanup Contractors and Supervisors (HB 3456)

W. Waste Reduction: Proposed Rules for Waste Reduction Plans (SB 855)

V. Informational Items

AA. Commission Member Reports:

- Pacific Northwest Hazardous Waste Advisory Council (Hutchison)
- Governor's Watershed Enhancement Board (Sage)

VI. Commission Deliberations

NOTE: This is an opportunity for Commission members to discuss information that has previously been provided to them. No testimony will be taken. However, the Commission may ask staff or members of the audience to respond to questions.

(None Scheduled)

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 a set time should arrive at 8:30 a.m. to avoid missing any item of interest.

The next Commission meeting will be Friday, August 10, 1990, at the High Desert Museum south of Bend, Oregon. There will be a Commission/Staff retreat at the same location on August 9, 1990.

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 229-5395, or toll-free 1-800-452-4011. Please specify the agenda item letter when requesting.

June 28, 1990

Approved _____
Approved with corrections _____
Corrections made _____

MINUTES ARE NOT FINAL UNTIL APPROVED BY THE EQC

ENVIRONMENTAL QUALITY COMMISSION

Minutes of the Two Hundred and Fourth Meeting
May 24-25, 1990

Field Trip

On the way to the meeting at Newport, the Commission toured forest practice operations in the vicinity of Fall City. Present for the tour were Chairman Hutchison, Commissioners Wessinger and Lorenzen, Director Hansen, representatives of the State Forestry Department, representatives of Willamette Industries and Boise Cascade Corporations, and several Department staff members. The Commission and staff then proceeded to Newport and visited the Agate Beach Landfill north of Newport prior to the beginning of the Work Session.

Work Session

The Environmental Quality Commission (Commission, EQC) Work Session was convened at 3:00 p.m. in the Newport City Council Chambers at 810 S. W. Alder Street in Newport, Oregon. Commission members present were: Chairman Bill Hutchison, Vice Chairman Emery Castle, and Commissioners Bill Wessinger, Genevieve Sage and Henry Lorenzen. Also present were Director Fred Hansen of the Department of Environmental Quality and Department staff.

Item 1: Strategic Plan: Discussion of Final Recommendations for Plan

Public comments had been received on the Strategic Plan under development by the Commission and Department. The Department summarized the comments received, and presented recommendations for modification of the Draft Strategic Plan. The Commission reviewed the comments and Department recommendations. Changes were agreed upon by the Commission.

The Department was instructed to display the final changes and present the matter on the next regular meeting agenda for formal adoption by the Commission.

Item 2: Non-Criteria (Toxic) Air Pollutant Rules: Background Discussion

This work session item presented background information to the Commission in preparation for consideration of future rules to reduce the release of toxic air pollutants from new and existing sources. Nick Nikkila and Gregg Lande of the Air Quality Division presented the background information. Over the past 3-4 years, the Department has been compiling the data necessary to determine the scope and magnitude of problems in Oregon from toxic air pollutants. A Toxic Air Pollutant Emission Inventory was completed for Oregon for 1987. Monitoring of ambient air in Portland provides evidence of toxic chemicals in the air. The Department has been using existing authority to require appropriate emission controls to protect public health while new regulations are being developed.

Item 3: 1991-93 Budget Request: Discussion

Peter Dalke provided a brief overview of the status of development of the 1991-93 budget.

Audrey Simmons, representing Water Watch, expressed support for the water quality program enhancement package of the budget. She also expressed concern about the slow pace of activity to establish instream water rights for Oregon streams, and urged the Commission to seek establishment of an instream water right on the Columbia River.

Additional Discussions

The Commission discussed the format for the Dioxin Science Work Shop that is scheduled for June 13, 1990. It was decided that a panel of Indian Tribe, Environmental, and Industry Representatives should be allowed up to one and one half hours to present their views and concerns prior to the EPA presentations so that EPA could have a better chance at responding to the local concerns.

Regular Meeting

The Environmental Quality Commission regular meeting was convened at about 8:45 a.m. in the Newport City Council Chambers at 810 S. W. Alder Street in Newport, Oregon. Commission members present were: Chairman Bill Hutchison, Vice Chairman Emery Castle, and Commissioners Bill Wessinger, Genevieve Sage and Henry Lorenzen. Also present were Michael Huston of the Attorney General's Office, Director Fred Hansen of the Department of Environmental Quality and Department staff.

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.

Chairman Hutchison welcomed the public to the meeting and asked people wishing to testify on any item to fill out a witness registration sheet. Chairman Hutchison also explained that the agenda was arranged to permit routine items (listed as Consent Items) to be approved as a block without discussion. He advised that if any Commission member wanted to discuss any of the listed consent items, they would be removed from the consent list and acted upon separately.

The Commission then proceeded through the published agenda.

Consent Items

The following items were listed on the agenda as Consent Items:

A.1. Minutes of the April 17, 1990 Meeting

A.2. Approval of Tax Credit Applications

The Department presented recommendations that 52 applications for tax credit be approved as follows:

TC-2541	Shirtcliff Oil Company	Replacement of bare steel tanks and piping with fiberglass tanks and piping; installation of line leak detectors, tank monitor, spill containment manholes, overspill prevention devices, monitoring wells
TC-2541	Merritt Truax, Inc.	Installation of spill containment manholes with overfill protection
TC-2542	Merritt Truax, Inc.	Installation of spill containment manholes with overfill protection
TC-2544	Merritt Truax, Inc.	Installation of spill containment manholes with overfill protection

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TC-2545	Merritt Truax, Inc.	Installation of spill containment manholes with overflow protection
TC-2546	Merritt Truax, Inc.	Installation of spill containment manholes with overflow protection
TC-2547	Merritt Truax, Inc.	Installation of spill containment manholes with overflow protection
TC-2549	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2550	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2551	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2552	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2553	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2554	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2555	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2556	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2559	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2561	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2562	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection

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TC-2565	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2566	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2567	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2568	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2569	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2570	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2571	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2573	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2578	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2579	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2580	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2581	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2582	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2583	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection

TC-2584	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2585	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2586	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2587	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2588	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2590	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2591	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2592	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2593	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2594	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2595	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2596	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2597	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2584	Van West Oil Company, Inc.	New installation of fiberglass tanks and piping; installation of spill containment manholes, over-

- fill prevention devices, tank monitor, line leak detectors and monitoring wells
- TC-2685 Van West Oil Company, Inc. Replacement of steel tanks and piping with fiberglass tanks and piping; installation of spill containment manholes, overfill prevention devices, and tank monitor
- TC-2765 Joe B. Donaldson Donaldson's Chevron Replacement of bare steel tank and piping with fiberglass tank and piping; installation (on new tank and three existing tanks) of line leak detectors, tank monitor, spill containment system and monitoring wells
- TC-2798 Western Stations Co. New installation of double wall (polyethylene outer wall, steel inner wall) tank and fiberglass piping; replacement of steel piping with fiberglass piping on existing tanks; installation of impressed current cathodic protection on all tanks; installation of spill containment man;holes, breakaway connectors (with automatic shut-off) on all nozzles, and tank monitor
- TC-2856 Westside Mobile Car Wash Installation of impressed current cathodic protection on existing tanks and new steel piping; installation of spill containment manholes, overfill prevention devices, tank monitor, line leak detectors and monitoring wells
- TC-2901 Pioneer International, Inc. Installation of epoxy lining inside bare steel tank and s pill containment device; installation of spill

containment manholes and tank monitor on existing tanks

TC-3086 Shirtcliff Oil Company

Replacement of bare steel tanks and piping with fiberglass tanks and piping; installation of line leak detectors, tank monitor, spill containment manholes, overfill prevention devices and monitoring wells

TC-3100 Shirtcliff Oil Company

Replacement of bare steel tanks and piping with fiberglass tanks and piping; installation of line leak detectors, tank monitor, spill containment manholes, overfill prevention devices and monitoring wells

Authorization of Rulemaking Hearings

Agenda Item A.3.a. Stage II Vapor Recovery for Air Quality Control in the Portland Metropolitan Area

This item requests authorization to hold a public hearing on proposed underground piping requirements as the first step in implementing Stage II vapor recovery (control of motor vehicle refueling vapors) at gasoline stations in Clackamas, Multnomah and Washington Counties. The proposed rules would require the installation of Stage II underground piping within 24 months of rule adoption or at the time of compliance with underground storage tank requirement, whichever comes first. In addition, gasoline stations in these counties that have not already installed Stage I vapor recovery systems (control of tanker truck to storage tank vapors) would be required to do so within the same 24 months or less schedule. The proposed rules were contained in Attachment A of the Staff Report.

Agenda Item A.3.b. Toxics Use Reduction and Hazardous Waste Reduction Rules (HB 3515)

This item requested authorization for a rulemaking hearing on proposed rules to implement the planning, technical assistance and reporting requirements of the Toxics Use Reduction and Hazardous Waste Reduction Act of 1989 as presented in Attachment.

A of the Staff Report. The proposed rules would define the universe of toxics users subject to the requirements, describe minimum requirements for a toxics use reduction and hazardous waste reduction plan, require that priority be given to implementing toxics use reduction measures over hazardous waste reduction measures where technically and economically feasible, require the establishment of performance goals, describe reporting requirements, and describe procedures for review of plans and progress reports by the Department.

Adoption of Rules

Agenda Item A.4.a. Groundwater: Proposed Adoption of Interim Numerical Standards for Maximum Measurable Levels of Contaminants

This item recommended adoption of permanent rules to establish Interim Numerical Standards for Maximum Measurable Levels of Contaminants in groundwater as required by HB 3515 passed by the 1989 Legislature. Temporary Rules establishing the same standards were adopted October 20, 1989. The proposed rules (Attachment A) are identical to the temporary rules.

Agenda Item A.4.b. Water Quality Permit Fees: Proposed Industrial Source Fee Increase to Help Fund Groundwater Program

This item recommended adoption of water quality fee rule amendments as presented in Attachment A of the Staff Report. The rule amendments modify the fee schedule in OAR 340-45-075 to generate additional annual revenue of \$38,500 to assist in funding increased groundwater efforts pursuant to legislative direction.

Agenda Item A.4.c. Water Quality Rules: Adoption of Rule Changes Affecting Permits and Approvals for Industrial and Agricultural Sources

This item recommended adoption of water quality rule amendments affecting permits and approvals for industrial and agricultural sources. The proposed amendments were presented in Attachment A of the staff report. The amendments would clarify that permits will not expire until final action is taken on a renewal application provided the renewal application has been submitted in a timely manner. The amendments would also make permitting rules and confined animal feeding or holding rules consistent with new statutory requirements, identify circumstances when the Director could issue a stipulated consent order in lieu of a permit, clarify the category of "major mining operation", clarify fees relating to General Permits and Special Permits, and exempt small impoundments and oil/water separators from the requirement for engineering plan review.

Agenda Item A.4.d. Sewerage Works Construction Grants: Proposed Adoption of Rule Modifications

This item recommended adoption of construction grant rule modifications as presented in Attachment A of the staff report. The rule modifications make the grant rules consistent with the Water Quality Act of 1987, expand the funding range in reserve accounts for innovative and alternative sewage treatment technologies and small community alternative systems, and allows funds recovered from prior years to be also used for innovative and alternative technologies.

The Commission removed item A.4.c. from the consent agenda by consensus to allow further discussion of that item.

It was MOVED by Commissioner Wessinger that all Consent Items except A.4.c. be approved as recommended by the Department. The motion was seconded by Commissioner Castle and unanimously approved.

Consideration of Agenda Item A.4.c.

Chairman Hutchison asked Michael Huston, Assistant Attorney General, if he had an opportunity to review the concerns on this item raised by a letter from the Western Natural Resources Law Clinic which questioned the adequacy of notice and whether the Department is precluded by federal law from providing permit extensions while permit renewal applications are being considered. Mr. Huston advised that he was not persuaded that the notice was insufficient. He further stated that Oregon law provides for permit extensions as proposed in the rule. In fact, the Attorney General's office had advised the Department to reflect the state law and current practice in the rule. However, he was not ready to give an opinion on the federal law question.

Chairman Hutchison asked if issuance of a temporary permit pending review of a renewal application was an option. Director Hansen indicated that EPA had accepted the approach that is proposed for addition to the rule. He further noted that the procedures for issuance of a temporary permit would be extensive and thus that approach would not accomplish the intended purpose. He suggested the matter be held over until Mr. Huston has a chance to look further at the issue.

Commissioner Lorenzen expressed concern about provisions of the rule that deal with mining. He requested that these provisions be held up until a comprehensive review of mining issues is completed.

By consensus, the Commission elected to defer consideration of this item until the Attorney General responds or later depending on the discussions under Item E.

Public Forum

Harry Demaray expressed concern that the minutes for the last meeting summarized his testimony rather than including a full transcript. Mr. Demaray read a statement regarding his concerns that the Department has failed to follow up on enforcement actions that he has recommended prior to his dismissal as an employee of the Department. He advised of his intent to file citizen suits under the provisions of the Clean Air Act and the Clean Water Act.

John Rice, representing Antifreeze Environmental Service Corporation, expressed concern that Oregon rules to not classify antifreeze as a hazardous waste, and as a result, effective recycling does not occur. He stated that used antifreeze contains heavy metals and should not be discharged to municipal sewers. Stephanie Hallock, Hazardous and Solid Waste Administrator, advised that the Department is reviewing this issue at the present time.

Action Items

Agenda Item B. State/EPA Agreement: EQC Review of Department Recommendations

This agenda item provided an opportunity for the EQC to review the State/Environmental Protection Agency Agreement which establishes priorities and a work program and provides for federal funding assistance for DEQ programs. The Department recommended that the Commission accept the information report.

The Commission accepted the Department recommendation by consensus.

Agenda Item C. Air Quality State Implementation Plan (SIP): Adoption of Amendments to LRAPA Rules Title 15 "Enforcement Procedures and Civil Penalties," as a Revision to the Oregon SIP

Lane Regional Air Pollution Authority recently amended their enforcement procedure and civil penalty rules to clarify them and make them consistent with existing EQC rules. The Department recommended that the Commission adopt the Lane Regional Rules as presented in Attachment A of the staff report as a revision to the Oregon State Implementation Plan.

It was MOVED by Commissioner Lorenzen that the recommendation of the Department be approved. The motion was seconded by Commissioner Castle and unanimously approved.

Agenda Item D. Revolving Loan Fund: Proposed Adoption of Temporary Rules and Authorization for Hearing on Permanent Rules to Address Problems Encountered in Initial Program Implementation and 1989 Legislative Amendments

This item recommended that the Commission adopt temporary rules to address problems encountered in initial implementation of the State Revolving Loan Fund for sewerage works construction, and to authorize a rulemaking hearing to make the temporary rules permanent. The proposed temporary rules were presented in Attachment A of the staff report. The findings in support of the temporary rule were presented in Attachment J.

Martin Loring and Maggie Conley, Water Quality Division staff, briefed the Commission on the activities of a task force that has been assisting the Department on this matter.

It was MOVED by Commissioner Castle that the Department recommendation be approved. The motion was seconded by Commissioner Lorenzen, and unanimously approved.

Agenda Item D-2. Adoption of Emergency Rules to Change the Effective Date of On-Site Stormwater Control Rules in the Tualatin Basin.

This item recommended that the Commission adopt a temporary rule to amend OAR 340-41-455(3)(d)(A) to change the deadline for adoption of stormwater control ordinances that are equivalent to DEQ rules from June 1, 1990 to July 1, 1990. The proposed rule was presented in Attachment A. Findings in support of the temporary rule were presented in Attachment B. This rule modification was requested by the Unified Sewerage Agency at the April 17 EQC meeting. The Commission directed the Department to return with this proposed rule modification.

Chris Bowles, representing Unified Sewerage Agency, asked the Commission to consider an additional one year delay. He indicated that the existing rule causes significant demand on limited staff and they are concerned that it may detract from desirable longer term accomplishments. Commission members expressed concern at the apparent change in position of the Unified Sewerage Agency from their request at the last meeting. Director Hansen reminded the Commission that new construction contributes to the non-point source loading of phosphorous in the Tualatin Basin. Since large amounts of new construction are occurring, it is important that control actions be implemented now along with the new construction.

It was MOVED by Commissioner Wessinger that the findings and Temporary Rule proposed by the Department be approved. The motion was seconded by Commissioner Lorenzen and unanimously approved.

Agenda Item E. Gold Mining: Possible Policy Guidance on Permit Issuance and Permit Conditions (Continued Discussion from Last Meeting)

Chairman Hutchison introduced this item by noting that it was a continuation of discussion from the last meeting. He indicated that the Commission has received an opinion from the Attorney General regarding how state and federal governments interface on mining issues. Commissioner Castle asked that the issue before the Commission be articulated.

Director Hansen responded that large mining operations using chemicals are required to obtain either an NPDES or a WPCF permits from DEQ. The Department would review such permit applications on a site by site basis using best professional judgement to develop requirements to assure that environmental quality is protected in the event of permit issuance. The types of considerations and requirement are reflected in Attachment A of the staff report on this item. On such large operations, one question before the Commission is whether the considerations in Attachment A are adequate. A procedural question is whether the current practice of using "Best Professional Judgement" is adequate or should some of the requirements be incorporated into rules.

Regulation of smaller non-chemical mining operations is presently accomplished jointly by the Department of Geology and Mineral Industries (DOGAMI) and DEQ. These are the operations that are addressed in part in the rules proposed in Agenda Item A.4.c. One issue is the role the Commission desires to play in the interagency agreement between DEQ and DOGAMI and whether the current agreement is satisfactory.

Other mining issues include whether all of the environmental issues at a particular mining site are adequately addressed, whether there is appropriate financial assurance for such operations to assure that potential problems can be corrected without public expense, and restoration of sites after mining is completed. Some of these issues fall within the authority of DOGAMI.

Commissioner Lorenzen indicated his interest in this issue was triggered when he received notice of the proposed expansion of the mining general permit to include four additional categories of operations. He felt the general permit and the agreement with DOGAMI raise policy issues that should be reviewed by the Commission. He also felt the fees on mining operations in Agenda Item A.4.c. seemed low and that only one inspection in 5 years seems inadequate. He had concerns on impacts of such operations and whether input had been received from Fish and Wildlife. Commissioner Lorenzen

requested a detailed briefing on what other states are doing, and what the available technologies are. He also felt that rules should be established to give predictability to the issue.

Jean Cameron, representing Oregon Environmental Council, presented recommendations for minimum requirements for regulation of chemical leaching operations as follows:

- Adopt the toughest possible BMP's as permit standards and adopt long-term monitoring and bonding requirements in addition to those required by DOGAMI.
- Require clay liners below double synthetic liners, each with leak detection and collection system layers, impoundment partitioning, and runoff containment systems adequate to deal with 100 year flood events.
- Tailings from vat milling operations should be dewatered, treated with limestone, and placed on similar pads. At closure, heap leach pads should be rinsed to EPA drinking water standards, and both heaps and tailings should be capped to reduce future toxic runoff.
- Require recovery and reuse of cyanide. Prohibit the transport and use of liquid cyanide since pellet forms are available and pose less risk.
- Permit conditions should include restricting toxicity of open ponds as well as netting and fencing as appropriate to protect wildlife from toxic exposure.

Finally, Ms. Cameron urged the Commission to seek authorize to participate with other state agencies in developing a mechanism for an environmental impact analysis for projects which occur on state or private lands.

John Beaulieu, representing the Department of Geology and Mineral Industries, and Jerry Turnbaugh of the Water Quality Division staff, responded to questions from the Commission.

Following some discussion, the Commission by consensus directed the Department as follows:

1. DEQ should compile information on other states mining regulation programs and the environmental control technology being utilized, and share that information with the Commission.
2. DEQ should conduct a general review of Oregon's strategy for environmental regulation of mining. Action on approval of the proposed general permit and any

other permits should be suspended until this review is completed and the Commission has had an opportunity to review and discuss the information compiled by the Department.

3. Return at the next meeting following response from the Attorney General on Agenda Item A.4.c. but with the provisions related to mining removed and delayed pending the review requested in items 1 and 2 above.
4. DEQ should take the lead in arranging a joint meeting of the affected agencies to discuss team permitting.
5. DEQ should proceed with the development of rules to establish standards, requirements, and best management practices related to environmental control of mining.

Rule Adoptions

Agenda Item F. Emission Exceedances: New Rule to Regulate Excess Emissions Due to Start-up, Shut-down, or Malfunction Situations

This item recommended the Commission adopt new rules presented in Attachment B of the staff report to regulate air pollution emission exceedances due to startup, shutdown, or malfunction conditions. The rules are necessary to achieve conformance with current federal requirements. The proposed rules also provide a more streamlined process for documenting and evaluating whether excess emissions due to startup, shutdown, scheduled maintenance and breakdowns should be subject to enforcement action.

Lori Cooper, representing Northwest Environmental Defense Center, indicated they were quite satisfied with the alternative recommended by the Department.

Nick Nikkila, Air Quality Division Administrator advised the Commission that an implementation plan for this rule is being put together by the Department as a pilot project for future rulemaking actions.

It was **MOVED** by Commissioner Sage that the Department recommendation be approved. The motion was seconded by Commissioner Castle and unanimously approved.

Agenda Item G. Infectious Waste: Proposed Adoption of Rules to Implement 1989 Legislation Limiting Disposal and Requiring Incineration or Other Sterilization Before Disposal

This item recommends adoption of new rules to implement 1989 legislation limiting disposal and requiring incineration or other sterilization of infectious waste before disposal. The proposed rules were presented in Attachment A of the staff report. The proposed rules establish criteria for the department to use in determining when pathological wastes may be sterilized by means other than incineration, and specify how "sharps" (needles, scalpels, etc.) may be disposed of in permitted landfills without sterilization.

Director Hansen reviewed the Department's public hearing in March and the new rules pertaining to the treatment of sharps which were developed as a result of testimony during the hearings and comment period. He outlined the written opinion from the Department of Justice that the 1989 statute authorizes the EQC to adopt rules pertaining to treatment of infectious wastes.

Commission members asked about the need for special handling of sterilized sharps, whether sterilized sharps are still classified as infectious wastes, whether the Health Division requirement that infectious wastes be sterilized in dedicated equipment could be changed and whether sharps containers would retain their integrity after bailing. Stephanie Hallock and Tim Davison, of the Hazardous and Solid Waste Division, explained that sterilized sharps could still cause a puncture wound and that even unused needles are still classified as infectious waste. They explained that the Health Division requirement for separate sterilization equipment for infectious waste was based upon the need to prevent contamination of the areas used to sterilize medical instruments and that statute prohibits compaction or baling of infectious waste containers.

It was MOVED by Commissioner Wessinger that the Department recommendation be approved. The motion was seconded by Commissioner Castle and unanimously approved.

Agenda Item H. UST Rules: Proposed Adoption of Federal UST Technical Standards and Financial Responsibility Rules; and Local Program Delegation

This item proposed adoption of technical standards for Underground Storage Tanks (UST) that are no less stringent than applicable federal UST standards. The proposed rules also defer action on financial responsibility for owners and operators of fewer than 100 tanks until early 1991 based upon recent changes in federal UST regulations. The rules also defer action on financial responsibility for owners and operators of 100 or more tanks pending review by legislative committee. Finally, the proposed rules also

provide for local program delegation. The proposed rules are presented in Attachment A of the staff report.

Commissioner Sage asked for some elaboration on local program delegation. Rich Reiter, of the Hazardous and Solid Waste Division indicated that the law allows delegation to local agencies to administer the state program. The department does not anticipate much interest in local delegation unless provision is made to provide funding from DEQ for such local agencies.

It was MOVED by Commissioner Castle that the Department recommendation be approved. The motion was seconded by Commissioners Sage and Lorenzen and unanimously approved.

Agenda Item I. Permit Public Notice Procedures: Proposed Adoption of Rule Amendments

This item proposes amendment of rules to describe items which must be included in public notices for permit applications or permit renewals for NPDES permits, air contaminant discharge permits, water quality general permits, hazardous waste permits, and solid waste permits. The proposed rules are intended to assure meaningful and sufficient information in public notices to result in the public being able to better respond with useful testimony and to determine whether they wish to request additional information. The proposed rules are presented in Attachment A of the staff report.

Director Hansen advised the Commission that the proposed rules require additional information to be included in notices that are mailed. The changes are considered significant and will require staff training to effectively implement. Therefore, the implementation date was set for September 1. Commissioners Wessinger and Lorenzen expressed some concern about the added staff burden of the rules.

Steve Hudson, representing Boise Cascade Corporation, voiced similar concerns to Commissioners Wessinger and Lorenzen. He urged the Commission to retain the existing rules and use internal guidance to provide for systematic expansion of information provided in the public notice.

Karen Russell, representing Northwest Environmental Defense Center, supported the Department recommendation. She also urged an expansion of the information included in 401 certification public notices.

It was MOVED by Commissioner Castle that the Department recommendation be approved. The motion was seconded by Commissioner Wessinger and unanimously approved.

Agenda Item J. Water Quality Permit Fees: Proposed Municipal Source Fee Increase to Help Fund Groundwater Program, Pretreatment Program and Sludge Program

This item proposed the adoption of rule amendments to increase municipal wastewater facility permit fees. The fee increases are intended to generate revenues for (1) implementing parts of the Groundwater Protection Act of 1989 as directed by the legislature, (2) overseeing pollution abatement activities in the Tualatin basin, and (3) regulating pretreatment and sludge management activities of permitted facilities. The proposed rules also modify the structure of the existing fee schedule to distinguish between different sizes and types of facilities and apply different fee amounts to these categories to achieve a more equitable distribution of fees. Director Hansen noted that if the fees are not increased to fund increased staff for the pretreatment and sludge activities, the only other option will be to let EPA operate the programs.

Kip Burdick, representing the Metropolitan Waste Management Commission, Springfield, expressed support for DEQ operation of the sludge and pretreatment programs. He expressed disagreement with the method for determining the fee for sludge as it applies to his agency.

Stanton LeSieur, representing Unified Sewerage Agency (USA), expressed support for the position of the Association of Oregon Sewerage Agencies. He also expressed concern about the sludge fees applied to the USA Durham facility that incinerates sludge and landfills the ash rather than applying it to land. They felt the fees for this facility were unfairly high and should be reduced from \$5,000 to \$500. He also expressed the view that the law suit settlement should pay for the Tualatin Basin activities and the permit fee should go only to permit related activities. Therefore, the Tualatin Basin fee should be delayed. Finally, he urged consideration of a statewide plan review fee as a future alternative.

Lydia Taylor advised that the Department is exploring the plan review fee concept. Director Hansen indicated that the significant issue is how you divide the total revenue to be generated from the fee among the various fee payers. Any approach that is generally reasonable and logical will not satisfy everyone.

It was **MOVED** by Commissioner Lorenzen that the Department recommendation be approved. The motion was seconded by Commissioner Castle, and unanimously approved.

Informational Items

Agenda Item K. Commission Member Reports

Chairman Hutchison and Commissioner Sage indicated there was nothing new to report relative to the Pacific Northwest Hazardous Waste Advisory Council or Governor's Watershed Enhancement Board.

Agenda Item L. Legislative Update (Oral Status Report)

John Loewy advised that the legislative proposals had been submitted to the Governor's office for review. Some have been approved and passed on to legislative counsel for drafting. The Department has been asked to provide additional information on a few others. With respect to the enforcement proposal, the Governor's office is looking at a broader natural resource agency approach. Finally, the Interim Committee on the Environment will be meeting on the Air Quality fee proposal. The committee response so far was generally favorable.

The Commission asked about the Water Fee proposal that had been added to the package. Director Hansen advised that the Governor's office had asked the Department to prepare the proposal after the Commission reviewed legislative proposals. The Department's proposal was included at the end of the memo that summarized the Commission decisions made at the April 17, 1990 Work Session.

Agenda Item M. Water Quality Program Updates

Status reports were presented on several water quality projects as follows:

Coquille Project: Informational Report

Krystyna Wolniakowski of the Water Quality Division staff presented information on the Coquille project which is a pilot project to develop an "Action Plan for Oregon Estuary and Ocean Waters." In this EPA funded project, the Department has proposed to develop a management framework for protecting environmental quality of Oregon's coastal waters, and tie in to existing coastal management efforts through the Ocean Resources Management Act and the Coastal Zone Management Act. The pilot project involved both an estuary-specific study of the Coquille River estuary where detailed water quality information was collected, and a more general involvement in planning for the protection of Oregon's ocean waters in the future. An advisory committee is assisting in the planning process.

TBT: Background Discussion

Krystyna Wolniakowski presented information on a study the Department has completed on the concentration and distribution of tributyltin (TBT) in water and sediment and its effects on the biota of South Slough Estuary, Coos Bay. TBT is the active ingredient used in some antifouling boat paints. TBT has been shown to adversely affect oyster production. Use of TBT has been restricted since January 1988. This together with improved boat yard practices has lowered measured TBT concentrations.

305(b) Report: Informational Briefing

Neil Mullane of the Water Quality Division advised the Commission of the completion of the draft 1990 Water Quality Status Assessment Report. The Department is soliciting public comments on the report through public hearings scheduled for June 15, 1990 in Portland. Public comments will be received through June 18, 1990. Appendix A of the report describes the water quality limited waterbodies in the state, and Appendix E presents the list of waterbodies impaired due to the presence of toxic pollutants.

Agenda Item N. Pollution Control Bonds: Background on Agreement Provisions and Future Bond Sale for Mid-Multnomah County Sewers

Peter Dalke, Management Services Division Administrator, provided the Commission with background information on the current status of the Mid-Multnomah County Sewer Implementation Plan. As part of this plan, a request to issue Pollution Control Bonds will be presented to the Commission in the near future.

Commission Deliberations

Agenda Item O. Options for Public Input (Discussion of Suggestions from Last Meeting)

At the meeting on April 17, 1990, the Commission discussed the need to establish a clear policy on public input during the Commission meeting related to rulemaking agenda items. A draft **Statement of Policy** was presented for Commission consideration.

The Commission accepted the draft and requested that an additional sentence be added to provision 4 to clearly preserve the right of the Commission to ask questions of department staff or members of the public.

By consensus, the Commission approved the policy with the above amendment, and directed the Department to prepare the final statement and proceed with distribution.

Other Business

The Commission discussed options for responding to issues raised during the public forum. As outlined by Commissioner Sage, the Department was instructed to prepare a response to public forum commenters advising of the status of Department actions or knowledge regarding their concern, and advising of options for recourse if appropriate. The Commission is to be provided copies of all such responses. The intent is to attempt to satisfy the concerns and to preclude the need for the commenter to return to a future public forum on the same issue.

The Commission then returned to discussion of the legislative concept for a water user fee. Commissioner Castle expressed the view that water is underpriced and overused. He was concerned that the proposal was aimed at those using water most efficiently and was missing those where water was the most underpriced. Commissioner Sage noted that the demand for water creates environmental impacts and would justify a fee. Commissioner Lorenzen expressed concern that there was not enough information to feel comfortable acting upon. In general, the Commission expressed the view that a broad based, equitable fee may have vitality. Further, a narrower fee on metered water may be acceptable if the fee is rationally based and related to water quality issues. In summary, the Commission appeared to like the general concept, but felt they needed to proceed cautiously and give it further thought when more details become known.

There was no further business and the meeting was adjourned at about 1:35 p.m.

Approved _____
Approved with corrections _____
Corrections made _____

MINUTES ARE NOT FINAL UNTIL APPROVED BY THE EQC

ENVIRONMENTAL QUALITY COMMISSION

Minutes of the Two Hundred and Fourth Meeting
May 24-25, 1990

Field Trip

On the way to the meeting at Newport, the Commission toured forest practice operations in the vicinity of Fall City. Present for the tour were Chairman Hutchison, Commissioners Wessinger and Lorenzen, Director Hansen, representatives of the State Forestry Department, representatives of Willamette Industries and Boise Cascade Corporations, and several Department staff members. The Commission and staff then proceeded to Newport and visited the Agate Beach Landfill north of Newport prior to the beginning of the Work Session.

Work Session

The Environmental Quality Commission (Commission, EQC) Work Session was convened at 3:00 p.m. in the Newport City Council Chambers at 810 S. W. Alder Street in Newport, Oregon. Commission members present were: Chairman Bill Hutchison, Vice Chairman Emery Castle, and Commissioners Bill Wessinger, Genevieve Sage and Henry Lorenzen. Also present were Director Fred Hansen of the Department of Environmental Quality and Department staff.

Item 1: Strategic Plan: Discussion of Final Recommendations for Plan

Public comments had been received on the Strategic Plan under development by the Commission and Department. The Department summarized the comments received, and presented recommendations for modification of the Draft Strategic Plan. The Commission reviewed the comments and Department recommendations. Changes were agreed upon by the Commission.

The Department was instructed to display the final changes and present the matter on the next regular meeting agenda for formal adoption by the Commission.

Item 2: Non-Criteria (Toxic) Air Pollutant Rules: Background Discussion

This work session item presented background information to the Commission in preparation for consideration of future rules to reduce the release of toxic air pollutants from new and existing sources. Nick Nikkila and Gregg Lande of the Air Quality Division presented the background information. Over the past 3-4 years, the Department has been compiling the data necessary to determine the scope and magnitude of problems in Oregon from toxic air pollutants. A Toxic Air Pollutant Emission Inventory was completed for Oregon for 1987. Monitoring of ambient air in Portland provides evidence of toxic chemicals in the air. The Department has been using existing authority to require appropriate emission controls to protect public health while new regulations are being developed.

Item 3: 1991-93 Budget Request: Discussion

Peter Dalke provided a brief overview of the status of development of the 1991-93 budget.

Audrey Simmons, representing Water Watch, expressed support for the water quality program enhancement package of the budget. She also expressed concern about the slow pace of activity to establish instream water rights for Oregon streams, and urged the Commission to seek establishment of an instream water right on the Columbia River.

Additional Discussions

The Commission discussed the format for the Dioxin Science Work Shop that is scheduled for June 13, 1990. It was decided that a panel of Indian Tribe, Environmental, and Industry Representatives should be allowed up to one and one half hours to present their views and concerns prior to the EPA presentations so that EPA could have a better chance at responding to the local concerns.

Regular Meeting

The Environmental Quality Commission regular meeting was convened at about 8:45 a.m. in the Newport City Council Chambers at 810 S. W. Alder Street in Newport, Oregon. Commission members present were: Chairman Bill Hutchison, Vice Chairman Emery Castle, and Commissioners Bill Wessinger, Genevieve Sage and Henry Lorenzen. Also present were Michael Huston of the Attorney General's Office, Director Fred Hansen of the Department of Environmental Quality and Department staff.

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.

Chairman Hutchison welcomed the public to the meeting and asked people wishing to testify on any item to fill out a witness registration sheet. Chairman Hutchison also explained that the agenda was arranged to permit routine items (listed as Consent Items) to be approved as a block without discussion. He advised that if any Commission member wanted to discuss any of the listed consent items, they would be removed from the consent list and acted upon separately.

The Commission then proceeded through the published agenda.

Consent Items

The following items were listed on the agenda as Consent Items:

A.1. Minutes of the April 17, 1990 Meeting

A.2. Approval of Tax Credit Applications

The Department presented recommendations that 52 applications for tax credit be approved as follows:

TC-2541	Shirtcliff Oil Company	Replacement of bare steel tanks and piping with fiberglass tanks and piping; installation of line leak detectors, tank monitor, spill containment manholes, overspill prevention devices, monitoring wells
TC-2541	Merritt Truax, Inc.	Installation of spill containment manholes with overfill protection
TC-2542	Merritt Truax, Inc.	Installation of spill containment manholes with overfill protection
TC-2544	Merritt Truax, Inc.	Installation of spill containment manholes with overfill protection

TC-2545	Merritt Truax, Inc.	Installation of spill containment manholes with overflow protection
TC-2546	Merritt Truax, Inc.	Installation of spill containment manholes with overflow protection
TC-2547	Merritt Truax, Inc.	Installation of spill containment manholes with overflow protection
TC-2549	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2550	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2551	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2552	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2553	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2554	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2555	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2556	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2559	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2561	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection
TC-2562	Metrofueling, Inc.	Installation of spill containment manholes with overflow protection

TC-2565	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2566	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2567	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2568	Truax Petroleum Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2569	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2570	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2571	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2573	Pride of Oregon Sales, Inc.	Installation of spill containment manholes with overflow protection
TC-2578	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2579	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2580	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2581	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2582	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2583	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection

TC-2584	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2585	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2586	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2587	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2588	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2590	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2591	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2592	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2593	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2594	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2595	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2596	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2597	Harris Enterprises, Inc.	Installation of spill containment manholes with overflow protection
TC-2584	Van West Oil Company, Inc.	New installation of fiberglass tanks and piping; installation of spill containment manholes, over-

- fill prevention devices, tank monitor, line leak detectors and monitoring wells
- TC-2685 Van West Oil Company, Inc. Replacement of steel tanks and piping with fiberglass tanks and piping; installation of spill containment manholes, overfill prevention devices, and tank monitor
- TC-2765 Joe B. Donaldson Donaldson's Chevron Replacement of bare steel tank and piping with fiberglass tank and piping; installation (on new tank and three existing tanks) of line leak detectors, tank monitor, spill containment system and monitoring wells
- TC-2798 Western Stations Co. New installation of double wall (polyethylene outer wall, steel inner wall) tank and fiberglass piping; replacement of steel piping with fiberglass piping on existing tanks; installation of impressed current cathodic protection on all tanks; installation of spill containment man;holes, breakaway connectors (with automatic shut-off) on all nozzles, and tank monitor
- TC-2856 Westside Mobile Car Wash Installation of impressed current cathodic protection on existing tanks and new steel piping; installation of spill containment manholes, overfill prevention devices, tank monitor, line leak detectors and monitoring wells
- TC-2901 Pioneer International, Inc. Installation of epoxy lining inside bare steel tank and s pill containment device; installation of spill

containment manholes and tank monitor on existing tanks

TC-3086 Shirtcliff Oil Company

Replacement of bare steel tanks and piping with fiberglass tanks and piping; installation of line leak detectors, tank monitor, spill containment manholes, overfill prevention devices and monitoring wells

TC-3100 Shirtcliff Oil Company

Replacement of bare steel tanks and piping with fiberglass tanks and piping; installation of line leak detectors, tank monitor, spill containment manholes, overfill prevention devices and monitoring wells

Authorization of Rulemaking Hearings

Agenda Item A.3.a. Stage II Vapor Recovery for Air Quality Control in the Portland Metropolitan Area

This item requests authorization to hold a public hearing on proposed underground piping requirements as the first step in implementing Stage II vapor recovery (control of motor vehicle refueling vapors) at gasoline stations in Clackamas, Multnomah and Washington Counties. The proposed rules would require the installation of Stage II underground piping within 24 months of rule adoption or at the time of compliance with underground storage tank requirement, whichever comes first. In addition, gasoline stations in these counties that have not already installed Stage I vapor recovery systems (control of tanker truck to storage tank vapors) would be required to do so within the same 24 months or less schedule. The proposed rules were contained in Attachment A of the Staff Report.

Agenda Item A.3.b. Toxics Use Reduction and Hazardous Waste Reduction Rules (HB 3515)

This item requested authorization for a rulemaking hearing on proposed rules to implement the planning, technical assistance and reporting requirements of the Toxics Use Reduction and Hazardous Waste Reduction Act of 1989 as presented in Attachment

A of the Staff Report. The proposed rules would define the universe of toxics users subject to the requirements, describe minimum requirements for a toxics use reduction and hazardous waste reduction plan, require that priority be given to implementing toxics use reduction measures over hazardous waste reduction measures where technically and economically feasible, require the establishment of performance goals, describe reporting requirements, and describe procedures for review of plans and progress reports by the Department.

Adoption of Rules

Agenda Item A.4.a. Groundwater: Proposed Adoption of Interim Numerical Standards for Maximum Measurable Levels of Contaminants

This item recommended adoption of permanent rules to establish Interim Numerical Standards for Maximum Measurable Levels of Contaminants in groundwater as required by HB 3515 passed by the 1989 Legislature. Temporary Rules establishing the same standards were adopted October 20, 1989. The proposed rules (Attachment A) are identical to the temporary rules.

Agenda Item A.4.b. Water Quality Permit Fees: Proposed Industrial Source Fee Increase to Help Fund Groundwater Program

This item recommended adoption of water quality fee rule amendments as presented in Attachment A of the Staff Report. The rule amendments modify the fee schedule in OAR 340-45-075 to generate additional annual revenue of \$38,500 to assist in funding increased groundwater efforts pursuant to legislative direction.

Agenda Item A.4.c. Water Quality Rules: Adoption of Rule Changes Affecting Permits and Approvals for Industrial and Agricultural Sources

This item recommended adoption of water quality rule amendments affecting permits and approvals for industrial and agricultural sources. The proposed amendments were presented in Attachment A of the staff report. The amendments would clarify that permits will not expire until final action is taken on a renewal application provided the renewal application has been submitted in a timely manner. The amendments would also make permitting rules and confined animal feeding or holding rules consistent with new statutory requirements, identify circumstances when the Director could issue a stipulated consent order in lieu of a permit, clarify the category of "major mining operation", clarify fees relating to General Permits and Special Permits, and exempt small impoundments and oil/water separators from the requirement for engineering plan review.

Agenda Item A.4.d. Sewerage Works Construction Grants: Proposed Adoption of Rule Modifications

This item recommended adoption of construction grant rule modifications as presented in Attachment A of the staff report. The rule modifications make the grant rules consistent with the Water Quality Act of 1987, expand the funding range in reserve accounts for innovative and alternative sewage treatment technologies and small community alternative systems, and allows funds recovered from prior years to be also used for innovative and alternative technologies.

The Commission removed item A.4.c. from the consent agenda by consensus to allow further discussion of that item.

It was MOVED by Commissioner Wessinger that all Consent Items except A.4.c. be approved as recommended by the Department. The motion was seconded by Commissioner Castle and unanimously approved.

Consideration of Agenda Item A.4.c.

Chairman Hutchison asked Michael Huston, Assistant Attorney General, if he had an opportunity to review the concerns on this item raised by a letter from the Western Natural Resources Law Clinic which questioned the adequacy of notice and whether the Department is precluded by federal law from providing permit extensions while permit renewal applications are being considered. Mr. Huston advised that he was not persuaded that the notice was insufficient. He further stated that Oregon law provides for permit extensions as proposed in the rule. In fact, the Attorney General's office had advised the Department to reflect the state law and current practice in the rule. However, he was not ready to give an opinion on the federal law question.

Chairman Hutchison asked if issuance of a temporary permit pending review of a renewal application was an option. Director Hansen indicated that EPA had accepted the approach that is proposed for addition to the rule. He further noted that the procedures for issuance of a temporary permit would be extensive and thus that approach would not accomplish the intended purpose. He suggested the matter be held over until Mr. Huston has a chance to look further at the issue.

Commissioner Lorenzen expressed concern about provisions of the rule that deal with mining. He requested that these provisions be held up until a comprehensive review of mining issues is completed.

By consensus, the Commission elected to defer consideration of this item until the Attorney General responds or later depending on the discussions under Item E.

Public Forum

Harry Demaray expressed concern that the minutes for the last meeting summarized his testimony rather than including a full transcript. Mr. Demaray read a statement regarding his concerns that the Department has failed to follow up on enforcement actions that he has recommended prior to his dismissal as an employee of the Department. He advised of his intent to file citizen suits under the provisions of the Clean Air Act and the Clean Water Act.

John Rice, representing Antifreeze Environmental Service Corporation, expressed concern that Oregon rules to not classify antifreeze as a hazardous waste, and as a result, effective recycling does not occur. He stated that used antifreeze contains heavy metals and should not be discharged to municipal sewers. Stephanie Hallock, Hazardous and Solid Waste Administrator, advised that the Department is reviewing this issue at the present time.

Action Items

Agenda Item B. State/EPA Agreement: EQC Review of Department Recommendations

This agenda item provided an opportunity for the EQC to review the State/Environmental Protection Agency Agreement which establishes priorities and a work program and provides for federal funding assistance for DEQ programs. The Department recommended that the Commission accept the information report.

The Commission accepted the Department recommendation by consensus.

Agenda Item C. Air Quality State Implementation Plan (SIP): Adoption of Amendments to LRAPA Rules Title 15 "Enforcement Procedures and Civil Penalties," as a Revision to the Oregon SIP

Lane Regional Air Pollution Authority recently amended their enforcement procedure and civil penalty rules to clarify them and make them consistent with existing EQC rules. The Department recommended that the Commission adopt the Lane Regional Rules as presented in Attachment A of the staff report as a revision to the Oregon State Implementation Plan.

It was MOVED by Commissioner Lorenzen that the recommendation of the Department be approved. The motion was seconded by Commissioner Castle and unanimously approved.

Agenda Item D. Revolving Loan Fund: Proposed Adoption of Temporary Rules and Authorization for Hearing on Permanent Rules to Address Problems Encountered in Initial Program Implementation and 1989 Legislative Amendments

This item recommended that the Commission adopt temporary rules to address problems encountered in initial implementation of the State Revolving Loan Fund for sewerage works construction, and to authorize a rulemaking hearing to make the temporary rules permanent. The proposed temporary rules were presented in Attachment A of the staff report. The findings in support of the temporary rule were presented in Attachment J.

Martin Loring and Maggie Conley, Water Quality Division staff, briefed the Commission on the activities of a task force that has been assisting the Department on this matter.

It was MOVED by Commissioner Castle that the Department recommendation be approved. The motion was seconded by Commissioner Lorenzen, and unanimously approved.

Agenda Item D-2. Adoption of Emergency Rules to Change the Effective Date of On-Site Stormwater Control Rules in the Tualatin Basin.

This item recommended that the Commission adopt a temporary rule to amend OAR 340-41-455(3)(d)(A) to change the deadline for adoption of stormwater control ordinances that are equivalent to DEQ rules from June 1, 1990 to July 1, 1990. The proposed rule was presented in Attachment A. Findings in support of the temporary rule were presented in Attachment B. This rule modification was requested by the Unified Sewerage Agency at the April 17 EQC meeting. The Commission directed the Department to return with this proposed rule modification.

Chris Bowles, representing Unified Sewerage Agency, asked the Commission to consider an additional one year delay. He indicated that the existing rule causes significant demand on limited staff and they are concerned that it may detract from desirable longer term accomplishments. Commission members expressed concern at the apparent change in position of the Unified Sewerage Agency from their request at the last meeting. Director Hansen reminded the Commission that new construction contributes to the non-point source loading of phosphorous in the Tualatin Basin. Since large amounts of new construction are occurring, it is important that control actions be implemented now along with the new construction.

It was MOVED by Commissioner Wessinger that the findings and Temporary Rule proposed by the Department be approved. The motion was seconded by Commissioner Lorenzen and unanimously approved.

Agenda Item E. Gold Mining: Possible Policy Guidance on Permit Issuance and Permit Conditions (Continued Discussion from Last Meeting)

Chairman Hutchison introduced this item by noting that it was a continuation of discussion from the last meeting. He indicated that the Commission has received an opinion from the Attorney General regarding how state and federal governments interface on mining issues. Commissioner Castle asked that the issue before the Commission be articulated.

Director Hansen responded that large mining operations using chemicals are required to obtain either an NPDES or a WPCF permits from DEQ. The Department would review such permit applications on a site by site basis using best professional judgement to develop requirements to assure that environmental quality is protected in the event of permit issuance. The types of considerations and requirement are reflected in Attachment A of the staff report on this item. On such large operations, one question before the Commission is whether the considerations in Attachment A are adequate. A procedural question is whether the current practice of using "Best Professional Judgement" is adequate or should some of the requirements be incorporated into rules.

Regulation of smaller non-chemical mining operations is presently accomplished jointly by the Department of Geology and Mineral Industries (DOGAMI) and DEQ. These are the operations that are addressed in part in the rules proposed in Agenda Item A.4.c. One issue is the role the Commission desires to play in the interagency agreement between DEQ and DOGAMI and whether the current agreement is satisfactory.

Other mining issues include whether all of the environmental issues at a particular mining site are adequately addressed, whether there is appropriate financial assurance for such operations to assure that potential problems can be corrected without public expense, and restoration of sites after mining is completed. Some of these issues fall within the authority of DOGAMI.

Commissioner Lorenzen indicated his interest in this issue was triggered when he received notice of the proposed expansion of the mining general permit to include four additional categories of operations. He felt the general permit and the agreement with DOGAMI raise policy issues that should be reviewed by the Commission. He also felt the fees on mining operations in Agenda Item A.4.c. seemed low and that only one inspection in 5 years seems inadequate. He had concerns on impacts of such operations and whether input had been received from Fish and Wildlife. Commissioner Lorenzen

requested a detailed briefing on what other states are doing, and what the available technologies are. He also felt that rules should be established to give predictability to the issue.

Jean Cameron, representing Oregon Environmental Council, presented recommendations for minimum requirements for regulation of chemical leaching operations as follows:

- Adopt the toughest possible BMP's as permit standards and adopt long-term monitoring and bonding requirements in addition to those required by DOGAMI.
- Require clay liners below double synthetic liners, each with leak detection and collection system layers, impoundment partitioning, and runoff containment systems adequate to deal with 100 year flood events.
- Tailings from vat milling operations should be dewatered, treated with limestone, and placed on similar pads. At closure, heap leach pads should be rinsed to EPA drinking water standards, and both heaps and tailings should be capped to reduce future toxic runoff.
- Require recovery and reuse of cyanide. Prohibit the transport and use of liquid cyanide since pellet forms are available and pose less risk.
- Permit conditions should include restricting toxicity of open ponds as well as netting and fencing as appropriate to protect wildlife from toxic exposure.

Finally, Ms. Cameron urged the Commission to seek authorize to participate with other state agencies in developing a mechanism for an environmental impact analysis for projects which occur on state or private lands.

John Beaulieu, representing the Department of Geology and Mineral Industries, and Jerry Turnbaugh of the Water Quality Division staff, responded to questions from the Commission.

Following some discussion, the Commission by consensus directed the Department as follows:

1. DEQ should compile information on other states mining regulation programs and the environmental control technology being utilized, and share that information with the Commission.
2. DEQ should conduct a general review of Oregon's strategy for environmental regulation of mining. Action on approval of the proposed general permit and any

other permits should be suspended until this review is completed and the Commission has had an opportunity to review and discuss the information compiled by the Department.

3. Return at the next meeting following response from the Attorney General on Agenda Item A.4.c. but with the provisions related to mining removed and delayed pending the review requested in items 1 and 2 above.
4. DEQ should take the lead in arranging a joint meeting of the affected agencies to discuss team permitting.
5. DEQ should proceed with the development of rules to establish standards, requirements, and best management practices related to environmental control of mining.

Rule Adoptions

Agenda Item F. Emission Exceedances: New Rule to Regulate Excess Emissions Due to Start-up, Shut-down, or Malfunction Situations

This item recommended the Commission adopt new rules presented in Attachment B of the staff report to regulate air pollution emission exceedances due to startup, shutdown, or malfunction conditions. The rules are necessary to achieve conformance with current federal requirements. The proposed rules also provide a more streamlined process for documenting and evaluating whether excess emissions due to startup, shutdown, scheduled maintenance and breakdowns should be subject to enforcement action.

Lori Cooper, representing Northwest Environmental Defense Center, indicated they were quite satisfied with the alternative recommended by the Department.

Nick Nikkila, Air Quality Division Administrator advised the Commission that an implementation plan for this rule is being put together by the Department as a pilot project for future rulemaking actions.

It was **MOVED** by Commissioner Sage that the Department recommendation be approved. The motion was seconded by Commissioner Castle and unanimously approved.

Agenda Item G. Infectious Waste: Proposed Adoption of Rules to Implement 1989 Legislation Limiting Disposal and Requiring Incineration or Other Sterilization Before Disposal

This item recommends adoption of new rules to implement 1989 legislation limiting disposal and requiring incineration or other sterilization of infectious waste before disposal. The proposed rules were presented in Attachment A of the staff report. The proposed rules establish criteria for the department to use in determining when pathological wastes may be sterilized by means other than incineration, and specify how "sharps" (needles, scalpels, etc.) may be disposed of in permitted landfills without sterilization.

Director Hansen reviewed the Department's public hearing in March and the new rules pertaining to the treatment of sharps which were developed as a result of testimony during the hearings and comment period. He outlined the written opinion from the Department of Justice that the 1989 statute authorizes the EQC to adopt rules pertaining to treatment of infectious wastes.

Commission members asked about the need for special handling of sterilized sharps, whether sterilized sharps are still classified as infectious wastes, whether the Health Division requirement that infectious wastes be sterilized in dedicated equipment could be changed and whether sharps containers would retain their integrity after bailing. Stephanie Hallock and Tim Davison, of the Hazardous and Solid Waste Division, explained that sterilized sharps could still cause a puncture wound and that even unused needles are still classified as infectious waste. They explained that the Health Division requirement for separate sterilization equipment for infectious waste was based upon the need to prevent contamination of the areas used to sterilize medical instruments and that statute prohibits compaction or baling of infectious waste containers.

It was MOVED by Commissioner Wessinger that the Department recommendation be approved. The motion was seconded by Commissioner Castle and unanimously approved.

Agenda Item H. UST Rules: Proposed Adoption of Federal UST Technical Standards and Financial Responsibility Rules; and Local Program Delegation

This item proposed adoption of technical standards for Underground Storage Tanks (UST) that are no less stringent than applicable federal UST standards. The proposed rules also defer action on financial responsibility for owners and operators of fewer than 100 tanks until early 1991 based upon recent changes in federal UST regulations. The rules also defer action on financial responsibility for owners and operators of 100 or more tanks pending review by legislative committee. Finally, the proposed rules also

provide for local program delegation. The proposed rules are presented in Attachment A of the staff report.

Commissioner Sage asked for some elaboration on local program delegation. Rich Reiter, of the Hazardous and Solid Waste Division indicated that the law allows delegation to local agencies to administer the state program. The department does not anticipate much interest in local delegation unless provision is made to provide funding from DEQ for such local agencies.

It was MOVED by Commissioner Castle that the Department recommendation be approved. The motion was seconded by Commissioners Sage and Lorenzen and unanimously approved.

Agenda Item I. Permit Public Notice Procedures: Proposed Adoption of Rule Amendments

This item proposes amendment of rules to describe items which must be included in public notices for permit applications or permit renewals for NPDES permits, air contaminant discharge permits, water quality general permits, hazardous waste permits, and solid waste permits. The proposed rules are intended to assure meaningful and sufficient information in public notices to result in the public being able to better respond with useful testimony and to determine whether they wish to request additional information. The proposed rules are presented in Attachment A of the staff report.

Director Hansen advised the Commission that the proposed rules require additional information to be included in notices that are mailed. The changes are considered significant and will require staff training to effectively implement. Therefore, the implementation date was set for September 1. Commissioners Wessinger and Lorenzen expressed some concern about the added staff burden of the rules.

Steve Hudson, representing Boise Cascade Corporation, voiced similar concerns to Commissioners Wessinger and Lorenzen. He urged the Commission to retain the existing rules and use internal guidance to provide for systematic expansion of information provided in the public notice.

Karen Russell, representing Northwest Environmental Defense Center, supported the Department recommendation. She also urged an expansion of the information included in 401 certification public notices.

It was MOVED by Commissioner Castle that the Department recommendation be approved. The motion was seconded by Commissioner Wessinger and unanimously approved.

Agenda Item J. Water Quality Permit Fees: Proposed Municipal Source Fee Increase to Help Fund Groundwater Program, Pretreatment Program and Sludge Program

This item proposed the adoption of rule amendments to increase municipal wastewater facility permit fees. The fee increases are intended to generate revenues for (1) implementing parts of the Groundwater Protection Act of 1989 as directed by the legislature, (2) overseeing pollution abatement activities in the Tualatin basin, and (3) regulating pretreatment and sludge management activities of permitted facilities. The proposed rules also modify the structure of the existing fee schedule to distinguish between different sizes and types of facilities and apply different fee amounts to these categories to achieve a more equitable distribution of fees. Director Hansen noted that if the fees are not increased to fund increased staff for the pretreatment and sludge activities, the only other option will be to let EPA operate the programs.

Kip Burdick, representing the Metropolitan Waste Management Commission, Springfield, expressed support for DEQ operation of the sludge and pretreatment programs. He expressed disagreement with the method for determining the fee for sludge as it applies to his agency.

Stanton LeSieur, representing Unified Sewerage Agency (USA), expressed support for the position of the Association of Oregon Sewerage Agencies. He also expressed concern about the sludge fees applied to the USA Durham facility that incinerates sludge and landfills the ash rather than applying it to land. They felt the fees for this facility were unfairly high and should be reduced from \$5,000 to \$500. He also expressed the view that the law suit settlement should pay for the Tualatin Basin activities and the permit fee should go only to permit related activities. Therefore, the Tualatin Basin fee should be delayed. Finally, he urged consideration of a statewide plan review fee as a future alternative.

Lydia Taylor advised that the Department is exploring the plan review fee concept. Director Hansen indicated that the significant issue is how you divide the total revenue to be generated from the fee among the various fee payers. Any approach that is generally reasonable and logical will not satisfy everyone.

It was MOVED by Commissioner Lorenzen that the Department recommendation be approved. The motion was seconded by Commissioner Castle, and unanimously approved.

Informational Items

Agenda Item K. Commission Member Reports

Chairman Hutchison and Commissioner Sage indicated there was nothing new to report relative to the Pacific Northwest Hazardous Waste Advisory Council or Governor's Watershed Enhancement Board.

Agenda Item L. Legislative Update (Oral Status Report)

John Loewy advised that the legislative proposals had been submitted to the Governor's office for review. Some have been approved and passed on to legislative counsel for drafting. The Department has been asked to provide additional information on a few others. With respect to the enforcement proposal, the Governor's office is looking at a broader natural resource agency approach. Finally, the Interim Committee on the Environment will be meeting on the Air Quality fee proposal. The committee response so far was generally favorable.

The Commission asked about the Water Fee proposal that had been added to the package. Director Hansen advised that the Governor's office had asked the Department to prepare the proposal after the Commission reviewed legislative proposals. The Department's proposal was included at the end of the memo that summarized the Commission decisions made at the April 17, 1990 Work Session.

Agenda Item M. Water Quality Program Updates

Status reports were presented on several water quality projects as follows:

Coquille Project: Informational Report

Krystyna Wolniakowski of the Water Quality Division staff presented information on the Coquille project which is a pilot project to develop an "Action Plan for Oregon Estuary and Ocean Waters." In this EPA funded project, the Department has proposed to develop a management framework for protecting environmental quality of Oregon's coastal waters, and tie in to existing coastal management efforts through the Ocean Resources Management Act and the Coastal Zone Management Act. The pilot project involved both an estuary-specific study of the Coquille River estuary where detailed water quality information was collected, and a more general involvement in planning for the protection of Oregon's ocean waters in the future. An advisory committee is assisting in the planning process.

TBT: Background Discussion

Krystyna Wolniakowski presented information on a study the Department has completed on the concentration and distribution of tributyltin (TBT) in water and sediment and its effects on the biota of South Slough Estuary, Coos Bay. TBT is the active ingredient used in some antifouling boat paints. TBT has been shown to adversely affect oyster production. Use of TBT has been restricted since January 1988. This together with improved boat yard practices has lowered measured TBT concentrations.

305(b) Report: Informational Briefing

Neil Mullane of the Water Quality Division advised the Commission of the completion of the draft 1990 Water Quality Status Assessment Report. The Department is soliciting public comments on the report through public hearings scheduled for June 15, 1990 in Portland. Public comments will be received through June 18, 1990. Appendix A of the report describes the water quality limited waterbodies in the state, and Appendix E presents the list of waterbodies impaired due to the presence of toxic pollutants.

Agenda Item N. Pollution Control Bonds: Background on Agreement Provisions and Future Bond Sale for Mid-Multnomah County Sewers

Peter Dalke, Management Services Division Administrator, provided the Commission with background information on the current status of the Mid-Multnomah County Sewer Implementation Plan. As part of this plan, a request to issue Pollution Control Bonds will be presented to the Commission in the near future.

Commission Deliberations

Agenda Item O. Options for Public Input (Discussion of Suggestions from Last Meeting)

At the meeting on April 17, 1990, the Commission discussed the need to establish a clear policy on public input during the Commission meeting related to rulemaking agenda items. A draft **Statement of Policy** was presented for Commission consideration.

The Commission accepted the draft and requested that an additional sentence be added to provision 4 to clearly preserve the right of the Commission to ask questions of department staff or members of the public.

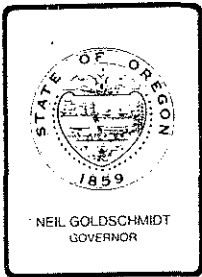
By consensus, the Commission approved the policy with the above amendment, and directed the Department to prepare the final statement and proceed with distribution.

Other Business

The Commission discussed options for responding to issues raised during the public forum. As outlined by Commissioner Sage, the ~~The~~ Department was instructed to prepare a response to public forum commenters advising of the status of Department actions or knowledge regarding their concern, and advising of options for recourse if appropriate. The Commission is to be provided copies of all such responses. The intent is to attempt to satisfy the concerns and to preclude the need for the commenter to return to a future public forum on the same issue.

The Commission then returned to discussion of the legislative concept for a water user fee. Commissioner Castle expressed the view that water is underpriced and overused. He was concerned that the proposal was aimed at those using water most efficiently and was missing those where water was the most underpriced. Commissioner Sage noted that the demand for water creates environmental impacts and would justify a fee. Commissioner Lorenzen expressed concern that there was not enough information to feel comfortable acting upon. In general, the Commission expressed the view that a broad based, equitable fee may have vitality. Further, a narrower fee on metered water may be acceptable if the fee is rationally based and related to water quality issues. In summary, the Commission appeared to like the general concept, but felt they needed to proceed cautiously and give it further thought when more details become known.

There was no further business and the meeting was adjourned at about 1:35 p.m.



Environmental Quality Commission

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

SPECIAL REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990

Agenda Item: Special

Division: ECD

Section: Drug Lab Program

SUBJECT:

The Department was directed by the Emergency Board on May 18, 1990 to establish rules for the operation of the Illegal Drug Lab Cleanup Program.

PURPOSE:

Temporary rules are being requested to enable the Department to comply with the directive of the May 18, 1990 Emergency Board, and continue the Department's cleanup program. The Emergency Board's directive includes instructions to the Department to establish by rule a cost share requirement to begin July 1, 1990 for agencies assisted by the program and to set conditions for a hardship exemption.

The E-Board specifically instructed the Department to recover 50% of its costs for each cleanup it performs after July 1, 1990 from the agencies requesting cleanup assistance, unless the requesting agency qualifies for a hardship exemption. Hardship was defined to be a situation where the law enforcement agency's current budgeted effort in law enforcement would be reduced if they paid the 50% cost share for a cleanup they requested the Department to perform. In other words, the expectation is that law enforcement agencies will pay their cost share from cost savings, surplus revenues or new revenues, not by eating into their current law enforcement efforts.

The Department also requests authorization to proceed with public notice and hearing on adoption of permanent rules addressing Illegal Drug Lab Cleanup.

Meeting Date: June 29, 1990
Agenda Item: Special
Page 2

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)

- Authorize Rulemaking Hearing (for Permanent Rules)
- Adopt Rules
 - Proposed Temporary Rules Attachment A
 - Emergency Justification Statement Attachment B
 - Rulemaking Statements for Permanent Rules Attachment C
 - Fiscal and Economic Impact Statement Attachment C
 - 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

DESCRIPTION OF REQUESTED ACTION:

The Department's Illegal Drug Lab Program is now ending its third year of operation. Its primary function remains to arrange for the services of skilled contractors to assist the law enforcement community with hazardous material management for drug lab chemicals. The program has been very well received by the agencies and communities helped. Many would otherwise be unable to deal with the problems and high cost of managing illegal drug labs. This was the case when the Department first began dealing with dozens of stockpiles of confiscated chemicals around the State and responding to the ongoing workload in July 1987.

Since July 1, 1987 the program has arranged a cleanup at an average of one every 57 hours. There have been over 157 drug lab cleanups since July 1, 1989. No local storage of chemicals is expected (unless held as evidence) because all confiscated materials have gone, or are going, to appropriate disposal as soon as released by the law enforcement agency. This feature, and assistance with funding, have made the program important to local law enforcement agencies which are

normally unable to manage the hazardous materials as required by law.

The proposed temporary and permanent rules would establish a relationship between the Department and any law enforcement agency being assisted through the Illegal Drug Lab Cleanup Program. The proposed rules address the roles of the participants, the storage of materials, records and files, recovered funds, and cost sharing. The proposed rules also contain a description of the conditions under which an assisted agency may be exempted from making a cost share payment. The Drug Lab Cleanup statute (ORS 475.405 et seq.) provides for Department of Environmental Quality assistance as a discretionary service. Assistance provided under this proposed rule would be contingent on compliance with the proposed rule.

AUTHORITY/NEED FOR ACTION:

Required by Statute: _____ Attachment _____
 Enactment Date: _____
 Statutory Authority: ORS475.405 - 475.495 Attachment D
 Pursuant to Rule: _____ Attachment _____
 Pursuant to Federal Law/Rule: _____ Attachment _____
 Other: _____ Attachment _____
 Time Constraints:

The Department has been directed by the Legislative Emergency Board to begin invoicing procedures for the 50% cost share on July 1, 1990.

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 checked="" type="checkbox"/> | Supplemental Background Information | Attachment | <u>E</u> |

Minutes from meeting with law enforcement agencies.

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The conditions and policies in the proposed rules have been developed jointly by the Department and law enforcement agencies over several years, and reflect current practices with the exception of the cost share provisions. They incorporate the needs of the law enforcement agencies in compliance with applicable statutes.

This rule will require that any law enforcement agency requesting assistance with illegal drug lab cleanups to either pay 50% of the cost for the Department to provide assistance or qualify for an exemption from payment. For agencies that qualify for the exemption, the Department will pay the full cost of the cleanup. Affected agencies could pay between \$1,000 and \$5,000 for each cleanup requested. The Cleanup Program has previously required a 100% cost repayment from federal agencies, and these proposed rules continue that practice. Federal agencies will not be eligible for hardship exemptions.

PROGRAM CONSIDERATIONS:

These proposed temporary rules are not expected to change the existing program, with the exception of the workload caused by cost share administration. Agencies using the program have complex contractual relationships for interagency law enforcement. Understanding these relationships, and the invoicing process of cost share, will require additional staff time.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Adoption of temporary and permanent rules to clearly establish roles and responsibilities.
2. Use of interagency agreements to establish relationships and cost share. The major obstacle to this alternative is the cumbersome administration involved in scores of individualized agreements. This option would not resolve funding issues quickly enough to meet the Emergency Board timeline.
3. A legislative solution, which may be considered and pursued in the 1991 session. Affected agencies not satisfied with other options favor this approach.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission:

1. Adopt the Findings for adoption of a temporary rule as presented in Attachment B.
2. Adopt the Temporary Rule as presented in Attachment A.
3. Authorize hearings for the permanent rule.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

These rules are consistent with other policies and rules.

ISSUES FOR COMMISSION TO RESOLVE:

1. Whether the proposed rules adequately address the directive of the legislature and the affected community's needs.
2. Whether to support or introduce legislation or other action to address the issue.

INTENDED FOLLOWUP ACTIONS:

Upon EQC adoption, file the Temporary Rule with the Secretary of State and Legislative Counsel, and provide post-adoption notice of the temporary rule in conjunction with notice of proposed permanent rules.

Provide public notice and hold hearings on the proposed permanent rules.

Summarize public comments, respond to issues, revise proposed permanent rules as appropriate, and recommend adoption of revised proposed rules by the Commission at its December 14, 1990 meeting.

Develop the budget projections for the program as a result of the temporary rule.

The Department has been instructed by the Emergency Board to report in November on the effectiveness of this cost share method and its impact on the program.

Approved:

Section:

Michael Hous

Division:

Michael Hous

Director:

Ed Wilson

Report Prepared By: Ed Wilson

Phone: 229-5373

Date Prepared: June 26, 1990

(Ed Wilson)
(druglab.agn)
(June 26, 1990)

OREGON ADMINISTRATIVE RULES
CHAPTER 340, DIVISION 140 - DEPARTMENT OF ENVIRONMENTAL QUALITY
ILLEGAL DRUG LAB CLEANUP ASSISTANCE

AUTHORITY, PURPOSE, AND SCOPE

340-140-010 (1) These rules are promulgated in accordance with and under the authority of ORS 475.405 through ORS 475.495.

(2) The purpose of these rules is to establish the policies of the Department of Environmental Quality when responding to a request made by a law enforcement agency for assistance with the cleanup of chemicals related to the production of illegal drugs.

(3) These rules establish relationships and responsibilities relative to:

- (a) The Department's role in drug lab waste management.
- (b) The assisted law enforcement agency's role in drug lab waste management.
- (c) The temporary storage of materials not sent directly to disposal.
- (d) The sharing of costs of drug lab cleanup activity undertaken by the Department.
- (e) The documentation of waste management and site contamination.
- (f) The role of the Department in the recovery of funds from responsible parties.
- (g) The disposition of those materials managed by the Department that are not disposed as waste.

DEFINITIONS:

340-140-020 As used in these rules,

- (1) "Administrative costs" means direct staff, overhead and indirect costs of operating the program. Costs will be established using previous experience with cleanup management and adjusted appropriately for changes in costs.
- (2) "Budgeted programs" means those programs and law enforcement services made available to the community through a partner agency that have been previously planned, and are funded through revenue sources known to exist at the inception of the budget period.
- (3) "Chemical" has that meaning set forth in ORS 475.405(1).
- (4) "Cleanup costs" has the meaning set forth in ORS 475.405(3).
- (5) "Cost share" is the assessed portion of the Department's

cleanup costs incurred as a result of assisting a partner agency, to be invoiced to that agency.

(6) "Current budget" means the law enforcement budget approved by the governing body effective July 1, 1990 for the fiscal year commencing July 1, 1990.

(7) "Department" means the Department of Environmental Quality, or its authorized representative.

(8) "Full cost" means all cleanup costs incurred by the Department at or related to a site.

(9) "Generator Status" means the role accepted by either the Department or the partner agency where a registered hazardous waste generator is required for waste disposal, and at those times when materials are in transport with a contracted waste hauler.

(10) "Illegal Drug Cleanup Fund" is the funding account established under ORS 475.495.

(11) "Illegal Drug Lab Material Management" refers to the legal and responsible custody of hazardous materials and hazardous waste from the time they are received from a partner agency to the time of final disposal.

(12) "Law Enforcement Agency" means any organization authorized under federal, State, or local law or ordinance to administer or enforce federal, State, or local laws or ordinances related to illegal drug manufacturing.

(13) "Partner Agency" means any law enforcement agency (or consortium of law enforcement agencies) participating in drug lab cleanup in accordance with these rules.

(14) "Qualified vendor" means any waste management company or waste broker able to provide proper waste management for the type of materials being managed, who is not currently in violation of any relevant statutes or rules.

(15) "Residual contamination" means the residual odors and trace chemicals resulting from the operation of an illegal drug lab, or storage of materials associated with illegal drug manufacturing.

(16) "Responsible Party" means a person or persons who is liable for cleanup costs under ORS 475.455.

(17) "Scheduled substances" are chemicals listed by the State Board of Pharmacy and/or federal government as controlled substances.

(18) "Site" has the meaning set forth in ORS 475.405(9). The Department may include as part of the site those locations to which chemicals have been taken.

(19) "Site Cleanup" means the limited removal of chemicals related to the production of illegal drugs from any location identified by the participating agency to prevent further site contamination or criminal activity.

(20) "Temporary Storage" means the secure warehousing of confiscated material being held as evidence away from the point of seizure by the partner agency for as long as is needed to carry out proper disposal actions.

(21) "TSDF" means a treatment, storage, or disposal facility that is a fully regulated and licensed waste management operation possessing proper approvals to handle the waste stream type originating from an illegal drug lab.

EXTENT OF ASSISTANCE TO BE PROVIDED

340-140-040 (1) Upon the request of a law enforcement agency, the Department of Environmental Quality may identify, cleanup, store and dispose of chemicals located at or resulting from an alleged drug manufacturing site. The law enforcement agency making the request will become the Partner agency.

(2) To arrange for assistance as provided in this rule the agency requesting services must contact the DEQ either directly or through the Oregon Emergency Response System, a 24 hour emergency reporting system at 1-800-452-0311.

(3) The Department will establish a contract, or emergency purchase order, and where needed a task order agreement, with a qualified vendor(s) to provide waste management services. Upon receiving an official request for assistance, the Department will schedule or dispatch the contractor to the location identified. It will be the responsibility of the Department to see that the contractor is competent and able to respond in a reasonable time to the requested location.

(4) The Department's contractor may be tasked to manage all or part of the cleanup operation and disposal in stages, such as:

(a) Assessment of need for action and development of appropriate Department options.

(b) On-site cleanup and packaging of materials, and transportation to the temporary storage point or TSDF.

(c) If temporary storage has been used, cleanup may or may not involve the return to the temporary storage location to remove the materials for disposal.

RESPONSIBILITIES FOR OWNERSHIP OF WASTE, STORAGE, AND SECURITY

340-140-050 (1) When the disposal of chemicals from an illegal drug lab cannot be accomplished immediately after a cleanup, all confiscated materials will be the responsibility of the partner agency and declared to be evidence. The partner agency will remain responsible for the materials not disposed from the time of discovery to loading for final transport to the TSDF or an alternate legal disposal. In those cases where the partner agency is the registered waste generator the responsibilities will continue as defined by federal and state statutes.

(2) The health and safety of all persons other than the contractor's staff present at the cleanup site and at the temporary storage site, if any, are the sole responsibility of the agency requesting assistance.

(3) Errors made by the contractor in handling chemicals during any phase of the cleanup will be the responsibility of the contractor (as outlined in their contract) including any penalties that result.

(4) The Department will serve as the legal generator of any hazardous wastes identified at the time of loading for transport to disposal, unless:

(a) any such material is transported to disposal from a site owned by the partner agency or the governmental entity it represents;

(b) opportunity and justification exists to assign this responsibility to the responsible party;

(c) the material confiscated does not have any currently available disposal option and will be stored by the partner agency; or

(d) the Department has been unable to secure sufficient funds to properly manage the materials and has returned control of the disposal to the partner agency.

(5) The Department will make application to the Environmental Protection Agency for generator status when applicable, or assist the partner agency in achieving registration.

(a) Contractors moving hazardous waste from a cleanup site to disposal will use the registration number provided by, or through, the Department for that purpose.

(b) Contractors moving evidence from a cleanup site to storage designated by the partner agency will follow all applicable transporter regulations for transport of hazardous materials.

(6) Security at the cleanup site or storage location for on-scene persons and materials, both those confiscated and those left behind, will be provided by the agency requesting the cleanup assistance.

TEMPORARY STORAGE

340-140-060 (1) After site cleanup operations there may be confiscated materials that must be stored by the partner agency receiving cleanup assistance under some conditions:

(a) Materials transported to temporary storage because they are needed in the prosecution of an alleged crime shall be the responsibility of the partner agency involved.

(b) Materials suspected to be hazardous and needing special handling, including some suspected hazardous waste, may need temporary storage until information is available to allow for safe handling and legal disposal.

(c) Materials that present a hazard but are not hazardous waste may require temporary storage or local disposal options. This includes some materials with residual contamination and some scheduled substances.

FUNDING PARTICIPATION

340-140-070 (1) The initial funds needed to support the operation of this program will be provided through the Department from various sources. The applicable cost share will be invoiced to the partner agency by the Illegal Drug Lab Cleanup Program.

(2) Cost share will be dependent on the status of the partner agency requesting assistance:

(a) Partner agencies shall pay one half of all cleanup costs including contractor fees, disposal fees, permit fees, transport fees, and administrative costs. This cost share payment will be invoiced to the agency requesting the assistance and will be due 30 days after receipt.

(b) Partner agencies that are Federal Government agencies will be asked to repay the full cost, and are not eligible for exemption from payment under OAR 340-140-070 (3).

(c) Partner agencies that represent joint law enforcement efforts and/or are acting as partner agencies as the result of a contract will collectively be responsible for cost share.

(3) Partner agencies may be exempted from payment of invoiced cost share under the following conditions:

(a) At the point in time the invoice is to be paid the partner agency would be able to pay the invoice only by taking funds away from programs in the current budget, the result of which would be a reduction in law enforcement services by that agency, and

(b) Sufficient funds are not available to pay the current invoice, but may be available to pay for subsequent cleanups.

(c) Partner agencies as described in (2)(c) of this section may be exempt if their contract or interagency agreement specifies another member of the group to be responsible for all law enforcement costs, and that member is eligible for exemption.

(4) Partner agencies declaring an exemption shall return the Department's invoice within 30 days of receipt endorsed by an authorized representative of the partner agency certifying that a review of the available funds in the current budget has been undertaken and payment would result in a reduction of budgeted law enforcement services by that agency.

(5) If a partner agency either does not pay the invoice or declare an exemption within 30 days of receipt, the Department will cease providing drug lab cleanup services to the partner agency until payment is received or an exemption is declared.

(6) The Department will attempt to manage accumulated small quantities of confiscated drug lab chemicals held by a partner agency as a single cleanup for the purposes of cost share when only one response is requested.

RECORDS OF CLEANUPS AND DISPOSALS

340-140-080 (1) The Department shall keep records of drug lab cleanups and resulting hazardous materials and waste management activities of its contractors.

(2) Each operation will be recorded in a file accessible to the public, and include:

- (a) the operation date based on the request for assistance,
- (b) the partner agency's name and representative making the request for assistance,
- (c) the location of the initial response,
- (d) the cleanup and disposal contractor's name,
- (e) the location of the disposal facility or temporary storage if used,

- (f) costs for each part of the operation,
- (g) cost recovery information if applicable,
- (h) and any related information.

RECOVERED FUNDS

340-140-090 (1) The Department may demand repayment of cleanup costs from the responsible party when that person is known to the Department.

(2) The partner agency shall provide the Department with a schedule of any court actions involving the prosecution of persons potentially liable for cleanup costs.

(3) The Department will prepare invoices for the actual or estimated amount of the total cleanup costs and forward these invoices to the District Attorney's office handling the criminal prosecution of the case prior to the scheduled hearing date.

(4) Where no law enforcement agency can assist the Department in cost recovery through court ordered restitution, the partner agency may be requested to provide assistance with civil action taken under ORS 475.485.

(a) Partner agencies may be asked to provide information on the identity and whereabouts of the responsible party.

(b) Partner agencies may be requested to serve notices on behalf of the Department.

(5) All funds received by the Department identified as cost share, full cost repayment, restitution, and any other name used to describe repayment of drug lab cleanup expenses and administrative costs will be deposited in the Illegal Drug Cleanup Fund.

(6) When money is recovered from a responsible party, as set forth in ORS 475.435 to 475.455, such money will be deposited in the Illegal Drug Cleanup Fund.

CONFISCATED PROPERTY MANAGEMENT

340-140-100 (1) In carrying out cleanup operations, items with residual contamination, other than hazardous waste, may be taken into custody and turned over to the Department. Any such items will be managed according to the appropriate statutes and rules for those materials. Unless otherwise regulated, items may be handled in the following ways, subject to applicable laws:

(a) Items where the value after decontamination will be less than the cost of decontamination will be disposed of as solid waste.

(b) Items of value not characterized as waste will be held by the Department, or partner agency acting for the Department, until an acceptable buyer capable of decontaminating the items, and/or salvaging parts of the items, can be found. Buyers may be considered acceptable and capable of decontaminating or salvaging if they engage in that business professionally and have proper business licenses. They must be willing to accept all risks and

liabilities associated with ownership, operating, or re-selling potentially contaminated items.

(2) Vehicles in custody, either through the satisfaction of liens or confiscated as contaminated property, will not be sold or released until decontaminated to practical limits.

(3) Items of value to be sold by the Department can be processed with other items disposed of by the law enforcement agency originally involved or the General Services Administration surplus property office. All revenue generated beyond administrative costs to the coordinating agency will be deposited in the Illegal Drug Cleanup Fund.

STATE OF OREGON
ENVIRONMENTAL QUALITY COMMISSION
811 S. W. 6th AVENUE
PORTLAND, OREGON 97204

STATEMENT OF NEED AND EMERGENCY JUSTIFICATION STATEMENT
FOR TEMPORARY RULE ESTABLISHING POLICIES OF
THE ILLEGAL DRUG LAB CLEANUP PROGRAM

FINDINGS:

(a) ORS 475.405 to 475.495 establish the Illegal Drug Lab Cleanup Program, and provide that the Commission may establish policy and adopt rules necessary for DEQ's operation of the program.

(b) The Legislative Emergency Board has directed the Department to begin invoicing the law enforcement agencies the Department assists through the cleanup program for cleanup costs, beginning July 1, 1990. The E-Board has made funding after July 1, 1990 contingent on law enforcement agencies paying one half of DEQ's cleanup costs. The E-Board further directed the Department to develop rules by which law enforcement agencies may be exempted from this cost share requirement should such payment result in a reduction of current law enforcement services.

(c) Failure to act promptly in this instance will seriously compromise the public interest, and the interests of law enforcement agencies particularly, in that DEQ might be forced to cease providing assistance to law enforcement agencies in the cleanup of illegal drug labs, for the time period from July 1, 1990 until such time as permanent rules may be adopted, unless the process and criteria for such assistance, and payment of costs connected with such assistance, are established by Temporary rule pending adoption of permanent rules. Without such cost share process being established, DEQ's emergency fund allocation for cleanups will be insufficient and cleanups of hazardous chemicals remaining from illegal drug lab operations will be delayed or not occur.

Principal Documents relied Upon

Legislative Fiscal Office report to the May 17, 1990 Emergency Board, Subcommittee. Adopted May 18 by the full Emergency Board.

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

IN THE MATTER OF ADOPTING) STATEMENT OF NEED
OAR Chapter 340) PRINCIPAL DOCUMENTS RELIED UPON
Division 140) STATEMENT OF FISCAL IMPACT
FOR PERMANENT RULES

Statutory Authority

ORS 475.405 through 475.495 authorizes rule adoption for the purpose of setting policy to define the relationship between the Department and those law enforcement agencies that request Department assistance with the management of hazardous chemicals and materials from illegal drug labs.

Need for the Rules

The proposed rules are necessary in order to establish the process and criteria for DEQ assistance to law enforcement agencies in the cleanup, storage, and disposal of hazardous chemicals located at illegal drug manufacturing sites. The statutory authority provides that the Department's assistance with cleanup is discretionary. The Department wishes to avoid ambiguity and unequal treatment of those asking for assistance by establishing policy through rules.

Principal Documents relied Upon

Legislative Fiscal Office report to the May 17, 1990 Emergency Board, Subcommittee. Adopted May 18 by the full Emergency Board.

Fiscal and Economic Impact

Oregon has over 200 law enforcement agencies that could be eligible for assistance, though over the past three years less than half of them have had labs in their jurisdiction. The typical cost of a 50% share will be near \$2,000 which might be

beyond the capacity of small agencies, in which case an exemption from payment might be justified.

For those agencies that have budgets with sufficient funds to pay for 50% of the Departments costs the impact will be significant. The larger cities and populous counties have most of the drug lab cleanup activity. If for example the City of Portland were to have paid 50% of the cost of cleanups over the past year they would have contributed over \$35,000.

The majority of the law enforcement agencies in Oregon will rarely be impacted by these rules due to overlapping police jurisdictions, and/or no drug lab activity.

It is unlikely that this cost share plan will generate the projected \$253,724 in the next year.

There will be a fiscal impact on the Department if the law enforcement agencies currently requesting assistance for cleanup of drug lab chemicals decline to address the problem and the Department needs to use other authority to protect public health and the environment. In such a situation Department funds would need to be used in place of the Illegal Drug Lab Cleanup Fund.

CONTROLLED SUBSTANCES; EXPERIMENTAL DRUGS; CLEANUP 475.435

training and experience to investigate the safety and effectiveness of drugs on humans shall comply with ORS 475.305 to 475.375 which relate to written consent and disclosure of information. [1977 c.636 §8; 1979 c.674 §8]

ILLEGAL DRUG CLEANUP

475.405 Definitions for ORS 475.405 to 475.495. As used in ORS 475.405 to 475.495:

(1) "Chemical" means:

(a) Any material defined as a controlled substance or precursor substance as defined by ORS 475.005 to 475.375 and 475.805 to 475.999.

(b) Any substance used in the manufacture of a controlled substance as defined by ORS 475.005 to 475.375 and 475.805 to 475.999.

(c) Any material or substance designated by the Environmental Quality Commission under ORS 475.425.

(2) "Cleanup" includes any action the Department of Environmental Quality, or a person acting on behalf of the department, is required to take pursuant to a request ORS 475.415.

(3) "Cleanup costs" means reasonable costs that are attributable to or associated with cleanup at an alleged illegal drug manufacturing site, including but not limited to the costs of administration, investigation, legal or enforcement activities, contracts and health studies.

(4) "Commission" means the Environmental Quality Commission.

(5) "Department" means the Department of Environmental Quality.

(6) "Director" means the Director of the Department of Environmental Quality.

(7) "Fund" means the Illegal Drug Cleanup Fund established under ORS 475.495.

(8) "Owner or operator" means any person who owns, leases, operates or controls an alleged illegal drug manufacturing site. "Owner or operator" does not include a person, who, without participating in the management of an alleged illegal drug manufacturing site, holds indicia of ownership primarily to protect a security interest in the site.

(9) "Site" means an illegal drug manufacturing site. [1987 c.699 §1]

Note: 475.405 to 475.495 were enacted into law by the Legislative Assembly but were not added to or made a part of ORS chapter 475 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

475.415 Request for cleanup. Upon the request of a law enforcement agency, the

Department of Environmental Quality may identify, cleanup, store and dispose of chemicals located at an alleged illegal drug manufacturing site. [1987 c.699 §2]

Note: See note under 475.405.

475.425 Environmental Quality Commission rules; designation of chemicals.

(1) The Environmental Quality Commission shall consult with the law enforcement agencies in adopting rules necessary for the Department of Environmental Quality to carry out its responsibilities under ORS 475.415.

(2) By rule, the commission may designate as chemical for the purposes of ORS 475.405 to 475.495 any element, compound, mixture or solution that may be a controlled substance or precursor substance as defined by ORS 475.005 to 475.375 and 475.805 to 475.999 or used to illegally manufacture drugs. [1987 c.699 §3]

Note: See note under 475.405.

475.435 Authority of director. (1) Upon request of a law enforcement agency, the director:

(a) May undertake directly or by contract any cleanup action necessary to protect the public health, safety, welfare and the environment; or

(b) May authorize any person to carry out any cleanup action in accordance with any requirements of or directions from the director, if the director determines that the person will commence and complete the cleanup action properly and in a timely manner. However, the director in most circumstances shall not require the law enforcement agency to be responsible for carrying out the cleanup action.

(2) Nothing in ORS 475.415 to 475.455, 475.475 and 475.485 shall prevent the director from taking any emergency cleanup action necessary to protect public health, safety, welfare or the environment.

(3) The director may require a person liable under ORS 475.455 to conduct any cleanup 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 cleanup action the person must take.

(4) 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 site is located or in Marion County, as may be necessary:

(a) To enforce an order issued under subsection (3) 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.

(5) Notwithstanding any provision of ORS 183.310 to 183.550, any order issued by the director under subsection (3) of this section shall not be appealable to the commission or subject to judicial review.

(6) If any person who is liable under ORS 475.455 fails without sufficient cause to conduct a cleanup action as required by an order of the director, the person shall be liable to the department for the state's cleanup costs and for punitive damages not to exceed three times the amount of the state's cleanup costs.

(7) 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.699 §6]

Note: See note under 475.405.

475.445 Site entry; purposes. (1) Upon request of a law enforcement agency under ORS 475.415, the department or its authorized representative may enter any alleged illegal drug manufacturing site at any reasonable time to:

(a) Sample, inspect, examine and investigate;

(b) Examine and copy records and other information; or

(c) Carry out cleanup action authorized by ORS 475.415 to 475.455, 475.475 and 475.485.

(2) If any person refuses to provide information, documents, records or to allow entry under subsection (1) 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. [1987 c.699 §4]

Note: See note under 475.405.

475.455 Liability of certain persons for cleanup costs. (1) The following persons shall be strictly liable for those cleanup costs incurred by the state or any other person that are attributable to or associated with an alleged illegal drug manufacturing site and for damages for injury to or destruction of any natural resources caused by chemicals at the site:

(a) Any owner or operator at or during the time of the acts or omissions that resulted in a site being created or damage to natural resources.

(b) Any owner or operator who became the owner or operator after the time of the

acts or omissions that resulted in a site being created or damages, and who knew or reasonably should have known of the site or damages when the person first became the owner or operator.

(c) Any owner or operator who obtained actual knowledge of the site or damages during the time the person was the owner or operator of the site and then subsequently transferred ownership or operation of the site to another person without disclosing such knowledge.

(d) Any person who, by any acts or omissions, caused, contributed to or exacerbated the site or damage, 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 cleanup action at a site.

(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 cleanup costs incurred by the state or any other person that are attributable to or associated with a site, or for damages for injury to or destruction of any natural resources caused by chemicals at the site:

(a) Any owner or operator who became the owner or operator after the time of the acts or omissions that resulted in the site being created or damages, and who did not know and reasonably should not have known of the damages when the person first became the owner or operator.

(b) Any owner or operator of property that was contaminated by the migration of chemicals 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 site or damages, if the site or damage at the site 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 employee 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 cleanup costs incurred by the state or any other person that are attributable to or associated with an alleged illegal drug manufacturing site, or for damages for injury to or destruction of any natural resources caused by chemicals at the site:

(a) A unit of state or local government that acquired ownership or control of a site 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 site 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 cleanup costs incurred by the state or any other person that are attributable to or associated with a site, and for damages for injury to or destruction of any natural resources caused by chemicals at a site, 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 chemicals at a site or damages and then failed to promptly notify the department and exercise due care with respect to the chemicals concerned, taking into consideration the characteristics of the chemicals 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 this section.

(c) Nothing in ORS 475.415 to 475.455, 475.475 and 475.485 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 cleanup costs or to seek any other relief related to the cleanup of an alleged illegal drug manufacturing site.

(6) 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 475.415 to 475.455, 475.475 and 475.485 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 by the commission 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 cleanup of a site. 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 this section for costs or damages as a result of actions taken in response to an emergency created by the chemicals at or generated by or from a site 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.699 §5]

Note: See note under 475.405.

475.465 Liability of state for cleanup. Notwithstanding any other provision of law, the State of Oregon, the Environmental Quality Commission and the Department of Environmental Quality and their officers, employees and agents shall not be liable to a person possessing or owning chemicals located at an alleged illegal drug manufactur-

ing site for any claims or actions arising from the identification, cleanup, storage or disposal of such chemicals by the Department of Environmental Quality. [1987 c.699 §10]

Note: See note under 475.405.

475.475 Department record of costs; collection of costs. (1) The department shall keep a record of the state's cleanup 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 475.435 or 475.455 to pay the amount of the state's cleanup costs and, if applicable, punitive damages.

(3) If the state's cleanup 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 Illegal Drug Cleanup Fund established under ORS 475.495. [1987 c.699 §7]

Note: See note under 475.405.

475.485 Costs and penalties as lien; enforcement of lien. (1) All of the state's cleanup costs, penalties and punitive damages for which a person is liable to the state under ORS 475.435 or 475.455 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 cleanup 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 475.435 or 475.455.

(5) A lien created under this section shall have priority over any claim of the state under ORS 166.715 to 166.735 or any local government forfeiture ordinance or regulation. [1987 c.699 §8]

Note: See note under 475.405.

475.495 Illegal Drug Cleanup Fund; sources; uses. (1) The Illegal Drug Cleanup Fund is established separate and distinct from the General Fund in the State Treasury.

(2) The following moneys shall be deposited into the State Treasury and credited to the Illegal Drug Cleanup Fund:

(a) Moneys recovered or otherwise received from responsible parties for cleanup costs;

(b) Moneys received from a state agency, local government unit or any agency of a local government unit for cleanup of illegal drug manufacturing sites;

(c) Moneys received from the Federal Government for cleanup of illegal drug manufacturing sites; and

(d) Any penalty, fine or punitive damages recovered under ORS 475.435, 475.455 or 475.485.

(3) The State Treasurer may invest and reinvest moneys in the Illegal Drug Cleanup Fund in the manner provided by law. Interest earned by the fund shall be credited to the fund.

(4) The moneys in the Illegal Drug Cleanup Fund are appropriated continuously to the department to be used as provided for in subsection (5) of this section.

(5) Moneys in the Illegal Drug Cleanup Fund may be used for the following purposes:

- (a) Payment of the state's cleanup costs; and
- (b) Funding any action or activity authorized by ORS 475.415 to 475.455, 475.475 and 475.485. [1987 c.699 §9; 1989 c.966 §56]

Note: See note under 475.405.

475.505 [1979 c.253 §1; repealed by 1987 c.75 §1]

475.510 [1979 c.253 §2; repealed by 1987 c.75 §1]

475.515 [1979 c.253 §3; repealed by 1987 c.75 §1]

Attachment E
Agenda Item: Special
Meeting Date: 6-29-90

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: June 7, 1990

TO: Program File 1.11
FROM: Ed Wilson
SUBJECT: Meeting with police

Yesterdays meeting with representatives of the law enforcement agencies seemed to be constructive and worth while. Most of the points we expected to be important were addressed and actually a fair amount of consensus exists.

There were no viable alternatives proposed to the Department suggestion that beginning on 7/1/90 an invoice for cost share would be sent to whichever agency had requested assistance. As a method of reducing complexity in the early stages of this new procedure it was agreed that all agencies would choose either to pay or send notice of exemption. The group agreed that making the invoice also serve as the notification of exemption, to be returned to the Department with or without payment, was the best record keeping procedure.

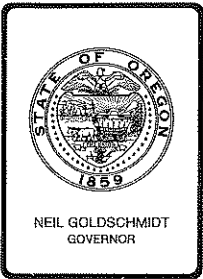
A major point on which concurrence was achieved is that the invoicing and exemption process will not be a one time process. Available money in a police budget will vary over the year, as will the costs of cleanups, therefore, a condition of exemption will be ascertained by the assisted agency after each event. This is a significant issue since it demonstrates a willingness to cooperate in the Departments effort to meet LFO guidelines.

The most significant disagreement with Department suggestions on the mechanics of this process was on the certification of the returned invoice when exemption is identified. We had been advised by LFO to direct "strictly" how to look at a budget to determine exemption. The point was made that budgets are already done for the next year, based on known revenue sources, and all moneys are currently committed. Our group of representatives objected strongly to being told which items in their budgets were important and which were to be dropped to pay for cleanups. Since we won't be seeing any of the budgets anyway we should be able to avoid this sore point by making clear that it is their responsibility to determine if they qualify for exemption.

The next task in line is to address the language appropriate in the exemption "how to" part of the proposed rules.

DEQ DRUG LAB FUNDING MEETING
 IN ATTENDANCE:

name	representing	phone #
ROGER HAVEN	PORTLAND POLICE	796-3015
BRIAN KILEY	SALEM PD / OACP	588-6080
LEN MALMQUIST	CITY OF GRESHAM P.D. GRESHAM OR	669-2505
MIKE CAHILL	JUNCTION CITY P.D. O.A.C.P.	998-1245
JAMES HORTON	EUGENE D.P.S.	687-5114
DENNIS O'DONNELL	OSP-Salem	378-3724
Edward F Mowery	OSP-Salem	373-7082
Russ SPENCER	O.S.S.A.	581-4621



Department of Environmental Quality

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

DATE: June 19, 1990

TO: Environmental Quality Commission

FROM: *Stephanie Hallock*
Stephanie Hallock, Administrator
Hazardous and Solid Waste Division

SUBJECT: Agenda Item 2 - June 28, 1990 EQC Work Session

Attached are outlines for the 30-minute presentation which will be made regarding EPA authorization of the Department's underground tank and hazardous waste programs.

The purpose of the presentation is to provide the Commission with background and status of authorization and key policy issues for consideration.

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Attachments

RCRA Authorization
EQC Meeting
June 28, 1990

I. Background

- A. Definition of Authorization
- B. Delegation vs. Authorization
- C. "Clustering"

II. Authorization Process

- A. DEQ's Responsibilities
- B. EPA's Responsibilities

III. Regulatory Requirements

- A. Environmental Quality Commission (EQC)
- B. Department of Environmental Quality (DEQ)
- C. Joint DEQ and EQC Authorities

IV. Authorization Application Components

- A. Program Description (PD)
- B. Attorney General's Statement (AG)
- C. Memorandum of Agreement (MOA)

V. Authorization Status

- A. Authorization Status in Oregon (handout)
- B. HSWA Requirements, Corrective Action and Enforcement
- C. Authorization Status in other States (handout)

VI. Issues

- A. What has the role of EQC been in past regarding authorization? What should it be in the future?
- B. What has the role of DEQ been in the past regarding authorization? What should it be in the future?
- C. What are the future policy and resource implications of authorization?
- D. What has the role of other state agencies been in authorization and what should it be in the future (PUC, DOE, DOA, etc.)?
- E. How should the DEQ deal with the issues of capability and federal criteria?
- F. What are the implications if we do not seek HSWA authorization or retain only partial authorization?
- G. How much grant funding is at stake?

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UST Authorization
EQC Meeting
June 28, 1990

I. Background

- A. Definition of Authorization
- B. Delegation vs. Authorization

II. Authorization Process

- A. DEQ's Responsibilities
- B. EPA's Responsibilities

III. Regulatory Requirements

- A. Environmental Quality Commission (EQC)
- B. Department of Environmental Quality (DEQ)

IV. Authorization Application Components

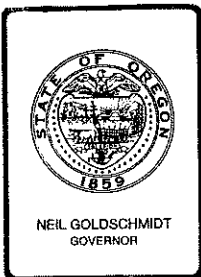
- A. Program Description (PD)
- B. Attorney General's Statement (AG)
- C. Memorandum of Agreement (MOA)

V. Authorization Status

VI. Issues

- A. Should DEQ apply for authorization?
- B. What level of involvement does EQC want to have in submittal of the application?
- C. What are the future policy and resource implications of authorization?
- D. How much grant funding is at stake?

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Environmental Quality Commission

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

June 28, 1990
EQC Work Session

Hazardous Waste Program Authorization

I. Background

A. Definition of Authorization

"State authorization", in the context of the RCRA Program, means assuming the responsibility for implementing the Subtitle C Program (RCRA) in lieu of EPA. After extensive review of a state's authorization application, EPA either grants or denies authorization.

Applying for and gaining authorization is a continuous process. Federal law (3006)(b) requires authorized states to maintain equivalency to the Federal RCRA programs. Once a state receives base authorization, any changes to the state or federal programs which are more stringent or broader in scope than previous federal requirements always trigger a state program revision authorization application.

Applications are reviewed by both Region 10 and EPA Headquarters. It is important to note that even after authorization, EPA 10 retains its enforcement authority. Oregon has "primary" enforcement authority only. Also, if authorization is not granted, or if Oregon does not submit an authorization application to maintain equivalency, EPA has authority to withdraw the entire RCRA program.

B. Authorization vs. Delegation

Federal RCRA statutes require a state be authorized before it may implement the RCRA program. EPA is required to determine if a state's hazardous waste program is equivalent to the federal program. Thus, every word in an authorization application is scrutinized by EPA's Office of General

Counsel. Once EPA authorizes a state, the only recourse available to EPA is withdrawal of the state's program, should EPA determine that a state is not implementing the program according to federal standards.

Delegation of a state program is much simpler than authorizing a program. Delegation of a program, such as EPA's annual delegation of the implementation requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to the Oregon Department of Agriculture (DOA), involves DOA entering into a cooperative agreement with EPA to enforce the FIFRA/DOA pesticide standards. The agreement is signed by the Director of DOA and the Region 10 Administrator. The agreement contains a DOA workplan and a statement of DOA's authority to accept agreement money, and a declaration of DOA's ability to implement a federally equivalent state pesticide program. The cooperative agreement process takes approximately two months to complete.

C. "Clustering"

Oregon adopts rules on an annual basis, according to clusters. Rule "clusters" are a set of rules that have been enacted by EPA between July 1 and June 30 of the following year. Oregon then has one year to adopt the rules.

Note that rules promulgated by EPA pursuant to RCRA do not take effect in an authorized state, such as Oregon, until the rule has been adopted by that state. However, rules developed under the Hazardous and Solid Waste Amendments of 1984 (HSWA), such as the Land Disposal Restrictions (LDR), "California List", Small Quantity Generator requirements, and the Toxicity Characteristic Rule, take effect immediately in a state regardless of its authorization status.

II. Authorization Process

A. DEQ Responsibilities

DEQ submits an unofficial draft application to EPA Region 10. EPA Region 10 reviews the draft, submits comments and negotiates changes in the application with DEQ.

Before submitting a final application to EPA, DEQ must conduct a public hearing. After receiving comments, DEQ will submit an official authorization application to EPA for review. EPA will indicate to the state what changes, if any,

must be made. The entire process to gain authorization may take two years or more.

B. EPA Responsibilities

EPA Region 10 Administrator determines whether or not Oregon's program is equivalent and should be authorized. In the case of a HSWA submittal, that determination is based largely on a Capability Assessment conducted by the Regional staff. EPA Region 10 Administrator then recommends to Headquarters to grant or deny the application.

EPA has timelines for reviewing an application. Within 90 days from the receipt of the final application, the Region 10 Administrator must approve or disapprove the application. This decision is published in the federal register.

The public has 30 days to review that determination and comment. If sufficient comments are received, a public hearing is held. A final determination is made within 90 days of the notice in the federal register based on any comments that have been received. No EPA public hearings have been held on DEQ's two previous authorization applications.

III. Authorization Application Components

A. Program Description (PD)

The PD describes how Oregon intends to carry out its program responsibilities, the division of responsibilities among state agencies, and the differences between the state and federal programs. It includes staffing and funding resources, enforcement and permitting resources, and compliance monitoring.

B. Attorney General's Statement (AG)

The AG statement identifies legal authorities, interprets state law and certifies equivalency to the federal program. A new AG statement is required when the state or federal government initiate changes to RCRA or HSWA regulations or statutes. The AG statement is signed by the Assistant Attorney General.

C. Memorandum of Agreement (MOA)

The MOA defines roles and responsibilities of EPA and Oregon DEQ. It outlines coordination and cooperation between EPA

and the DEQ. It contains provisions for exchanging information, procedures for sharing and transferring permitting responsibility, framework for EPA overview of program administration and enforcement, and identifies other state agency responsibilities. Currently, the MOA is signed by the Director, the Chair of the EQC, the Chair of the PUC Commission, and the EPA Regional Administrator.

IV. Regulatory Requirements

A. Environmental Quality Commission (EQC)

ORS 466.020, 466.025, 466.030, 466.035, 466.040, 466.055, 466.060 authorizes the EQC to:

1. Adopt rules;
2. Issue orders;
3. Establish classes of hazardous wastes and Polychlorinated Biphenyls (PCBs) that may be disposed or treated;
4. Declassify hazardous waste;
5. Limit number of hazardous waste/PCB disposal or treatment facilities;
6. Designate the location of facilities where PCBs or hazardous waste may be disposed or treated;
7. Issue treatment or disposal permits; and
8. Determine financial and technical capability of a potential permittee of a PCB or hazardous waste treatment or disposal facility.

B. Department of Environmental Quality (DEQ)

The DEQ, Department and the Director are synonymous terms, except DEQ means the EQC when the action is associated with hazardous waste/PCB disposal permits, public hearings, and the adoption of rules.

C. Joint DEQ and EQC Authorities

According to ORS 466.086 both the EQC and the Department are authorized to perform any act necessary to gain interim or final authorization to implement the base RCRA or HWSA program. The EQC or the Department may enter into any agreement necessary to implement authorization. The exact processes that either the DEQ, EQC or both would use are not described in the statutes. The statutes currently require DEQ and EQC to perform "any act" necessary to gain

authorization. Whether or not the EQC, Director or both sign the authorization application and the MOA with the EPA is a policy issue. Also, either the Department (the Director) or the EQC must sign interagency agreements; both signatures are not required. Currently, both sign agreements.

The Director signed the initial, June 1, 1984 Final Authorization Application submittal. A Governor's letter also accompanied the application. The EQC Chair, Public Utility Commission (PUC), and the DEQ Director signed the MOA. Subsequent revision applications have been signed by the Director only, and the Department is currently operating under the original, 1986 MOA with the EPA.

V. Authorization Status

A. Authorization Status in Oregon (Attached)

DEQ is authorized for all components of the base RCRA program. In August of 1990, if the EQC concurs, we plan to submit an authorization application for all remaining regulations promulgated by EPA through June 30, 1989. The majority of the regulations were promulgated under HSWA and consist of the land disposal regulations, hazardous constituent monitoring in ground water, hazardous waste permit modifications, and corrective action.

In September 1989, a tentative draft Attorney General's Statement, MOA, and a Program Description were submitted to EPA for review. Major HSWA provisions in the draft application include the Land Disposal Restrictions (LDR), "California List", Permit Modifications, and 40 CFR 264 Corrective Action requirements. Recently, EPA commented verbally on the drafts.

In the future, EPA may require states to have criminal authorities.

As shown in the attachment, 46 states are authorized for the base program; 10 are not authorized (there are 56 states and territories). Six states are authorized for corrective action (HSWA). EPA has been reluctant to authorize states for the corrective action component.

VI. Issues

A. What has the role of EQC been in the past regarding authorization? What should it be in the future?

Past EQC role has been to sign the MOA with EPA, the Director, PUC and EPA Regional Administrator. The last agreement was signed in 1986. A new, revised MOA will need to be negotiated with EPA. It will be incorporated into the HSWA Authorization Application. The EQC has also been involved in authorization by adopting federal rules which are subsequently included in applications.

B. What has the role of DEQ been in the past regarding authorization? What should it be in the future?

DEQ has submitted one Final Authorization Application and two Revision Applications. The Final Authorization Application was submitted on June 1, 1984. A revision to that application was submitted August 30, 1985. Authorization was received on January 30, 1986, to implement the base RCRA program. The second revision application was submitted on October 7, 1988. Authorization was finally received May 29, 1990.

C. What are the future policy and resource implications of authorization?

It is unclear if EPA will authorize the State for HSWA at this time. The capability issues deal mostly with TSD facility permitting, closures and post-closures. It is also unclear if Region 10 EPA really wants to delegate corrective action authority to the states. We have been getting mixed messages on this issue.

D. What has the role of other state agencies been in authorization and what should it be in the future (PUC, DOE, DOA, DOH, etc,?)

PUC has been a signator on the MOA with EPA. PUC has authority for land transporters of hazardous waste. Currently, the DEQ and PUC are reviewing their authorities to determine if an Memorandum of Understanding (MOU) is necessary and, if so, what revisions are necessary.

The Oregon Department of Energy (DOE) and the Oregon Department of Health (DOH), along with the DEQ, have dual authorities to implement the mixed low-level radioactive and hazardous waste program. The DEQ's role is to ensure that the hazardous component of the radioactive/hazardous waste stream is properly managed. Agreements between the DEQ, DOE and DOH may need to be developed that define regulatory authorities of the agencies in regulating the mixed waste stream in Oregon.

E. How should the DEQ deal with the issues of capability and federal criteria?

DEQ capability issues should be resolved prior to submittal of a final HSWA authorization application to EPA and we are working with Region 10 to do so. EPA Region 10 will submit to Headquarters a recommendation that Oregon either be authorized or that Oregon is incapable of implementing the HSWA provisions, and that authorization be withheld until the Department's capability improves. In the latter case, EPA and Oregon could sign a Compliance Schedule outlining steps DEQ must take to improve capability.

F. What are the implications if we do not seek HSWA authorization or retain only partial authorization?

If we do not seek HSWA authorization, or elect to retain only partial authorization, EPA will be required by federal statutes to withdraw Oregon's program. The deadline for applying for HSWA Authorization is 1993.

G. How much grant funding is at stake?

In FY 89-91, the Department will receive approximately \$1,400,000 (\$550,000 89-90; \$850,000 projected 90-91) and in 1991-1992, about \$1,700,000. These federal grant dollars account for approximately 21 to 24% of the total hazardous waste funding.

gc/gjc
June 28, 1990

Attachment: Authorization Status in Oregon
EQC Work Session, June 28, 1990

Chronology of Authorization
1983 to Present

July 25, 1983. EPA extends until April 1984 the period of Interim Authorization of Oregon's hazardous waste program.

April 1984. The April 1984 deadline for submittal of a Final Authorization Application is delayed pending modification of proposed DEQ regulations.

June 1, 1984. DEQ submits an application to EPA for Final Authorization of the Resource Conservation and Recovery Act (RCRA) base program.

August 30, 1985. Oregon submits a Revised application for Final Authorization. The revision amends the State's original application of June 1, 1984.

January 30, 1986. Oregon receives authorization for the RCRA base program. Major program components authorized are:

- Base generator, transporter, and treatment, storage and disposal facility permitting and operating requirements.

October 7, 1988. DEQ submits a program revision application to EPA for approval.

October 31, 1989. DEQ submits to EPA subsequent addenda to its October 7, 1988 Revision Application.

May 29, 1990. Oregon receives Authorization to implement revisions to its base RCRA program. Major revisions are:

- Small quantity generator requirements.

- Regulation of the hazardous waste components of radioactive wastes.

- Public availability of information requirements.

September 1989. DEQ submits to EPA draft HSWA Revision Application.

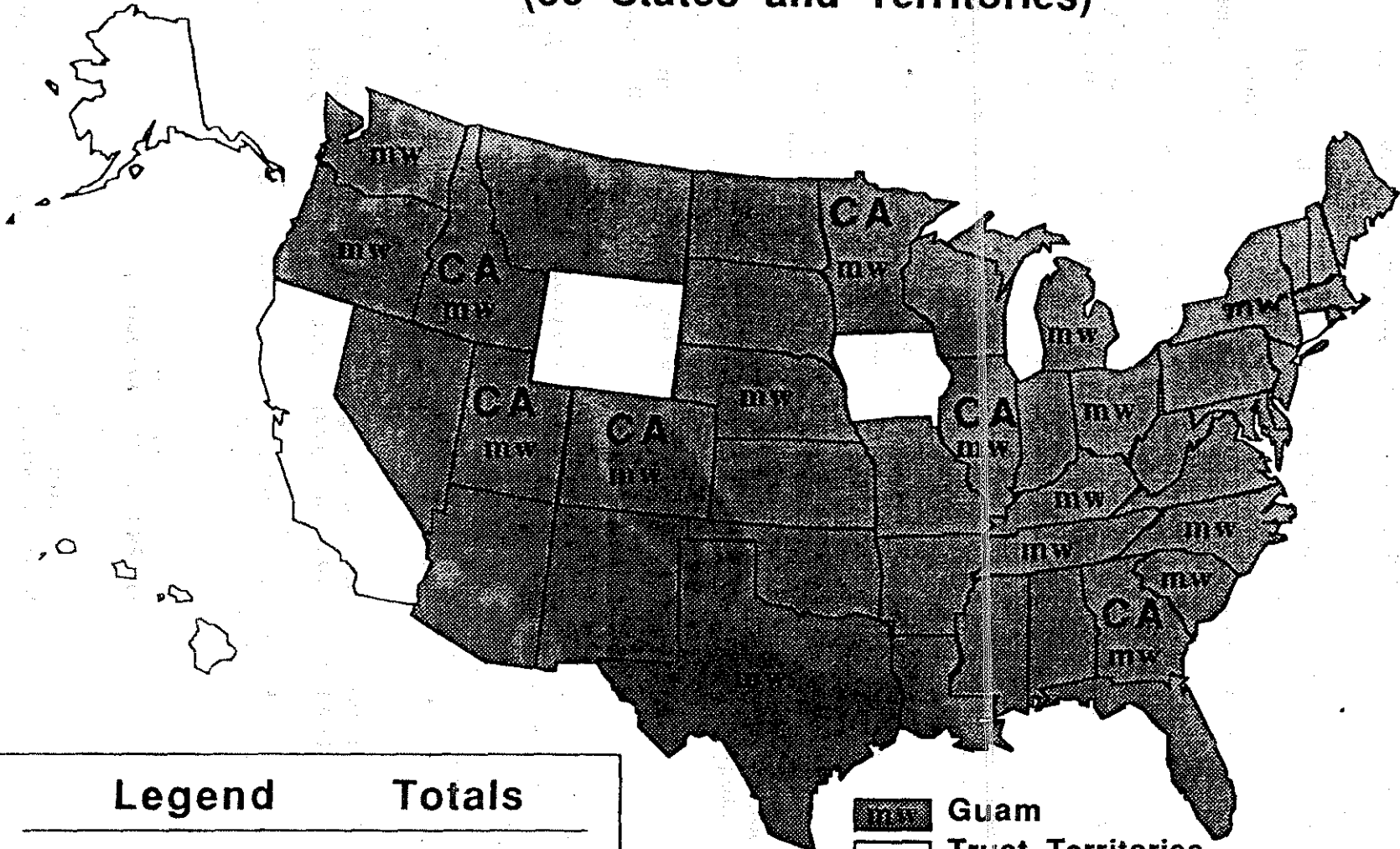
August 1990. DEQ may submit a Final HSWA Revision Application. Major revisions are:



- Land Disposal Restrictions and "California List" for generators and TSD facilities.







- Corrective Action at TSD facilities

States Authorized for RCRA Base Program

(56 States and Territories)



Legend	Totals
	Authorized 46
	Not Authorized 10
CA	Auth for Corrective Action
mw	Auth for mixed waste

-  Guam
-  Trust Territories
-  Puerto Rico
-  Virgin Islands
-  American Samoa
-  District of Columbia



Environmental Quality Commission

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

June 28, 1990
EQC Work Session

Underground Storage Tank Program Authorization

I. Background

A. Subtitle I of RCRA allows State UST programs approved by EPA to operate in lieu of the Federal program. Approval by EPA of a State program means that the requirements in the State's laws and regulations will be in effect rather than the Federal requirements. Program approval ensures that a single set of requirements (the State's) will be enforced in that State, thus eliminating the duplication and confusion that would result from having separate State and Federal requirements.

B. State submissions for program approval must be in accordance with the procedures set out in subparts A thru F of part 281 of 40 CFR. A State may apply for approval at any time after the promulgation of technical and financial responsibility regulations under section 9003 of RCRA. Technical standards became effective 12-26-88 and financial responsibility standards became effective 1-26-89.

II. Authorization Process

A. Once a State program is approved, the State program will operate under an agreement with EPA that clearly delineates EPA's limited role in an approved State, and assures the State of its lead role in administering and enforcing the UST program.

B. EPA retains authority to take enforcement action in approved states as necessary and will notify the designated lead state agency of any such intended action. EPA may withdraw program approval when the Agency determines that a state no longer has adequate regulatory or statutory

authority or is not administering and enforcing an approved program in accordance with program requirements. Amendments to the authorized program may be necessary whenever the underlying federal or state rules change.

III. Statutory and Regulatory Requirements

A. The EQC has responsibility to review and approve of the rules to carry out the statutory responsibilities of the underground storage tank program.

B. The State must demonstrate that each State program element is no less stringent than the corresponding federal requirements and must also demonstrate that it has a program that provides adequate resources to enforce these requirements.

ORS 466.705 to ORS 466.995 provides basic statutory authority which we believe is adequate. OAR 340 Division 16 provides authority on Tax credits, Division 150 includes financial responsibility and technical rules, Division 160 regulates UST Service Providers and Supervisors who install, decommission, and test tanks, proposed Division's 162 and 163 regulates Service Providers and Supervisors who cleanup spills and releases from underground storage tanks and heating oil tanks, Division 170 regulates the State UST grant reimbursement program and Division 180 regulates the State guaranteed loan and interest rate subsidy programs.

IV. Authorization Application

A. Program Description

A State seeking to administer a program under this part must submit a description of the program it proposes to administer. The description of a state's program must include:

a. The scope of the program

b. The organization and structure of the state and local agencies with responsibility for administering the program and one state agency designated as a "lead agency" to facilitate communications between EPA and the state.

c. Staff resources to carry out and enforce the required state program elements, both existing and planned, including the number of employees, agency where employees are located, general

duties of the employees, and current limits or restrictions on hiring or utilization of staff.

d. An existing state funding mechanism to meet the estimated costs of administering and enforcing the required state program elements, and any restriction or limitations upon this funding.

B. Attorney General's Statement

A state must submit a written statement from the Attorney General that the laws and regulations of the state provide adequate authority to carry out the state program.

C. Memorandum of agreement

EPA and the approved state will negotiate a Memorandum of Agreement (MOA) containing proposed areas of coordination and shared responsibilities between the state and EPA including, but not limited to; enforcement; compliance monitoring; EPA oversight; and sharing and reporting of information.

V. Authorization Status

The application for State program approval will be submitted to EPA in January 1991.

VI. Issues

A. Should DEQ apply for authorization?

The Department recommends applying for program authorization for the following reasons:

a. Industry supports the State approved program as it would avoid duplicate programs by combining State and Federal requirements. A State approved program would provide more technical assistance and would help ensure the quality of service providers to owners and operators.

b. EPA has one employee assigned to the UST program in Oregon which would provide a minimum of enforcement for UST regulations throughout the State and little assistance for UST owners or operators.

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June 28, 1990
UST Authorization

c. The continuation of the LUST cooperative agreement is dependent upon the approval of a State UST program. The LUST program received 1.3 million dollars for FY'90.

d. Without a State approved program there may be no financial assistance in the terms of loans and grants to owners and operators as is currently available.

B. What level of involvement does EQC want to have in submittal of the application?

The law does not require direct EQC involvement or signature on the application.

C. What are the future policy and resource implications of authorization?

Known future policy and resource implications of authorization include addressing the reduction in tank fees that fund the program due to increased decommissioning of tanks; whether or not a state insurance or corrective fund should be implemented; and, a legislative review of the state financial assistance program.


D. How much grant funding is at stake?

The annual program grants have provided approximately \$162,500 per year for a five year period. The last several years the Department has received between \$15,000 and \$30,000 per year in special project grants to work on specific, short term development projects. State tank fees of \$25 per tank per year have raised approximately \$475,000 per year. Licensing fees on service providers and supervisors are raising approximately \$55,000 per year.

State of Oregon
Department of Environmental Quality

Memorandum

Date: June 11, 1990

To: Environmental Quality Commission
From: Fred Hansen, Director 
Subject: Agenda Item 4, June 28, 1990 Work Session
Strategic Plan: Discussion of Operating Plans

Attached are the Operating Plans which present the high priority objectives, projects and tasks for the Department for the remainder of the current biennium. Division Administrators will be available at the work session to discuss these Operating Plans.

These operating plans have been developed in accordance with the following assumptions:

1. The primary immediate purpose of the Strategic Plan is to establish direction for legislative concept and budget development for the 1991-1993 Biennium.
2. The work program of the Department for the current biennium (1989-1991) is essentially fixed by prior budget approval, federal requirements, etc. The ability to adjust to pursue new or significantly modified initiatives of the Strategic Plan is limited.
3. The Department is able to display high priority projects and tasks that are on-going or planned during the 1989-1991 biennium, and identify how these projects and tasks can be related to Strategic Plan goals and priorities. Such a display of high priority objectives, projects, and tasks will not identify everything the Department is working on. It will focus on the "critical few" priorities for each Division and for the Agency. Each Division Administrator will be expected to report to the Director on the status of these priorities monthly.

The Department will provide the first quarterly report to the Commission on the progress of these priorities following the end of September 1990.

The Department is also proceeding with development of long-term performance indicators. The target is to select initial long term performance indicators by July 1, 1991, and to begin to use them for quarterly reporting to the Commission beginning then. In the interim, the quarterly progress reports on the operating plans will be used as performance indicators.

Attachment

Department of Environmental Quality

Draft 6/11/90

Air Quality Division Operating Plan
Priority Objectives related to Strategic Plan
Through June 30, 1991

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Develop funding to maintain and expand Air Quality improvement efforts. (All Goals, All Programs High Priority 7, all AQ High Priorities)	Draft legislative concepts for Comprehension Emissions Fee and Woodsmoke Control Financial Incentive Programs	AQ - Planning	May 1990	Pursue programs in parallel in case one or other fails to make it through process.
	Seek Governor's support of legislative concepts	AQ - Administrator	June 1990	If Governor authorizes, proceed with this and subsequent steps.
	Consult with affected parties, potential fee collection agencies and legislative counsel and draft bill. Identify implementation resource needs	AQ - Admin/Planning	Sept 1990	Need to draft program to be compatible with Clean Air Act Reauthorization which will establish industrial emission fees. Funds from programs will form air quality improvement fund to help reduce air pollution from woodstoves, industry, motor vehicles, field and slash burning and force emission sources. It will also help fund needed new DEQ resources to deal effectively with these sources.
	Submit Bills to legislature	AQ - Administrator	June 1991	
	Develop rule to increase VIP fee income to \$10 (statutory limit) to offset increase program costs	VIP/Planning	January 1991	
	Rule Adoption	EQC/Planning	April 1991	

AQ - 1

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
B. Develop and implement highest priority control strategy programs to achieve and maintain healthful air quality. (Goals 2, 3 & 4, AQ high priority)	Implement Fee Increase	VIP	July 1991	
	Request authorization to hold public hearings on draft PM10 SIP's in Grants Pass, Klamath Falls, and Medford	Planning	June 1990	
	Work with local government in Klamath Falls and secure local mandatory curtailment ordinance and with Grants Pass to secure details of voluntary curtailment program	Planning	October 1990	If Klamath Falls local government refuses to adopt ordinances, DEQ will be forced to rely on EPA and/or the Oregon Legislature to take appropriate action
	Seek EPA funding to support DEQ ambient monitoring/local government operation of curtailment programs	Planning/Technical Services	December 1990	Depends on funding increases from reauthorized Clean Air Act
	Adopt PM10 control plans and submit to EPA	EQC/Planning	November 1990	
	Develop interim parking facility offset program for Portland CBD with consensus of City and EPA on criteria for inclusion in offset rule	Planning	August 1990	
	Request hearing authorization	Planning/EQC	September 1990	
	Adopt	EQC/Planning	December 1990	
	Draft long term CO/ozone maintenance plan for Portland area, coordinating with local governments/METRO and appropriate business interests (APP, PDC, BOMA)	Planning	July 1991	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Hearing Authorization	Planning/EQC	January 1992	
	Adopt	EQC/Planning	April 1991	
	Develop revised slash smoke management plan with input from joint DEQ/ODOF Advisory Committee	Planning	November 1990	
	Hearing Authorization	Planning/EQC	January 1991	
	Adoption	EQC	May 1991	
C. Enhance Air Quality Regulations. (Goals 1, 2, 3 & 4; AQ high priority 2 & 3)	Draft air toxic control regulation for new and existing sources with aid of advisory committee	Planning	December 1990	Integrate new Clean Air Act requirements into program, assuming Act reauthorization in October
	Hearing Authorization	Planning/EQC	February 1991	
	Adoption	EQC	June 1991	
	Adopt underground piping requirement for Stage II Vapor Recovery	EQC	September 1991	
	Hearing authorization for full Stage II implementation	Planning	January 1991	Should not proceed until Clean Air Act is reauthorized to insure not losing emission reduction credits for growth. Schedule assumes reauthorization by at least October 1990.
	Adopt and implement	EQC/Program Operations	May 1991	Funding for implementation could be permit fees, new federal funds or funding from comprehensive emission fee program

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
D. Enhance AQ control	Inhance implementation of Highest and Best Practicable Treatment and Control rule by reviewing other rules for obsolescence and initiating development of highest and best practicable guidance by source type	Program Operations	December 1990	Coordination with Regional Operations and Planning Section required. Rule development will follow based on outcome of this step.
	Hearing authorization on inclusion of continuous emission monitoring manual in SIP	Planning/Technical Services	October 1991	
	Adopt	EQC/Planning	January 1991	
E. Implement environmental friendly product labelling program for products that offer low potential for polluting the indoor environment and which are manufactured and packaged using environmentally safe practices. (Goals 1, 2, & 5)	Develop conceptional program with input of Indoor Air Quality Task Force and EQC	Planning	September 1990	
	Submit grant application to EPA	Planning	October 1990	
	Finalize design of program	Planning	January 1991	Proceed if grant for program design receive from EPA.
	Support legislative authorization for increased resources	AQ - Administrator	April 1991	Request authorization for 1 permanent FTE with general/federal or fee financing
	Implement	Planning	July 1991	
F. Develop and implement systematic approach to assess air quality statewide. (AQ priority 2)	Seek EPA funding for special project	Technical Services	July 1990	
	Develop approach to area assessment. Include affected parties in approach design	Technical Services, Planning, Lab, LRAPA, EPA	April 1991	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Do initial AQ assessment	Technical Services	July 1991	
	Review results of initial assessment	TS, P&D, Lab, LRAPA, EPA, EQC	Beyond July 1990	
	Propose ambient monitoring network modifications	TS, P&D, Lab	Beyond July 1991	
	Seek funding for additional monitoring	AQ Administration	Beyond July 1991	
	Maintain/refine assessment	Technical Services	Ongoing	

Department of Environmental Quality

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**Water Quality Division Operating Plan
Priority Objectives related to Strategic Plan
Through June 30, 1991**

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Development and maintenance of a Statewide Nonpoint Source Assessment Plan.	Develop Strategies to achieve implementation of land management practices to control nonpoint source water pollution that results primarily from forestry, agriculture, and urban land use activities.	Nonpoint Source Program Manager, Surface Water Section Manager, WQ Division Administrator, EQC	July 1991	
	Support designated management agencies with the development and implementation of watershed management plans in conjunction with critical basin and TMDL activities.	Nonpoint Source Program Manager, Regional Staff, Basin Coordinators	On-going	
	Manage Section 319 federal grant funds to assist state and local efforts in controlling nonpoint sources of pollution through watershed enhancement and protection projects.	Nonpoint Source Program Manager, WQ Staff, Region Staff	On-going	
B. Develop and implement an Oil Spill Contingency Plan for the Oregon Coast and estuaries, the Columbia River, and the Willamette River to Oregon City.	Develop strategies for the prevention and cleanup of spills in coastal and ocean waters and rivers with major transportation activities. Develop strategies for the commitment of sufficient resources to maintain oil spill cleanup equipment and provide for training.	Nonpoint Source Program Manager, Surface Water Section Manager, WQ Division Administrator, EQC	July 1991	
	Coordinate with all affected local, state, and federal agencies, industry and the general public in the development and implementation of the plan.	Nonpoint Source Program Manager, Surface Water Section Manager	On-going	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
C. Improve the effectiveness and enforceability of Water Quality Permits.	Review standard permit conditions. Remove unessential conditions and add those which would improve readability and enforceability of the permits.	Industrial Permit Program Manager, HQ Staff, Regional Staff	June 1991	
	Evaluate each major permit as renewed for readability, enforceability, and appropriateness of conditions.	Industrial Permit Program Manager, HQ Staff	On-going	
	Train all permit writers on writing effective permits and evaluation reports.	Industrial Permit Program Manager, HQ Staff	Annually	
D. Expand groundwater quality protection efforts.	Utilize groundwater management area/area of concern program to develop groundwater protection strategies in cooperation with other state agencies.	Nonpoint Source Program Manager, Groundwater Section Manager, Other Agencies	On-going	
	Develop guidance for implementation of groundwater rules.	Internal Committee, Point Source Program Manager, Groundwater Section Manager, WQ Division Administrator	September 1990	
	Review Materials of prioritized permitted and unpermitted point sources to assess adequacy of groundwater protection.	Point Source Program Staff, Groundwater Section Manager, Regional Staff, WQ Staff	On-going	
E. Establish updated management programs for the Columbia Basin with Oregon and the Willamette Basin.	Initiate the Columbia River Study	Water Quality Planning Sect.	October 1990	
	Complete the Analysis of existing data	Water Quality Planning Sect.	March 1991	
	Initiate Data Collection	Water Quality Planning Sect.	April 1991	
	Establish the Willamette Basin Study Plan	Water Quality Planning Sect.	January 1991	

Department of Environmental Quality

Draft 6/11/90

**Hazardous and Solid Waste Division Operating Plan
Priority Objectives related to Strategic Plan
Through June 30, 1991**

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Develop hazardous waste program priorities for permitting and compliance activities and implement through the state/EPA agreement. (Goals 2, 4, 6, 7)	Prepare revised draft of hazardous waste permitting and compliance milestone priorities which include target outputs by calendar quarters.	Hazardous Waste Permits and Compliance Section (HWPC)	May 1990	
	Finalize program priorities following comments from EPA.	HWPC	July 1990	
	Track targeted milestones and prepare mid-year review report for permitting and compliance.	HWPC	January 1991	
	Prepare revised milestone if required for permitting and compliance.	HWPC	As needed	
	Prepare end of year review report on milestones targeted and completed for permitting and compliance.	HWPC	June 1991	
B. Develop Comprehensive Hazardous Waste Information System* (Goals 1, 2 & 8) (HSW High Priority 4)	Hire staff replacements	Hazardous Waste Reduction and Technical Assistance Section (HWRTA), Human Resources - MSD	August 1, 1990	* All target dates are contingent upon the timely hiring of qualified staff.
	Draft new reporting forms	HWRTA	September 15, 1990	
	Finalize new reporting forms	HWRTA	October 15, 1990	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Prototype new forms with regulated community	HWRTA, HWPC	November 15, 1990	
	Finalize forms and secure new reporting rule	HWRTA	December 15, 1990	
	Develop/modify information system to run all necessary reports	HWRTA, Information Systems	July 1, 1991	
	Modify system to include significant elements of EPA's biennial report	HWRTA, Information Systems	January 1, 1991	
	Incorporate/integrate elements of HW reduction and toxic reduction into system	HWTRA, Information Systems	January 1, 1990	
	Incorporate new federal reporting requirements into information system (HWDMS,RCRIS and capacity assurance)	HWRTA, HWPC	Ongoing	
	Develop new reports and data categories to meet public, government and information needs	HWRTA	Ongoing	
C. Reorganize solid waste permit review work to improve efficiency and reduce the backlog of submittals. (Goals 1 & 8) (Agency-Wide High Priority #3)	Regional training on policies, permit instructions.	Headquarters Staff	May 13, 1990	Done
	Finalize woodwaste policy	Headquarters	June 15, 1990	
	Hire temporary staff to address industrial sites.	Headquarters	July 1, 1990	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Begin rulemaking on increased permit fees contingent upon legislative approval.	Solid Waste Staff	October 1, 1990	
	Hire permanent staff to track permits/plans	Headquarters	October 1, 1990	
	complete review and permit/plan approval on all "low-risk" landfills or transfer stations.	Regional Staff	November 1, 1990	
	Review and evaluate new permit processing procedures with regional offices.	Headquarters/Regional Staff	February 1, 1991	
	Get approval from Legislature for additional technical staffing for solid waste.	HSW/MSD Staff	July 1, 1991	
	Hire new solid waste staff paid for with new higher permit fees adopted by rule.	Headquarters	August 1, 1991	
D. Adopt recycling goals and standards (Goal 2) (H&SW High Priority 2)	Develop draft rules for goals and standards	Solid Waste Reduction and Recycling Section (SWRR)	May 1, 1990	Important for consensus
	Develop legislative concept	SWRR, HSW Planning Section	June 1, 1990	
	Develop fiscal impact statement	HSW Planning Section, MSD Budget Section	June 1, 1990	
	Identify potential funding source	HSW Planning Section, Agency Mgmt., DEQ Legislative Team	August 1, 1990	New Fees or Increase existing fees
	Obtain support for concept	HSW Management	August 1, 1990	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Executive approval	Director	July 1, 1990	
	Draft Legislation	Legislative Counsel, DEQ Legislative Team	January 1, 1991	
	Develop support documents	SWRR, HSW Planning Section, DEQ Legislative Team	January 1, 1991	
	Support legislative passage	DEQ Legislative Team	June 1, 1991	Important for Advisory Committee to support
	Develop Implementation Strategy	SWRR, HSW Planning Section, Agency Mgmt.	September 1, 1991	
	Develop Rules	SWRR, EQC	January 1, 1992	Draft Rules will expedite development of final rules
E. Implement UST financial assistance programs (Goal 4) (HSW High Priority 8)	Timely review of Grant reimbursement applications (strive for initial 14 day review)	UST Compliance	On-going	Program Sunsets 8/31/92
	Timely review of loan Guarantee applications (strive for initial 14 day review)	UST Compliance	On-going	Program Sunsets 8/31/92
	Timely review of Interest Rate Subsidy applications (strive for initial 14 day review)	UST Compliance	On-going	Program Sunsets 8/31/92
	Timely review of Pollution Control Facility Tax credits (within 120 days of receipt)	UST Compliance	On-going	Program Sunsets 12/31/95
	Interim Legislative committee program review	UST Compliance, Director	Periodic	Between 89 and 91 sessions

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Legislative program review	UST Compliance, Director	January-June 1991	
	Regional Inspection of Loan Guarantee soil cleanups and issuance of "Notice of Soil Cleanup"	Regional Offices	On-going	
	Regional Inspection of Loan Guarantee upgrade and replacement UST projects and issuance of "Notice of Construction Completion"	Regional Offices	On-going	

Department of Environmental Quality

Draft 6/11/90

Environmental Cleanup Division Operating Plan
Priority Objectives related to Strategic Plan
Through June 30, 1991

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Enhance the cleanup process to include a non-complex cleanup program. (Goal 8) (ECD High Priority 1)	Develop Voluntary Cleanup Initiative (VCI) Plan	Program Development Section	July 1, 1990	
	Prepare legislative budget proposal for Voluntary Cleanup Section	Program Development Section	July 7, 1990	
	Request E-Board authorization for positions	Program Development Section	July 12, 1990	
	Develop decision regarding cleanup criteria for soil contamination at Level 1 sites	Program Development Section	August 1, 1990	
	Develop decision regarding procedures and policies for interim Level 1 sites, including: Request packet Letter agreement Model workplan Final report outline Certification letter	Program Development Section	September 1, 1990	
	Request public hearing authorization for rulemaking if cleanup criteria are developed	Program Development Section	July 1, 1991	
	Propose rules for incidental hazardous substances and minor groundwater Level 2 LUST sites	Underground Storage Tank Cleanup Section	July 1, 1991	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Request public hearing authorization for rulemaking on Level 2 hazardous substances sites	Voluntary Cleanup Section	January 1992	
	Hire and train staff for Level 2 & 3 voluntary cleanups	Voluntary Cleanup Section	August 1990 - July 1991	
B. Aggressively pursue responsible parties to pay for cleanup costs and maximize cost recovery of DEQ oversight costs. (Goal 4) (ECD High Priority 2)	(See also Priority #1: Voluntary Cleanup Initiative)			
	Develop overhead cost proposal for MSD review and approval	Program Development Section	July 1, 1990	
	Request E-Board authorization for Accountant position	Program Development Section	July 12, 1990	
	Provide progress report on cost recovery and enforcement policy and procedures	Program Development Section	March 1, 1991	
C. Complete site discovery rulemaking and implement on an agency-wide basis.	Propose site discovery rules for EQC adoption	Site Assessment Section	June 29, 1990	
	Prepare legislative budget proposal for regional positions	Program Development Section	July 7, 1990	
	Begin process for listing sites on Confirmed Release List and Inventory	Site Assessment Section	August 1, 1990	
	Complete development of initial guidance to implement site discovery program department-wide	Site Assessment Section	August 15, 1990	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Begin training to implement site discovery program department-wide	Site Assessment Section	September 1, 1990	
	Complete listing of sites on initial CRL & Inventory	Site Assessment Section	November 1990	
	Complete development of Hazard Ranking System and request public hearing authorization on rules	Site Assessment Section	November 2, 1990	
	Propose Rules for EQC adoption	Site Assessment Section	January 25, 1991	
	Begin ranking sites on inventory	Site Assessment Section	February 15, 1991	
D. Secure orphan site funding by receiving E-Board approval to sell Pollution Control Bonds to clean up a site. (Goals 1, 2) (ECD High Priority 4)	<u>McCormick and Baxter Goalposts:</u>			
	• Final Phase 1 RI/FS Workplan	Site Response Section	September 5, 1990	
	• Start Phase 1 work	Site Response Section	September 10, 1990	
	• If feasible, implement interim remedial action: Final Phase 2 RI/FS Workplan Start Phase 2 work Complete Phase 1 RI/FS work Final Phase 1 & 2 RI/FS Report Select Proposed Remedy Public Comment Record of Decision	Site Response Section	May 9, 1993	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
E. Implement Business Planning Project. (Goals 1 & 8) (All Programs High Priority 2)	Complete Feasibility Study; Executive Dept approval	MSD Information Systems	July 1, 1990	
	Award contract	MSD Information Systems	August 15, 1990	
	Identify components for short term implementation	Program Development	September 1, 1990	
	Begin analysis of Business Requirements including Data Model	Program Development	October 1, 1990	
	Complete analysis of Business Requirements including Data Model	MSD Information Systems, Program Development	January 1, 1991	
	Issue Contract or task order for one or more components of the Plan	MSD Information Systems, Program Development	March 1, 1991	

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Public Affairs Section Operating Plan Priority Objectives related to Strategic Plan Through June 30, 1991

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
Develop and implement new initiatives for informing the public about actions they can take to reduce pollution.	Develop set of educational objectives and priorities for the next year	Public Affairs Section	July 1, 1990	
	Revise and update agency brochure to include information on actions the public can take to reduce pollution	Public Affairs Section	To the printer by September 1, 1990	
	Reprint and update the recycling curriculum - RE:Recycling. Include section on what the public can do to reduce pollution	Public Affairs Section	To the printer by September 1, 1990	
	Develop and implement a distribution plan for the Clean Air curriculum	Public Affairs Section	July 1, 1990	
	Work with Tri-Met on developing a joint clean-air educational program	Public Affairs Section	September 1, 1990	
	Participate in public events with displays on what the public can do to reduce pollution:	Public Affairs Section		
	Jackson County Clean Air Fair		September 1990	
	Klamath County "Operation Big Push"		September 1990	
	Zoo Project S.A.F.E.		June 1991.	
Develop a series of radio public service announcements to give the public car-care	Public Affairs Section	October 1, 1990.		

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	tips to reduce air pollution			
	Facilitate a woodburning public education meeting with representatives of nonattainment areas	Public Affairs Section	August 1990	
	Develop educational materials on household hazardous waste reduction	Public Affairs Section	Spring 1991.	
	Develop and produce a series of educational fact sheets on hazardous and solid waste reduction	Public Affairs Section	On-going	
	Develop and Implement an educational campaign for Recycling Awareness Week	Public Affairs Section	Fall 1990	
	Develop materials and participate in workshops on toxic use reduction	Public Affairs Section	Quarterly	

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Laboratory Division Operating Plan
Priority Objectives related to Strategic Plan
Through June 30, 1991

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Increase the amount of waters assessed (based on data) to better identify threats to public health and the environment (Goal 2, Water Program Priority 1)	Develop budget proposals to enhance monitoring capabilities	Lab, WQ Program	Start March 1990, Complete July 1991	
	<u>RIVERS:</u> Refine Rapid Biomonitoring Protocols (RPB) for assessing stream quality and non point source (NPS) impacts in rangeland (GWEB Projects) and urban (TMDL) areas	Lab	Start June 1990; Complete September 1991	
	Transfer Protocols to targeted agencies to increase assessment capability	Lab	Initiate in 1991	
	Utilize Protocols in DEQ ambient monitoring on prioritized streams (SCWS)	Lab	Start June 1990	Budget dependent
	<u>ESTUARIES:</u> Refine coverage of major shellfish growing bays to meet FDA requirements	Lab, WQ Program, Health Division	September 1990	
	Develop approach for monitoring other bays	Lab, WQ Program, Health Division	January 1991	
	<u>LAKES:</u> Seek source of long term funding and support	WQ Program	June 1991	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	<u>WETLANDS:</u>			
	Develop assessment and monitoring capability	WQ Program, Lab	January 1991	
	Develop implementation approach	WQ Program	July 1991	
	<u>GROUNDWATER:</u>			
	Develop ambient monitoring strategy and priorities	WQ Program, Lab	August 1991	
	Initiate Strategy:	Lab		
	Grants Pass Area		July '88-June 1991	
	Boardman Area		Start July 1990	
	Bend Area		Start September 1990	
B. Develop information on AQ in areas of the State which have not previously been evaluated, assayed, or monitored	Develop a priority ranking of areas by use of available monitoring information by pollutant and/or by use of source modeling work	AQ Program, Lab	Begin October 1990; Complete by (Part.) May 1991 (CO) Oct. 1991 (SO ₂) July 1992	
	Identify areas for survey and monitoring effort, costs and scheduling	AQ Program, Lab		
	Implement survey and monitoring schedules for PM ₁₀ , CO, SO ₂ , Ozone	Lab,	Start by October 1991	Special Project, Budget dependent.
	Develop a survey technique to identify areas of the State that have potential for impact from toxics	AQ Program, Lab	July 1991	
	Implement toxics monitoring network	AQ Program, Lab	(Not likely in 1990-1991)	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
C. Improve NPDES/WPCF self-monitoring laboratory assessment & data Quality Assurance (Goal 2,4,8) (All program high priority 1,2).	List EPA QA requirements and applicable GLPs for NPDES & WPCF self-monitoring analyses.	Lab, WQ	September 1, 1990	
	Develop list of permittees doing self-monitoring; laboratory doing work; analytes; contacts; etc.	Lab, WQ, RO	September 1, 1990	Meet with each Region (?).
	Develop inspection check-list, report format, inspection criteria...	Lab	October 15, 1990	
	Prioritize sources-laboratories for inspection; begin scheduling	Lab, RO, WQ	December 1, 1990	
	Implement inspection schedule	Lab	January 1, 1991	7 - 10 labs inspected/month; 50 labs inspected by June 30, 1991.

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Regional Operations Division Operating Plan Priority Objectives related to Strategic Plan Through June 30, 1991

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Develop and implement an inspection ranking matrix which will focus on highest priority sources and incorporate unannounced inspections into scheduled workload. (Goal 4) (All Program High Priority 1)	Complete ranking of source inspections (AQ, WQ, SW, HW) based upon the matrix and current resource levels (short-term strategy)	RO Administrator, Regional Managers, Program Managers	August 15, 1990	
	Develop long-term application of inspection matrix. Identify desired inspection level and necessary resources.	RO Administrator, Regional Managers, Program Managers	August 15, 1990	
	Review inspection schedule with EPA.	Program Managers	To be decided	
	Implement short-term strategy (if approved by EPA).	Regional Managers	October 1, 1990	
B. Develop and implement a complaint response matrix which establishes priorities and identifies appropriate actions. (Goal 4, 8) (Resource reduction priorities all programs 4)	Form work group.	RO Administrator, Regional Managers	August 15, 1990	
	Assess number and types of complaints. Evaluate various response options. Prepare draft matrix.	Work Group	September 15, 1990	
	Submit draft matrix to regions/programs and Director for comment.	Work Group, Reviewers	October 15, 1990	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Review comments and modify as necessary	Work Group	November 15, 1990	
	Pilot test the matrix in the regions; review in 6 months.	Regional Managers	December 1, 1990 - May 30, 1991	
	Refine as necessary.	Work Group	June 15, 1991	
	Implement	Regional Managers	July 1, 1991	
C. Establish a base employee training program. (Goal 6, 7) (All programs highest priorities 5)	Identify basic training needs for each program	RO Administrator, Regional Managers, Program Managers, Training Coordinator	October 1, 1990	
	Determine necessary resources, scheduling needs	RO Administrator, Regional Managers, Training Coordinator	November 15, 1990	
	Incorporate training requirement in employee work plans	Regional Managers, Supervisors	February 1, 1991	
	Implement		April 1, 1991	

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Management Services Division Operating Plan Priority Objectives related to Strategic Plan Through June 30, 1991

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
A. Coordinate the development of a 1991-93 Operating Budget that reflects the Strategic Plan and proposes options for stable, long-term funding. (All Goals) (All Program High Priority 7)	Complete agency requested budget and submit to the Executive Department.	Division Administrators, Program Managers, Budget Office, Director, EQC.	August 28, 1990	
	Revise based on Executive Dept. review and discussions. Submit Governor's Recommended Budget to the 1991 Legislature.	Division Administrators, Program Managers, Budget Office, Director, EQC.	January 8, 1991	
	Seek Legislative approval of the budget.	Division Administrators, Program Managers, Budget Office, Director, EQC.	January-June 1991	
B. Coordinate the development of a comprehensive data management system which is accessible and useful to all programs. (Goals 1 & 2) (All Program High Priority 2)	Improve program and regional office access to electronic data by installing additional needed workstations and communication equipment.	MSD Administrator, Information Systems Office, and Program Managers.	August 1990	Each Program prioritizes data base programming needs independently
	Develop DEQ Information Technology Plans and submit 1991-93 request to the Executive Department.	Information Systems Office, Division Administrators.	August 1990	
C. Revise the Health and Safety Plan as needed and implement. (Goal 7) (All Program High Priority 6)	Review existing Health and Safety Plan, update	Health and Safety Manager	June 1990	

Priority Objectives	Significant Tasks	Responsible Unit	Target Date	Notes
	Formally adopt implementation strategy.	Division Administrators, Director	July 1990	
	Begin Implementation.	Health and Safety Manager, Division Administrators, and Director.	August 1990	
D. Ensure that a consistent approach reflecting Department Values is followed in dealing with the public, the regulated community, and co-workers. (Goal 6)	Review and revise the Conflict of Interest policy.	Division Administrators, Director	September 1990	
	Develop a training segment for new employees.	Human Resources Office, MSD Administrator	November 1990	
E. Provide training and development opportunities for staff. (Goals 4, 6, & 7) (All Program High Priority 5)	Coordinate with Divisions to deliver training and development programs.	Human Resources Office, MSD Administrator	On-going	Each Division identifies and prioritizes training needs.
F. Implement an employee recognition program. (Goal 7)	Recruit and fill the Human Resources Manager vacancy.	MSD Administrator	July 1990	
	Implement the approved plan.	Human Resources Manager, Division Administrators, Director	September 1990	
G. Encourage Affirmative Action in the workplace.	Review, update and approve the Department's Affirmative Action Plan.	Human Resources Manager, Division Administrators, Director	September 1990	
	Implement the approved plan.	Human Resources Manager, Division Administrators, Director	October 1990	

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

DATE: June 12, 1990

TO: Environmental Quality Commission

FROM: Peter Dalke, Administrator
Management Services Division *PAD*

SUBJECT: 1991-93 Budget Update

The following is the outline of a 20-minute presentation scheduled for your June 28, 1990 Work Session Item #5:

DEQ 1991-93 Budget

- I. Strategic Plan Reflected in The 1991-93 Budget Request
 - A. Unifying Themes
 - 1. Pollution Prevention
 - 2. Technical Assistance / Customer Service
 - B. Performance Indicators and Workload Measures

- II. Decision Packages Reflecting Unifying Themes
 - A. Base Enhancement Packages
 - B. New Program Initiative Packages

The Department staff continues to develop information relating to the 1991-93 budget request. In order to provide the most current information for discussion at the work session, a separate mailing of budget information to the Commission will occur closer to the work session date.

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

DATE: June 21, 1990

TO: Environmental Quality Commission

FROM: Fred Hansen
Director

SUBJECT: 1991-93 Budget Process

Attached for your review is a packet of information outlining our direction to date concerning our 1991-93 Agency Request Budget. Our 1991-93 budget is reflective of the strategic plan and the department's effort to allocate resources to strategic activities that will have the greatest environmental impact.

We have written a brief narrative on each proposed decision package along with the anticipated costs and positions per package. Our decision packages follow the strategic plan themes of pollution prevention and technical assistance, and fall into three major categories: 1. Base Enhancements 2. Legislative Proposals and 3. New Packages.

Internally the department has to complete final narratives on all program activities and related decision packages, finalize workload measures and performance indicators and identify reduction options. The agency requested budget is due to the Executive Department on August 28, 1990.

Externally the process unfolds when the Executive Department's Budget Office receives our budget. Since there will be a new Governor the Executive Department budget analyst will make his recommendations regarding our budget to the Governor-Elect. During a change of Governors state law allows a longer period for the new Governor to formulate their budget priorities. As a result, the Governor-Elect Recommended Budget is made public a month later, January 1991. A formal budget is submitted a month later (February) to the 1991 Legislature. During the legislative session the Joint Ways & Means Committee will review and make recommendations on the Governor's Recommended Budget and ultimately approve a 1991-93 budget for DEQ effective July 1, 1991.

Attachment A : Explanatory Information for reading
Attachment A-1 : Summary of Proposed 1991-93 DEQ Budget
Attachment B : Narrative on proposed decision packages
Attachment C : DEQ Operating Budget Graphs

ATTACHMENT A

EXPLANATORY INFORMATION for ATTACHMENT A-1

Attachment A-1 is a summary document of our estimated 1991-93 Agency Request Budget by each major departmental program (Air, Water, Hazardous & Solid Waste, Environmental Cleanup, Agency Management) and by: 1. Estimated 91-93 Base Budget, 2. Base Enhancement Packages, 3. Legislative Packages, and 4. New Packages. This attachment identifies not only the requested budget and positions for each program, but also a summary of the entire agency.

The following instructions are to assist you in understanding the information presented in Attachment A-1.

- Column A : an identifying number given to each decision package
- Column B : an identifying title given to each decision package
- Column C : the revenue source(s) for each base budget and decision package
- Column D : total number of decision packages by base, legislative proposals and new initiatives
- Column E : estimated costs for the base budget and decision packages
- Column F : total number of positions by headquarters, regions, lab and agency management

ATTACHMENT A-1
DEPARTMENT OF ENVIRONMENTAL QUALITY
ESTIMATED 1991-93 AGENCY REQUEST BUDGET

20-Jun-90

(A)	(B)	(C)	(D)	(E)	(F)				
PKG NO.	TITLE	REVENUE SOURCE	NO. PKGS	ESTIMATED EXP & IND COST	HDQTRS	REG	LAB	AM	TOTAL
1.	ESTIMATED 91-93 BASE BUDGET			129,912,610	293	78	60	55	486
2.	PROPOSED BASE DECISION PACKAGES		10	11,682,817	52	28	11	16	107
3.	PROPOSED LEGISLATIVE DECISION PACKAGES		9	58,183,330	29	17	5	8	59
4.	PROPOSED NEW DECISION PACKAGES		14	19,861,015	52	39	19	3	113
	SUBTOTAL DECISION PACKAGES		33	89,727,162	133	84	35	27	279
	ESTIMATED 1991-93 AGENCY REQUEST BUDGET			219,639,772	426	162	95	82	765

AIR QUALITY

1.	ESTIMATED 91-93 BASE BUDGET	General/Other/Federal Funds		19,979,186	114	18	28	0	160
2.	BASE PACKAGES								
101	AQ Base Enhancement	New Emission Fee/Indirect Revenue/EPA 105		1,683,590	7	4	2	1	14
		Shift to General Fund		2,548,800	11	5	6	0	22
		Shift from OF & FF		(2,548,800)	(11)	(5)	(6)	0	(22)
3.	LEGISLATION								
102	Comprehensive Air Bill	New Emission Fee/Indir. Rev.		51,716,002	12	1	0	7	20
103	Fin. Incentives for Residential Woodstoves	General Funds		84,309	1			0	1
4.	NEW PACKAGES								
104	Motor Vehicle Equipment/Land Acquisition	Increase Motor Vehicle Certificate Fee		300,001	0	0	0	0	0
105	Indoor Air	Consultant Accrediation & EPA 105		270,829	2	0	0	0	2
	SUBTOTAL DECISION PACKAGES			54,054,731	22	5	2	8	37
	TOTAL AIR QUALITY			74,033,917	136	23	30	8	197

ATTACHMENT A-1
DEPARTMENT OF ENVIRONMENTAL QUALITY
ESTIMATED 1991-93 AGENCY REQUEST BUDGET

20-Jun-90

(A)	(B)	(C)	(D)	(E)	(F)				
PKG NO.	TITLE	REVENUE SOURCE	NO. PKGS	ESTIMATED EXP & IND COST	HDQTRS	REG	LAB	AM	TOTAL
WATER QUALITY									
1.	ESTIMATED 91-93 BASE BUDGET	General/Other/Federal Funds		62,580,146	68	27	22	0	117
2.	BASE PACKAGES								
201	Standards and Assessments	General Funds		1,794,339	10	0	9	0	19
		Federal Funds		(700,858)	(3)	0	(2)	0	(5)
202	WQ Permits and Certification	General Funds		1,959,988	11	8	0	0	19
		Municipal Waste Permits		891,676	4	5	0	0	9
		Ind.Waste Permits Fund Shift		(352,778)	(1)	(1)	0	0	(2)
		Operator Certification Fees		165,691	2	0	0	0	2
		On-Site Fees		453,037	1	5	0	0	6
		On-Site Fee Fund Shift		(344,737)	(2)	0	0	0	(2)
		#106 Base Grant Fund Shift		(461,695)	(1)	(2)	0	0	(3)
		Pretreatment Grant Fnd Shift		(74,090)	(1)	0	0	0	(1)
		205(g) Grant Fund Shift		(173,198)	(1)	0	0	0	(1)
203	Groundwater Activities	General Funds		979,055	4	2	1	0	7
		Indirect Costs (DO/MSD Pos.)		288,879	0	0	0	2	2
3.	LEGISLATION								
204	Spill Contingency Plans	New Fee/Industry Support		319,240	3	0	0	0	3
205	Laboratory Certification	General Funds		182,712	0	0	2	0	2
		Lab Certification Fees		184,044	0	0	3	0	3
	Water Use Fee	Water User Fee - see new packages							
4.	NEW PACKAGES								
206	Nonpoint Source Program	General Funds		152,398	1	0	1	0	2
		Water User Fee		168,079	1	0	1	0	2
207	SRLF/Community Tech. Asst.	General Funds		168,537	0	1	0	1	2
		State Revolving Loan Fund		687,875	5	2	0	0	7
		Federal Funds		187,671	0	2	0	0	2
208	Pretreatment and Sludge	Municipal Waste Permits		1,161,361	4	3	2	0	9
		USA Award Carry-Over		35,593	1	0	0	0	1
209	Groundwater Activities	General Funds		1,309,671	5	2	3	0	10
		Water User Fee		3,337,681	2	0	3	0	5
210	Willamette/Columbia WQ Studies	General Funds		3,380,026	4	0	2	0	6
211	Oceanic/Marine Estuaries Mgmt.	General Funds		533,876	2	1	1	0	4
212	Cross-Media Env.Risk Reduction	General Funds		308,966	0	0	4	0	4
		HSW/WQ Fees		108,942	0	0	2	0	2
SUBTOTAL DECISION PACKAGES				16,651,981	51	28	32	3	114
TOTAL WATER QUALITY				79,232,127	119	55	54	3	231

ATTACHMENT A-1
DEPARTMENT OF ENVIRONMENTAL QUALITY
ESTIMATED 1991-93 AGENCY REQUEST BUDGET

20-Jun-90

(A)	(B)	(C)	(D)	(E)	(F)				
PKG NO.	TITLE	REVENUE SOURCE	NO. PKGS	ESTIMATED EXP & IND COST	HDQTRS	REG	LAB	AM	TOTAL
HAZARDOUS & SOLID WASTE									
1.	ESTIMATED 91-93 BASE BUDGET	General/Other/Federal Funds		24,131,715	67	25	7	0	99
2.	BASE PACKAGES								
301	Upgrading SW Landfills	Increase SW Perm Fee & EQC Out-of-State Surcharge		1,300,765	6	2	1	0	9
		Fund Shift from OF & FF		(962,400)	(6)	(2)	(1)	0	(9)
		Fund Shift to General Funds		962,400	6	2	1	0	9
302	SW Reduction Base Enhancement	Increase SW Recycling Fees & EQC Out-of-State Surcharge		1,050,862	6	0	0	0	6
		Fund Shift from OF & FF		(965,641)	(5)	(3)	(1)	0	(9)
		Fund Shift to General Funds		965,641	5	3	1	0	9
303	Federal HW Program	Increased RCRA, SARA CAP		616,161	4	0	0	1	5
3.	LEGISLATION								
304	SW Tech Staffing & Plan Asst.	Inc SW Disposal Fee, Capture Out-of-State w/In-State Fees & General Fund		1,087,710	3	5	0	0	8
305	Recycling Goals & Standards	Inc SW Disposal Fee		1,012,290	2	0	0	0	2
306	HW Reduction & Technical Asst.	Inc HW Disposal Fee		1,890,723	5	6	0	1	12
4.	NEW PACKAGES								
307	Regional SW Red/Recycling Asst.	General Fund		950,000	1	7	0	0	8
	SUBTOTAL DECISION PACKAGES			7,908,511	27	20	1	2	50
	TOTAL HAZARDOUS & SOLID WASTE			32,040,226	94	45	8	2	149
ENVIRONMENTAL CLEANUP									
1.	ESTIMATED 91-93 BASE BUDGET	General/Other/Federal Funds		15,873,933	44	8	3	0	55
2.	BASE PACKAGES								
801	ECD Coordination	Fed. Funds (LUST and CORE)		642,108	2	4	0	0	6
		Indirect Costs (D.O.Pos.)		131,262	0	0	0	1	1
802	Limited Duration Conversions	Federal LUST Trust Fund		565,561	4	1	0	0	5
3.	LEGISLATION								
803	Public/Private Partnership	Petrl.Wthdl.Fee;Haz.Sub.Hand		1,166,180	3	0	0	0	3
4.	NEW PACKAGES								
804	ECD Regional Operations	HSRAF		952,476	0	11	0	0	11
805	Voluntary Cleanup	HSRAF		3,774,350	20	6	0	2	28
806	Spill Response/Drug Lab	Local Cost-Share/Petrol.Load		1,715,138	4	0	0	0	4
	SUBTOTAL DECISION PACKAGES			8,947,075	33	22	0	3	58
	ENVIRONMENTAL CLEANUP			24,821,008	77	30	3	3	113

ATTACHMENT A-1
DEPARTMENT OF ENVIRONMENTAL QUALITY
ESTIMATED 1991-93 AGENCY REQUEST BUDGET

20-Jun-90

(A)	(B)	(C)	(D)	(E)	(F)					
PKG NO.	TITLE	REVENUE SOURCE	NO. PKGS	ESTIMATED EXP & IND COST	-----POSITIONS-----	HDQTRS	REG	LAB	AM	TOTAL
=====										
AGENCY MANAGEMENT										

	1.	ESTIMATED 91-93 BASE BUDGET	General/Other/Federal Funds	7,347,630	0	0	0	55		55
	2.	BASE PACKAGES								
601		AM Base Enhancement	Indirect Revenue	1,267,199	0	0	0	11		11
	3.	LEGISLATION								
*20		Enforcement Enhancement	General Fund	540,120	0	5	0	0		5
	4.	NEW PACKAGES								
602		Pollution Prevention Program	General Fund/Federal Funds	357,545	0	X	0	4		4
		SUBTOTAL DECISION PACKAGES		2,164,864	0	9	0	115		20
		TOTAL AGENCY MANAGEMENT		9,512,494	0	9	0	66		75

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**ATTACHMENT B
DECISION PACKAGE NARRATIVES**

The following decision packages are identified by a unique number as outlined in Attachment A-1. Packages #102, #103, #204, #205, #304, #305, #306, #803 and 20 are packages relating to the Department's legislative proposals. Narratives on these proposals have been forwarded to you in memorandum dated March 27, April 23, and April 26, 1990.

GOAL

AIR QUALITY

#101 AQ Base Enhancement

#4

Provides the Air Quality program resources needed if service levels approved for the current biennium are to be maintained. Increases in public involvement, federal regulations which should be adopted into the State Implementation Plan, industrial source permit review complexity, source inspections needed, and other factors have created shortages. This package provides additional resources for source inspection, permit writing, rule development, and air quality monitoring.

#104 Motor Vehicle Equipment / Land Acquisition

Provides funding needed to maintain service levels in case of equipment failure and to provide an opportunity for purchase of the property. An extensive maintenance program has insured the accuracy of the emission control testing equipment used by the Vehicle Inspection Program for 15 years. The Department is planning to acquire the Beaverton vehicle test center property when the lease expires in 1991.

#105 Indoor Air

Provides for the establishment of permanent positions to implement the product labeling and consultant accreditation programs authorized by the 1988 Oregon Indoor Air Quality Act. Product labelling is anticipated to be a highly effective pollution prevention program. Consultant accreditation should insure that those using indoor air consultants to measure or remedy indoor air problems are receiving services from qualified parties.

**Attachment B
Decision Package Narratives**

WATER QUALITY

#201 Standards and Assessment

Provides for continuation of establishment of TMDL's on waterbodies which violate standards (federal funding no longer available); provides increase in water quality monitoring and assessment to determine where standards and beneficial uses are not being protected; provides development of in-stream water rights to maintain water quality.

#202 Permits, Enforcement

Provides a fund shift¹ to maintain current staff levels on permit drafting, inspections, enforcement. Provides additional staff in permitting and enforcement. Adds staff for direct service in on-site program in contract counties as well as increase in central staff for on-site program audits and technical assistance.

#203 Groundwater Base Enhancement

Provides assistance to the regions on groundwater protection plan review on permitted and nonpermitted sources; provides coordination and data entry of an increasing volume of information being amassed by various agencies on groundwater; provides for hydrogeological investigation on sites discovered to be contaminated which need immediate evaluation.

#206 Nonpoint Source

Implements non-point source plans and agreements signed between DEQ and other state and federal agencies. Provides staff to coordinate with major non-point source agencies such as agriculture and forestry, provides ability to assess specific streams for impact and improvement on non-point source activities.

Footnote:

1. Fund Shift: A fund shift is a substitution of one fund type for another, e.g., General Fund for Federal Funds or Other Funds.

Attachment B
Decision Package Narratives

Water Quality...continued

#207 State Revolving Fund Projects/Technical Assistance

Provides sufficient staff to manage state revolving fund project financing for municipal sewage treatment; provides technical assistance for small communities.

#208 Pretreatment, Sludge, Biomonitoring

Provides program development and oversight for municipal sewage treatment plants which accept waste from industries; provides oversight and technical assistance on beneficial sludge use. Provides biomonitoring capability in the lab.

#209 Groundwater Activities

Provides added resource for permit component where groundwater may be impacted by point source discharge; provides for minimum hydrogeologic investigations, implements one additional groundwater management area of concern project and establishes the ambient groundwater monitoring network at a minimal level.

#210 Willamette River and Columbia River Studies

Provides for data collection and analysis on the two rivers as well as on going staff coordination with appointed citizen work groups.

#211 Ocean/Estuaries Management

Establishes marine water quality standards; establishes estuarine/marine baseline ambient water quality monitoring; develops agreements with appropriate state and federal agencies.

**Attachment B
Decision Package Narratives**

Water Quality...continued

#212 Cross Media Environmental Risk Assessment

Establishes the capability to coordinate comprehensive cross media assessment of environmental risks related to new permits for major sources and on other complex sources. Activities would include closely coordinating permit and plan review activities between programs to ensure that cross-media control needs are reflected, providing interagency coordination and technical assistance as needed (e.g. Fish and Wildlife, Health Division), providing mass balance and cross media modelling to enhance program efforts and conducting environmental fate and risk assessments. This unit will work in conjunction with all of the individual programs, will be located in the laboratory and will be funded by general funds from each program as well as permit fees from Water Quality and Hazardous and Solid Waste Programs.

HAZARDOUS & SOLID WASTE

#301 Upgrading Solid Waste Landfills

Provides resources split among headquarters, the regions and laboratory to address solid waste landfill upgrades, closures and cleanups and to ensure that solid waste landfills do not cause pollution in the future.

#302 Solid Waste Reduction Base Enhancement

Focuses on market development, commercial, industrial, and multi-family housing recycling and household hazardous waste technical assistance.

#303 Federal Hazardous Waste Program

Helps to further enhance and improve the state's efforts to run the hazardous waste management program under the federal RCRA requirements. The requested resources will help to improve data management capabilities as well as enhance hazardous waste technical expertise needed to run the base federal program.

Attachment B
Decision Package Narratives

Hazardous & Solid Waste...continued

#307 Regional Solid Waste Reduction and Recycling Assistance

Provides resources to the Department's regional offices to assist local governments and the public to reduce the generation of solid waste. The package also provides additional funding for household hazardous waste collection projects at the local level.

ENVIRONMENTAL CLEANUP

#801/802 ECD Coordination/Limited Duration Conversions

Makes 11 limited duration positions permanent. Nine of the positions support the UST Cleanup program.

#804 ECD Regional Operations

Adds 11 positions to the Regional offices to support the Environmental Cleanup program. Currently only one permanent position available in the field offices for this program.

#805 Voluntary Cleanup

Establishes a program to provide Department oversight of voluntary cleanups of hazardous sites. Developed in response to demand from responsible parties. Will be funded by parties requesting oversight.

#806 Spill Response/Drug Lab

Provides funding and staff for the Department to carry out emergency response to spills of hazardous substances. Currently no funding or staff provided in Department's budget for this activity.

**Attachment B
Decision Package Narratives**

AGENCY MANAGEMENT

#601 AM Base Enhancement

Provides resources to meet the increased workload in Agency Management related to departmental growth and new programs in the 1989-91 biennium. Includes accounting, budget and information systems, training and employee health and safety-related positions. Also includes a position for coordinating the Department's public education efforts.

#602 Pollution Prevention

Provides resources to enhance, develop and coordinate pollution prevention throughout the state.

DEQ OPERATING BUDGET GRAPHS

NOTES

The attached graphs are similar to the graphs presented to the Commission at the May meeting. These graphs are updated to reflect the numerical data as requested by Commissioner Wessinger.

The graphs contain historical data and do not include information relating to the 1991-93 agency budget under development. The staff is working to create new graphs that include this information. The intent is to present you with these additional graphs during the work session on June 28.

Notes for Consideration in Interpreting the Graphs

Graph A-1. The Environmental Cleanup Division (ECD) was created in the 1987-89 biennium.

Graph A-2. 1. The Air Quality program is historically the program with the largest dollar budget. In the 1989-91 biennium, the Motor Vehicle Inspection program totalled over \$4.4 million of the Legislatively Approved Air program budget. 2. The Hazardous and Solid Waste budget has grow significantly in recent bienniums. 3. The Water Quality program budget has increased somewhat since sustaining reductions in the recessionary period of the early 1980's. 4. The Agency Management budget has remained basically flat from the previous biennium to the current biennium.

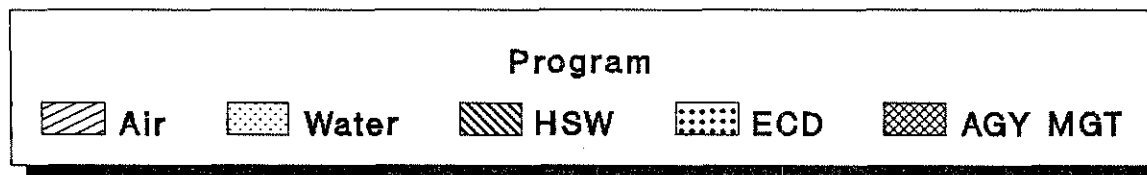
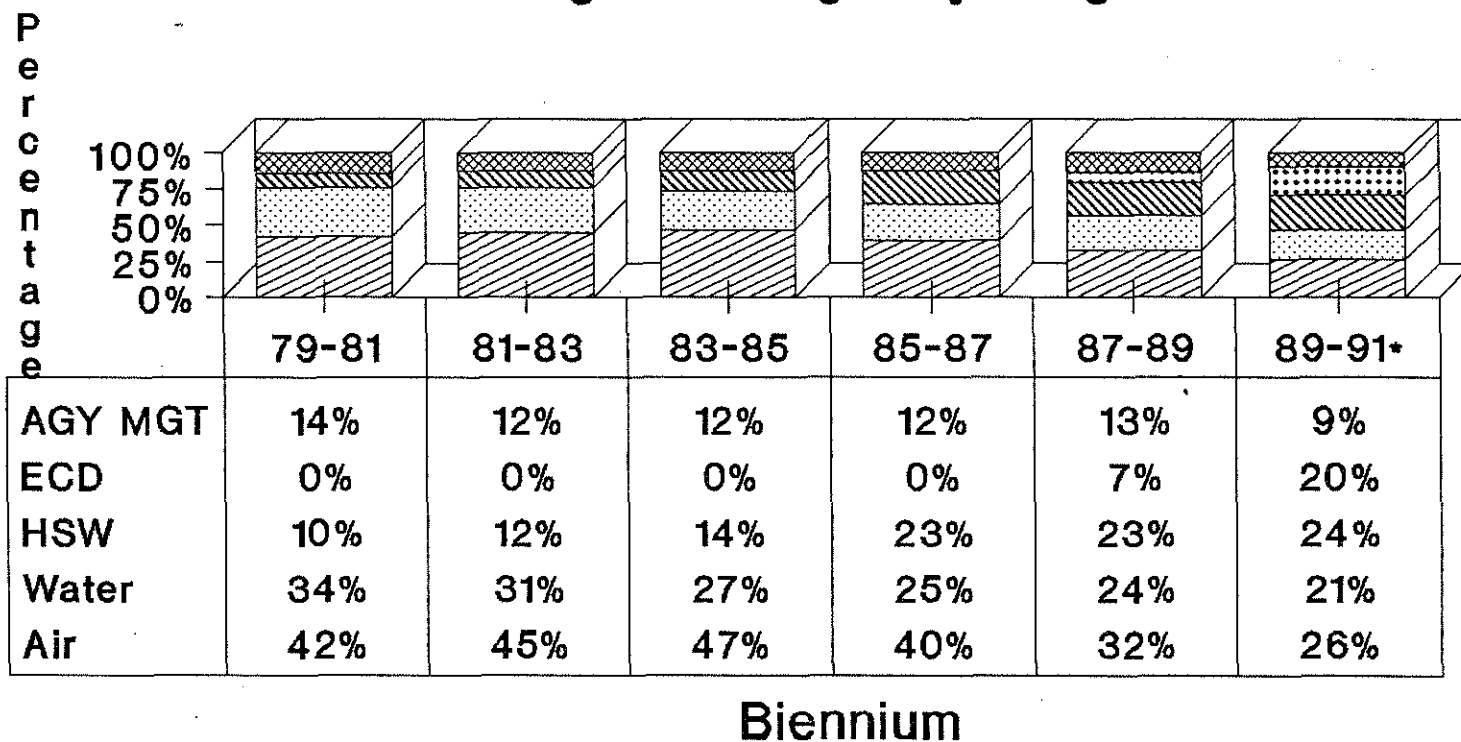
Graph B-1. 1. In the 1985-87 biennium, Other Fund dollars exceeded General Fund dollars in the budget for the first time. In the 1989-91 biennium, the budgeted Other Funds are more than double the General Funds. Also, the budgeted Federal Funds exceed the General Fund dollars for the first time in the current biennium.

Graph B-2. In the 1979-81 budget, General Funds are the major component of the budget dollars (41%). In the current biennium, General Funds comprise 23% of the budget, and Other Funds total over half of the funding resources (51%). Federal Funds show a small percentage decrease over the period shown in the graph.

Graph C. The Full Time Equivalent (FTE) in the Legislatively Approved Budget have increased significantly in the Hazardous and Solid Waste program and the new Environmental Cleanup Program between the 1979-81 and the 1989-91 bienniums. The Air program has shown a small gain. The Water Quality program has virtually the same number of FTE in the current biennium as in the 1979-81 biennium.

DEQ OPERATING BUDGET

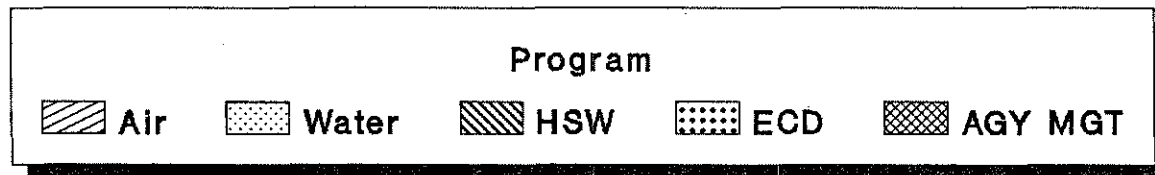
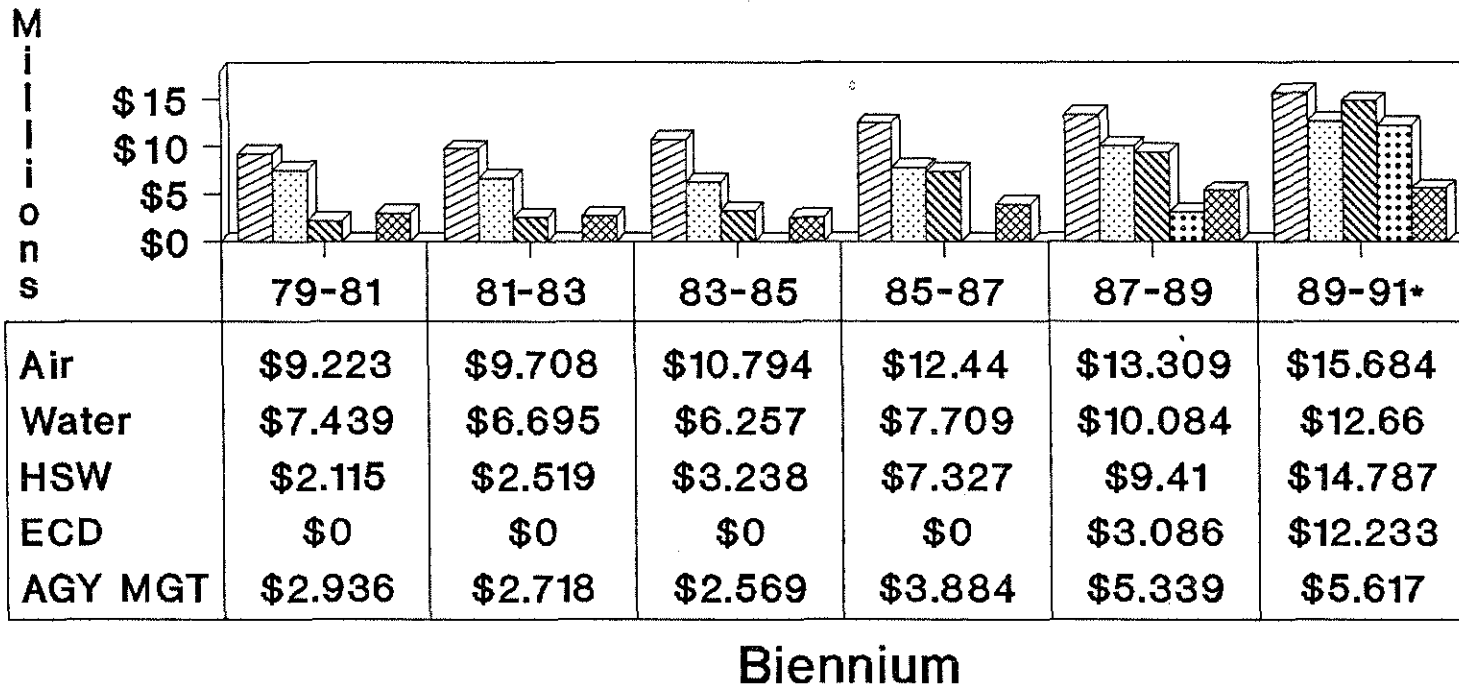
Percentage of Budget by Program Area



•Legislatively Approved Budget
 Excludes \$9.7M GF - WQ Revol. Loan Fund

DEQ OPERATING BUDGET

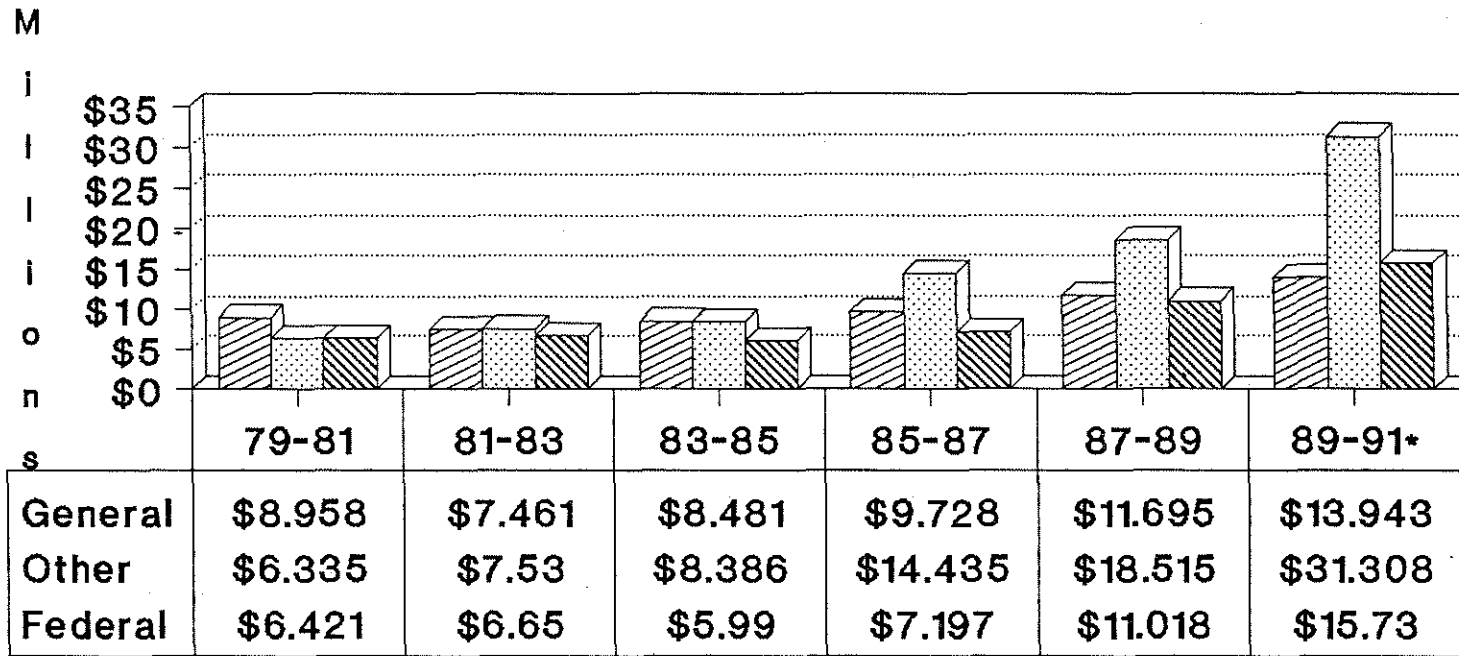
Dollar Comparison by Program Area



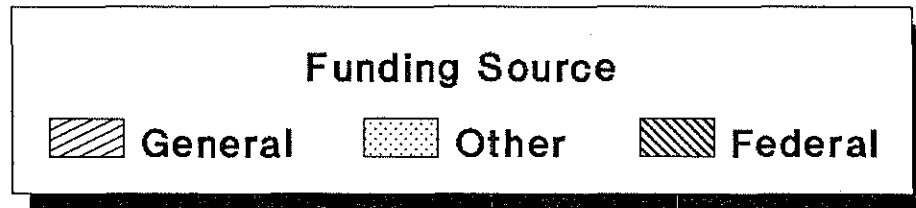
•Legislatively Approved Budget
 Excludes \$9.7M GF - WQ Revol. Loan Fund

DEQ OPERATING BUDGET

Dollar Comparison by Fund



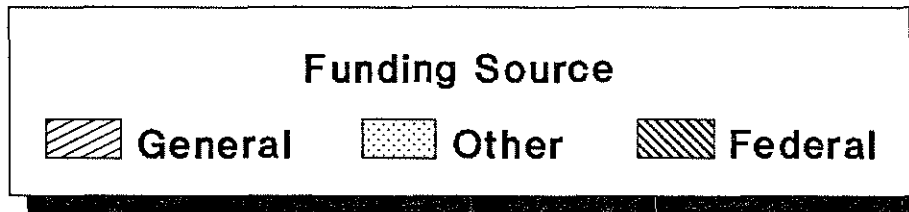
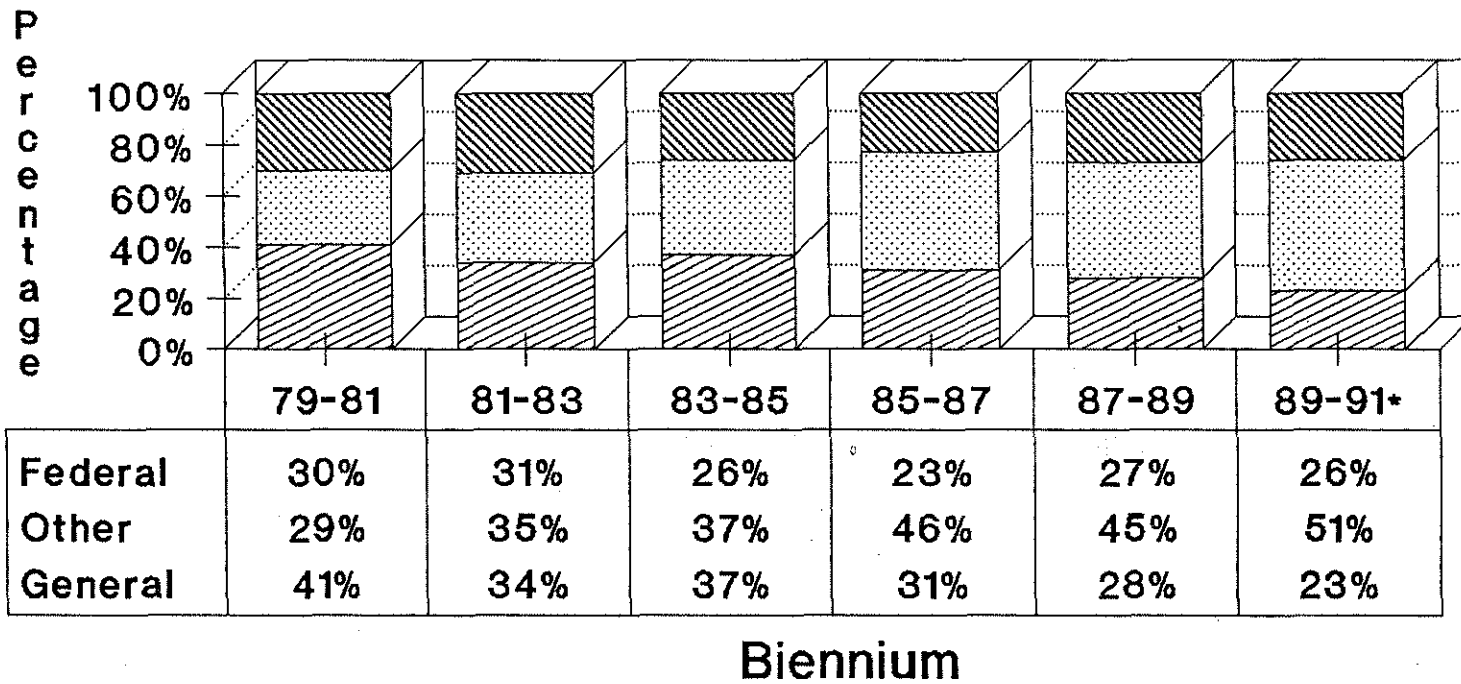
Biennium



•Legislatively Approved Budget
 Excludes \$9.7M GF - WQ Revol. Loan Fund

DEQ OPERATING BUDGET

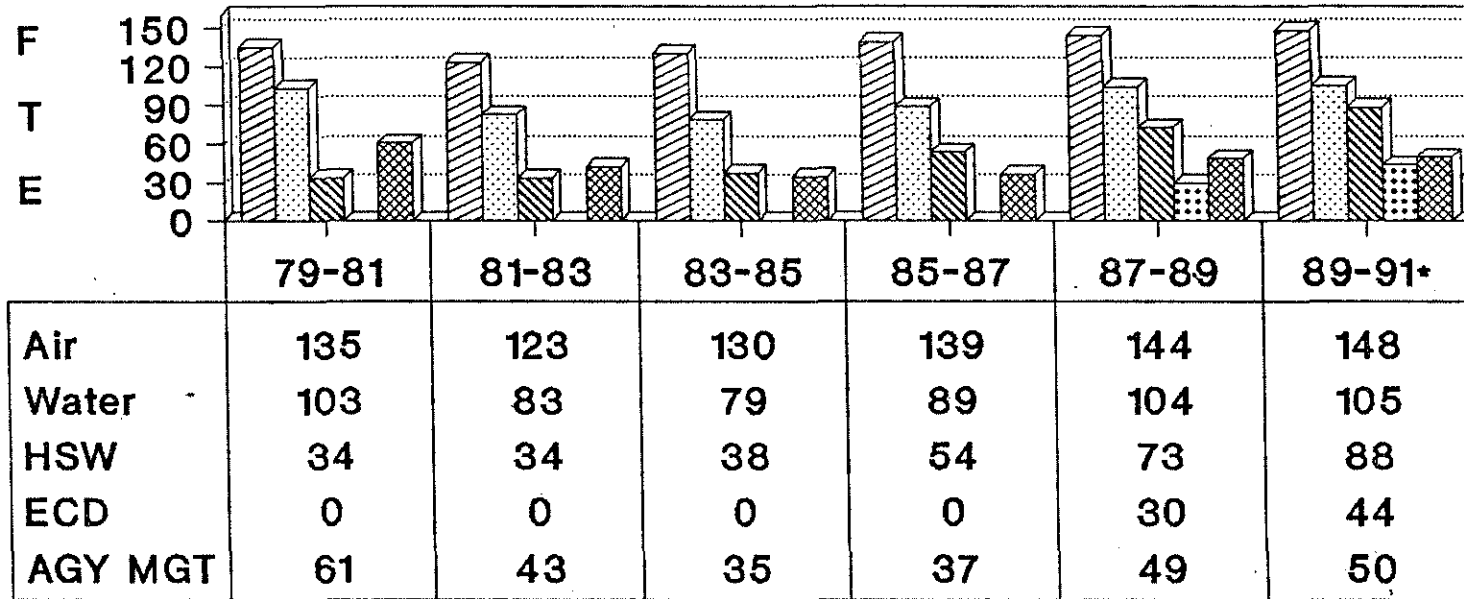
Percentage By Fund



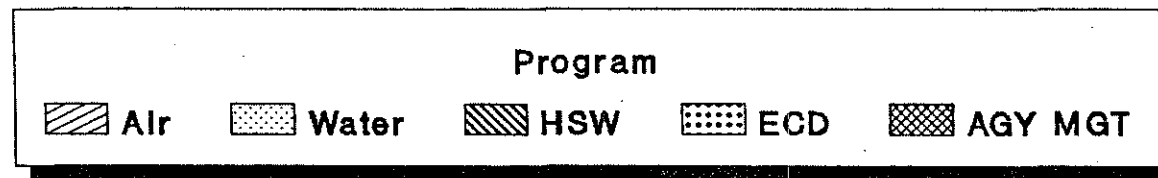
•Legislatively Approved Budget
 Excludes \$9.7M GF - WQ Revol. Loan Fund

DEQ OPERATING BUDGET

FTE by Program



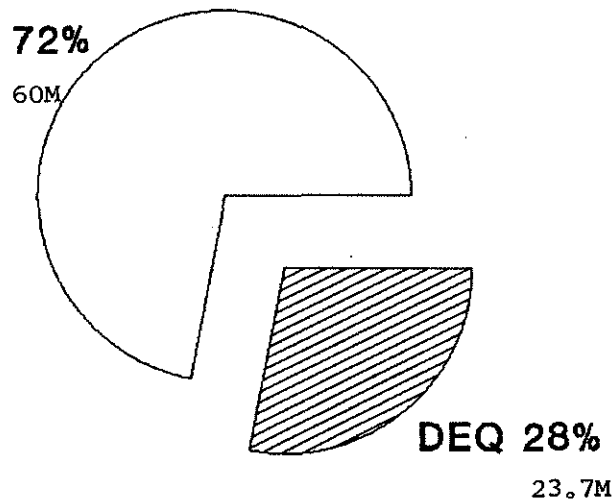
Biennium



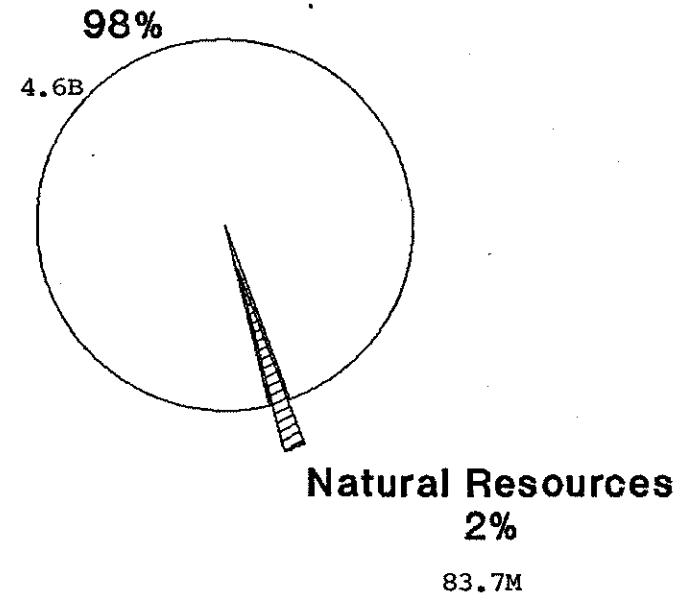
•LEGISLATIVELY APPROVED BUDGET

1989-91 LEGISLATIVE APPROVED BUDGET General Funds

NATURAL RESOURCE AGENCIES



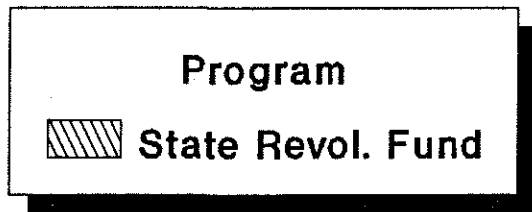
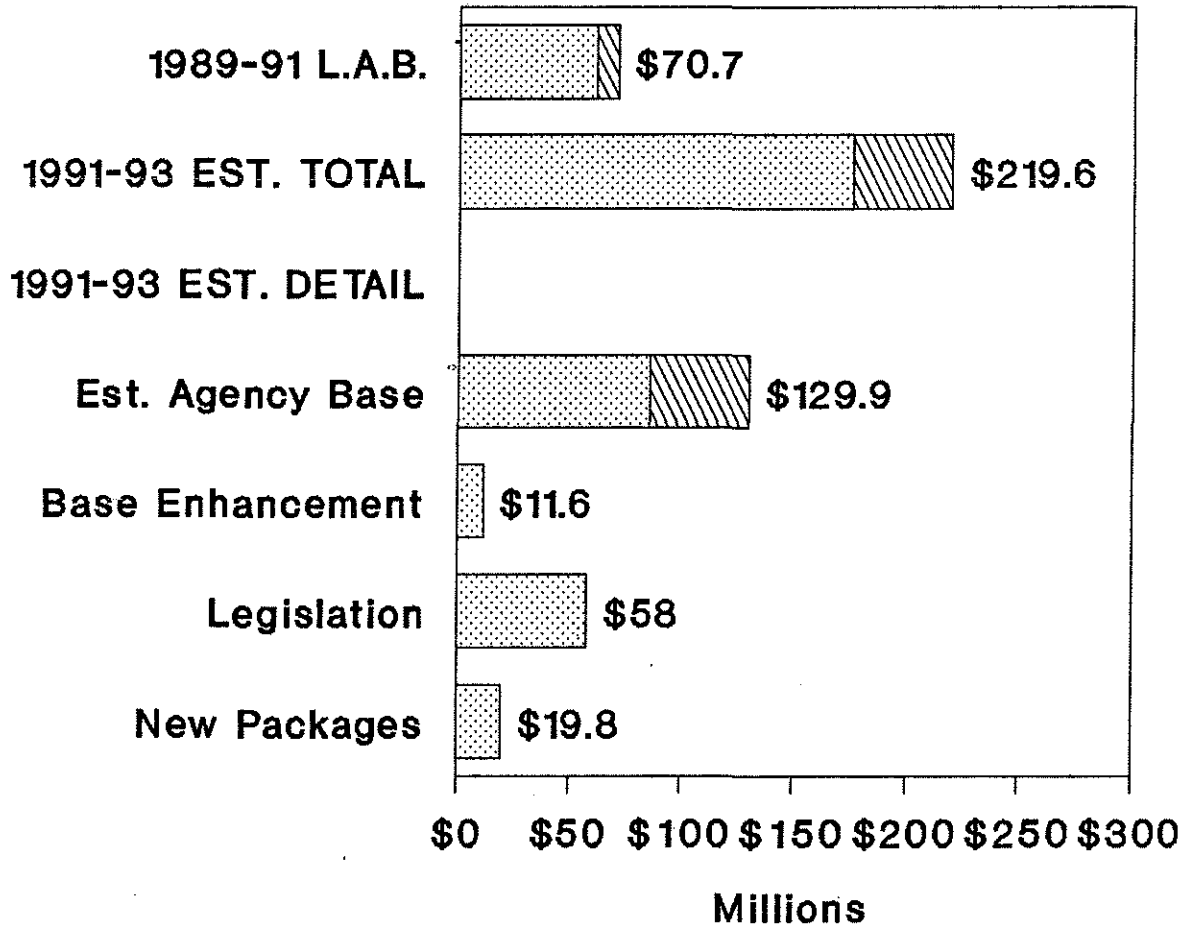
STATE OF OREGON



DEQ GF Includes 9.7M for
WQ Revolving Loan Fund.

DEPARTMENT OF ENVIRONMENTAL QUALITY

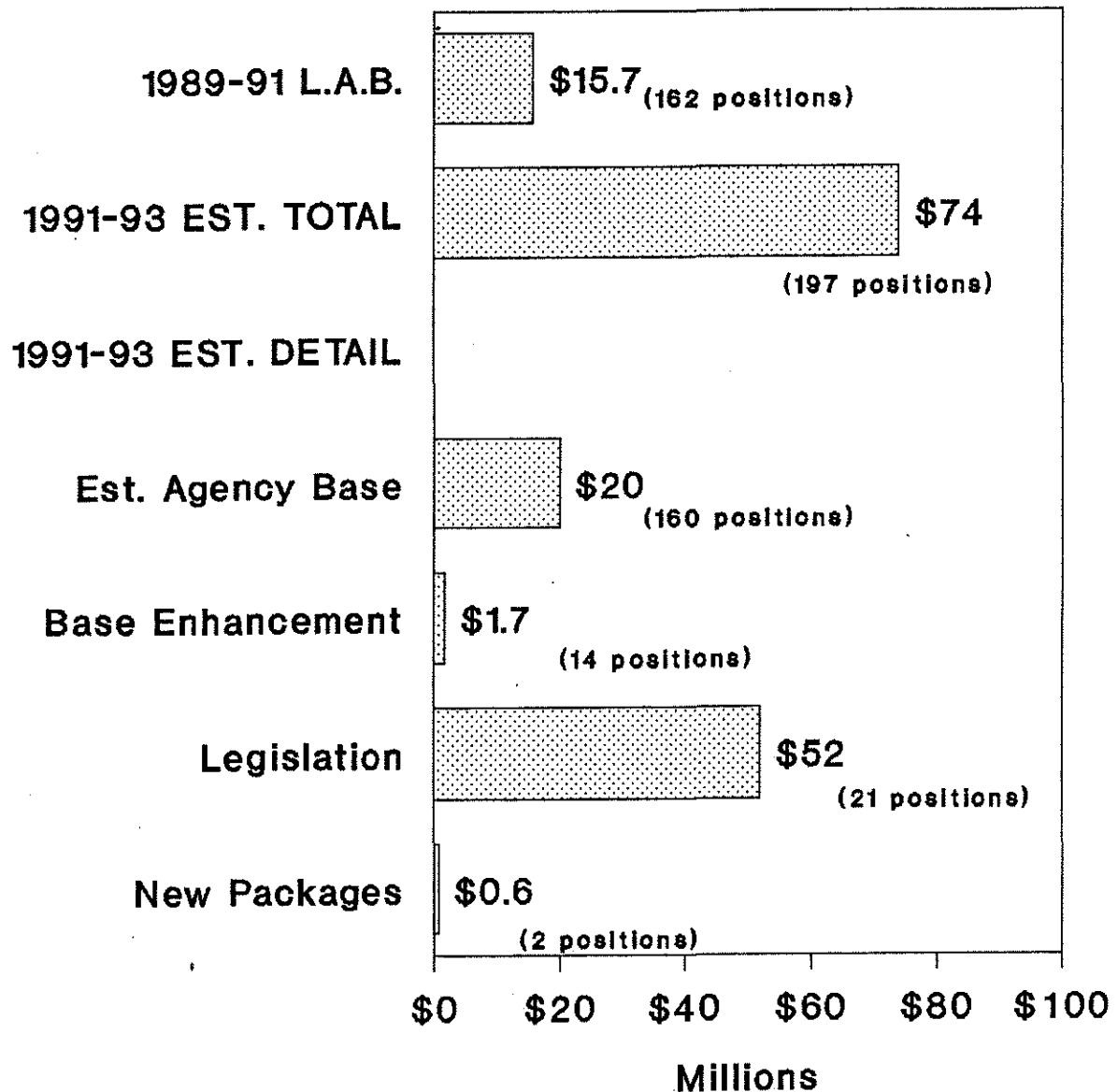
89-91 L.A.B. Comparison to 91-93 Agency Request



L.A.B. - Legislatively Approved Budget
 91-93 Base Includes E-Boards through May
 and Base Budget Exceptions

AIR QUALITY PROGRAM

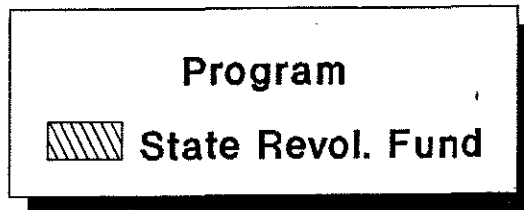
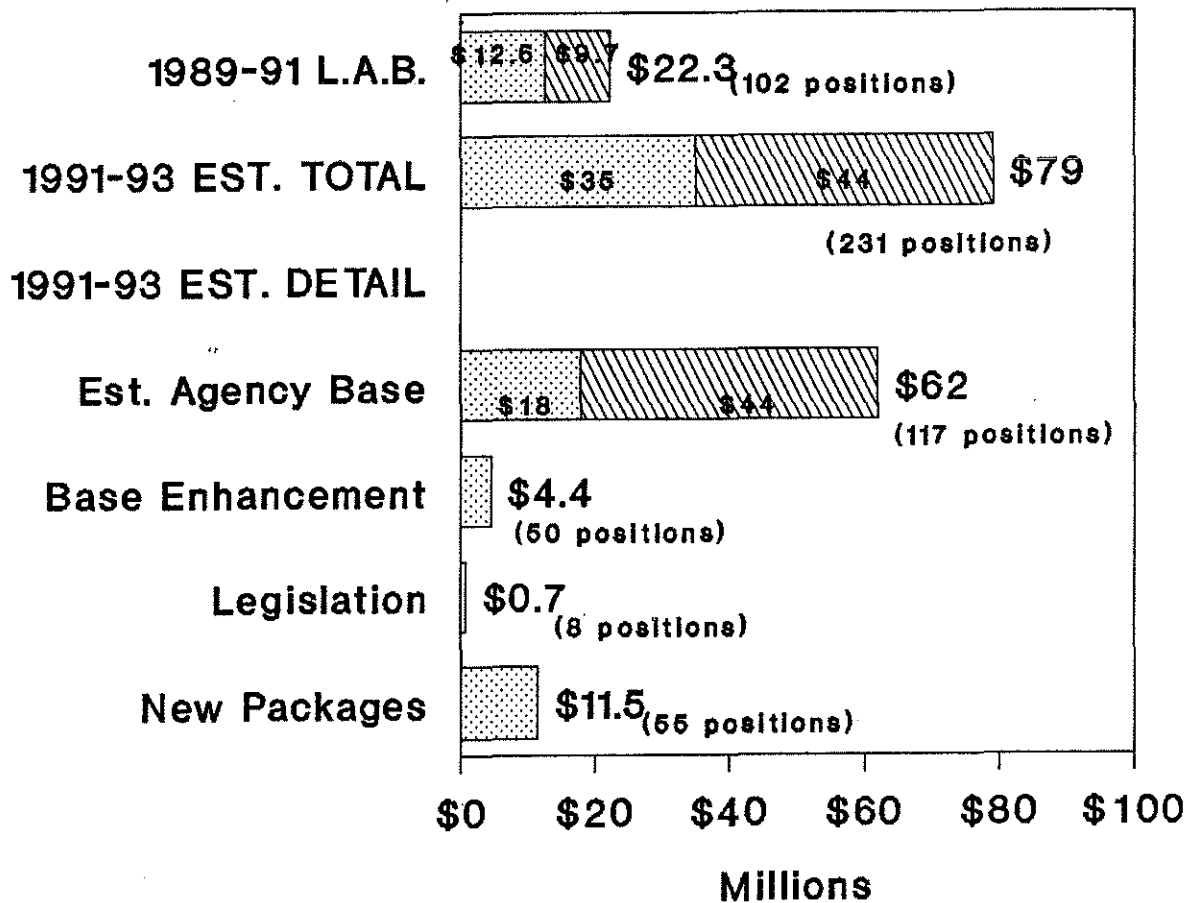
89-91 L.A.B. Comparison to 91-93 Agency Request



L.A.B. - Legislatively Approved Budget
 91-93 Base Includes E-Boards through May
 and Base Budget Exceptions

WATER QUALITY PROGRAM

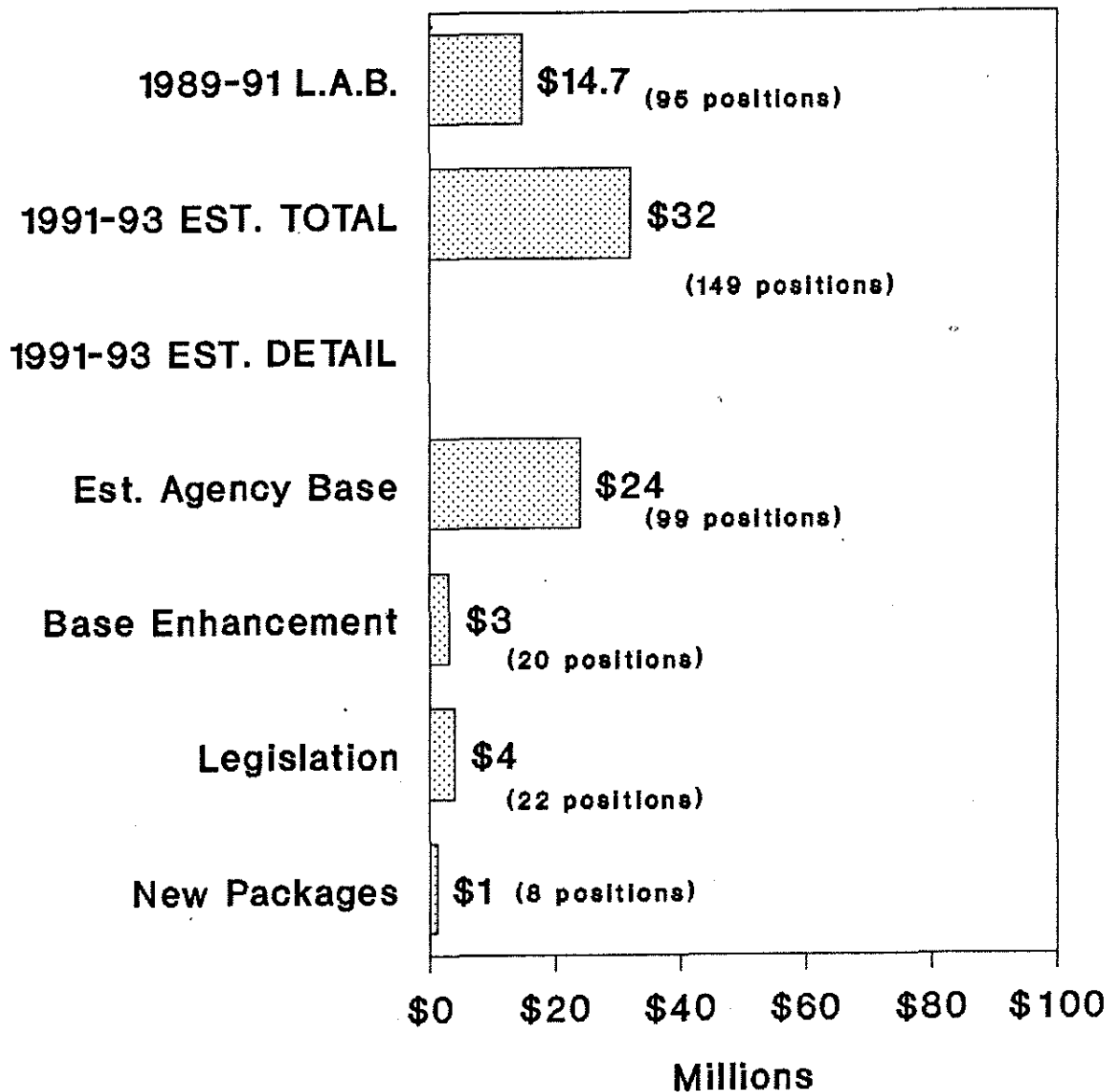
89-91 L.A.B. Comparison to 91-93 Agency Request



L.A.B. - Legislatively Approved Budget
 91-93 Base Includes E-Boards through May
 and Base Budget Exceptions

HAZARDOUS & SOLID WASTE PROGRAM

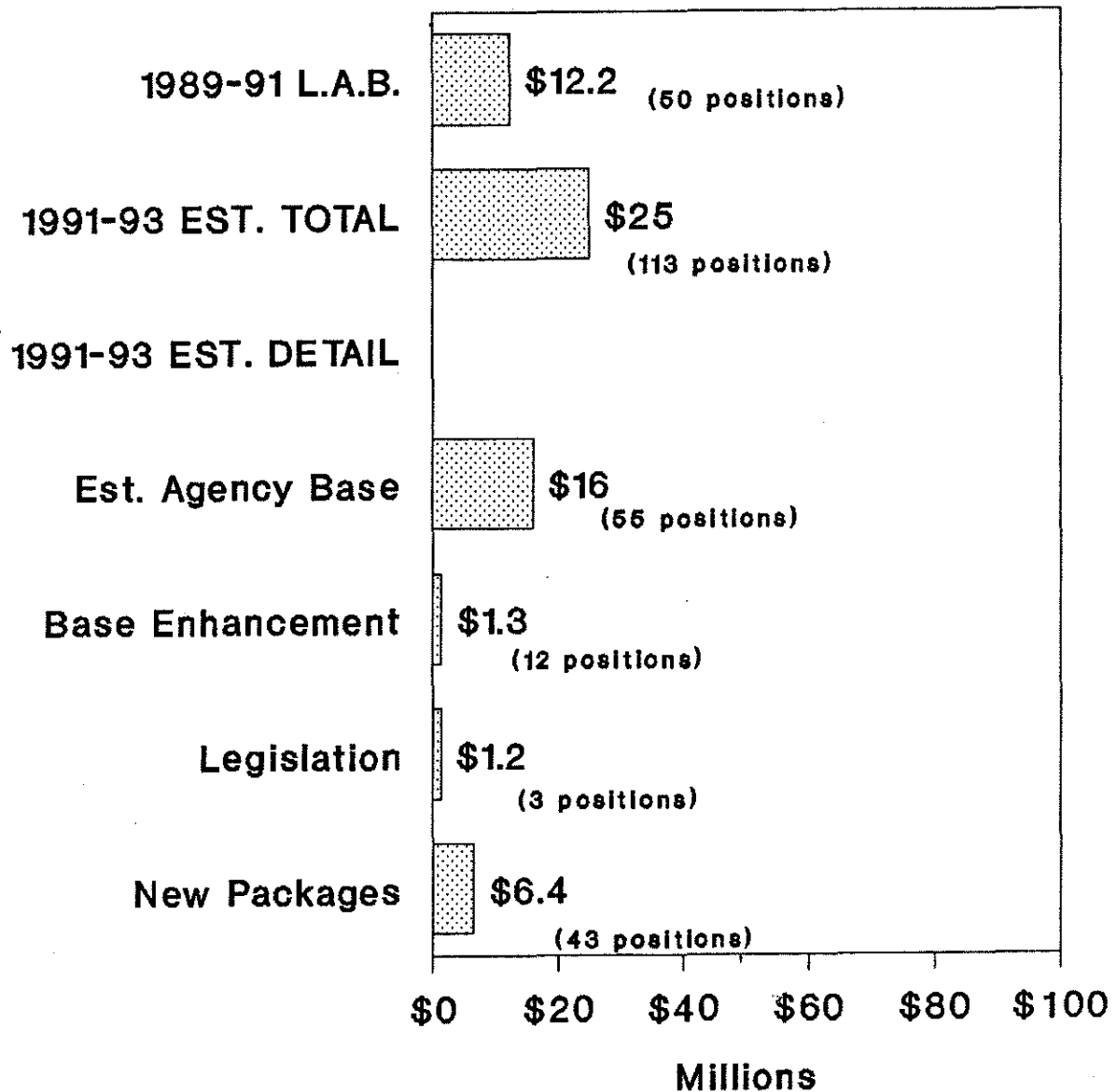
89-91 L.A.B. Comparison to 91-93 Agency Request



L.A.B. - Legislatively Approved Budget
 91-93 Base Includes E-Boards through May
 and Base Budget Exceptions

ENVIRONMENTAL CLEANUP PROGRAM

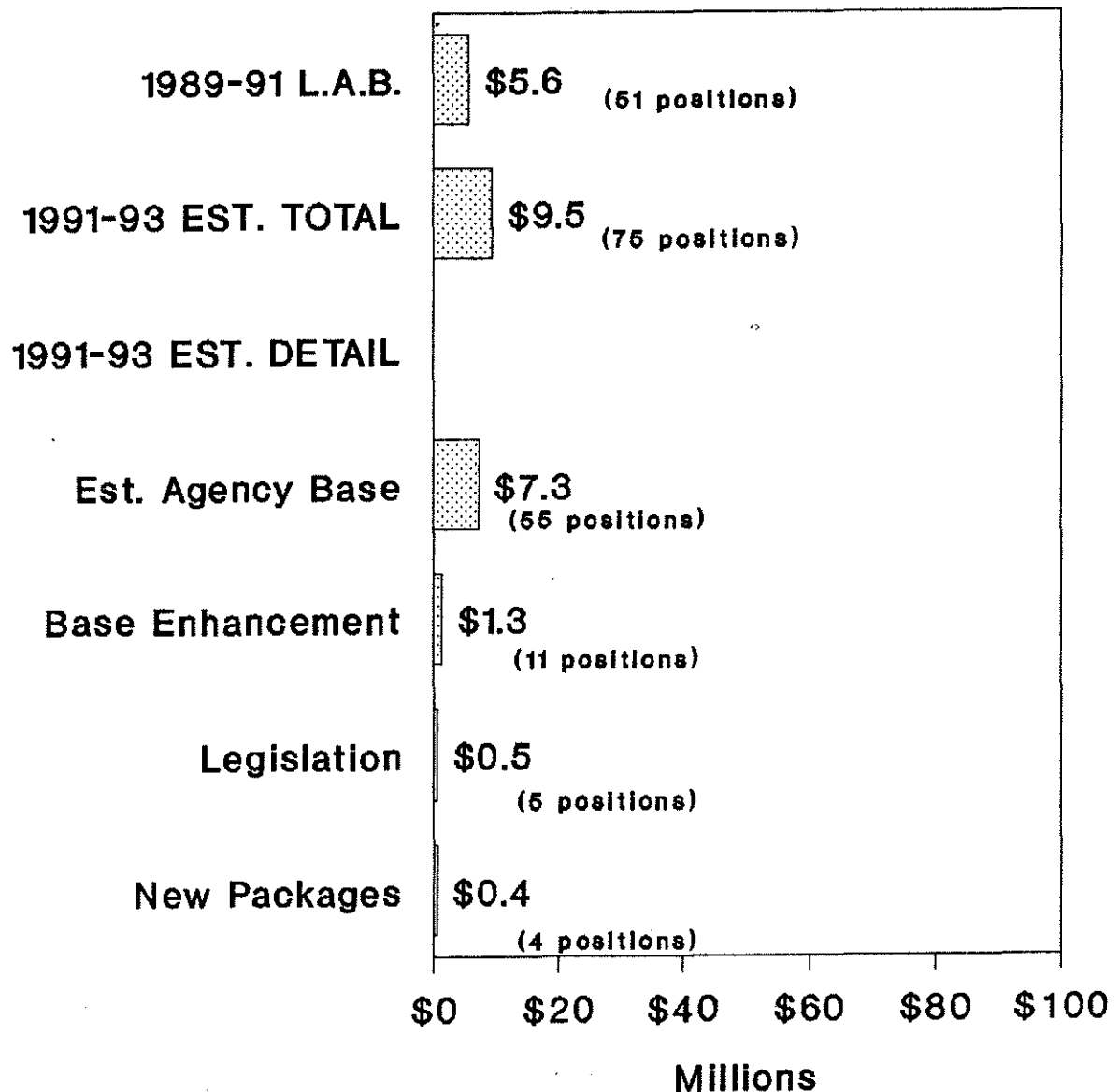
89-91 L.A.B. Comparison to 91-93 Agency Request



L.A.B. - Legislatively Approved Budget
 91-93 Base Includes E-Boards through May
 and Base Budget Exceptions

AGENCY MANAGEMENT

89-91 L.A.B. Comparison to 91-93 Agency Request




L.A.B. - Legislatively Approved Budget
 91-93 Base Includes E-Boards through May
 and Base Budget Exceptions

State of Oregon
Department of Environmental Quality

Memorandum

Date: June 14, 1990

To: Environmental Quality Commission
From: Fred Hansen 
Subject: Special Authorization of Rulemaking Hearing

Washington County is one of 23 counties that operate the on-site sewage disposal program in their county pursuant to contractual agreement with DEQ. Washington County has asked for permission to increase the fees charged for On-Site Sewage Disposal permits and approvals effective July 1, 1990, to more nearly cover their costs for operation of the program.

ORS 454.745(4) authorizes the Commission to increase fees above the levels specified in the statute upon request of the Department or a Contract County provided that the increased fees are based upon "... actual costs for efficiently conducted minimum services." Commission rules currently establish a statewide fee schedule for on-site sewage disposal permits and approvals, and in addition, establish special fee schedules for Multnomah, Jackson, and Linn Counties.

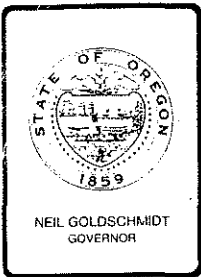
Our routine rulemaking process would involve preparation of a Hearing Authorization Staff Report, Commission approval of the Hearing Authorization at the August 10, 1990 meeting, filing of the hearing notice with the Secretary of State by August 15 for publication in the Bulletin on September 1, 1990, a hearing near the end of September, and a return to the Commission for rule adoption at the November 2, 1990, meeting.

We believe it is appropriate to accelerate this process. Failure to do so would cause Washington County additional problems of revenue shortage. The main issue will be whether the information provided by the County and through the hearing process justifies the level of fee increase requested. This can be best addressed at the time of proposed rule adoption.

Director's Action

I am authorizing the Water Quality Division to proceed immediately to rulemaking hearing on the Washington County request. This will mean filing of the hearing notice with the Secretary of State by June 15 for publication in the July 1, 1990 Bulletin, a hearing on or about July 20, 1990, and Rule Adoption consideration by the Commission at the August 10, 1990, meeting. This will be a tight schedule but it can be met.

The agenda for the June meeting is already established, however, I request that you discuss this action at the June meeting and confirm the Department's action.



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: B
Division: HSW
Section: UST Compliance

SUBJECT:

Approval of Tax Credit Applications

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
- Tax Credit Application Review Report
(See list on next page)

Tax Credit Application Review Reports:

TC-2645 Byrnes Oil Company, Inc.	New installation of one, three-compartment tank and piping, spill containment basins, overflow prevention devices, and a monitoring well.
TC-2857 Texaco Foodmart	Replacement of three bare steel tanks with fiberglass tanks, and installation of cathodic protection on fourth tank; replacement of all steel piping with double wall fiberglass piping with interstitial monitors and emergency shutoff valves; tank monitor, spill containment basins, monitoring wells.
TC-3119 Dirksen Investments	Replacement of two steel tanks and piping with fiberglass tanks and piping; installation of spill containment basins, tank monitor.
TC-3158 Carson Oil Company, Inc.	Replacement of galvanized steel piping with fiberglass piping.
TC-3159 Carson Oil Company, Inc.	New installation of one STI-P3 tank and cathodic protection on the tank and steel piping, and a spill containment basin.
TC-3160 Carson Oil Company, Inc.	Replacement installation of four STI-P3 tanks (with cathodic protection) and fiberglass piping, and spill containment basins.
TC-3161 Carson Oil Company, Inc.	Installation of a tank monitor system connected to four tanks.
TC-3162 Carson Oil Company, Inc.	Installation of line leak detectors on four tank systems.

Meeting Date: June 29, 1990
Agenda Item: B
Page 3

TC-3163 Carson Oil Company, Inc.	New installation of one STI-P3 tank and cathodic protection on the tank and steel piping, and a spill containment basin.
TC-3164 Carson Oil Company, Inc.	New installation of five STI-P3 tanks (with cathodic protection) and fiberglass piping, line leak detectors, tank monitor, spill containment basins, an oil/water separator, and a monitoring well.
TC-3165 Carson Oil Company, Inc.	Installation of epoxy lining in four steel tanks, cathodic protection on these and one other tank and piping system, spill containment basins, line leak detectors, and a tank monitor.
TC-3166 Carson Oil Company, Inc.	Installation of line leak detectors and tank monitor system.
TC-3167 Carson Oil Company, Inc.	Installation of line leak detectors and tank monitor system.
TC-3176 Younger Oil Company	Installation of epoxy lining in four steel tanks, fiberglass piping, spill containment basins, line leak detectors, automatic shutoff breakaway devices, tank monitor, monitoring wells.
TC-3177 Younger Oil Company	Installation of epoxy lining in four steel tanks, replacement of bare steel with fiberglass piping, spill containment basins, line leak detectors, and the site stubbed in for a tank monitor system.
TC-3178 Younger Oil Company	Installation of epoxy lining in five steel tanks, fiberglass piping, line leak detectors, oil/water separator and a tank monitor system.

Meeting Date: June 29, 1990
Agenda Item: B
Page 5

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

None.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends the Environmental Quality Commission approve TC-2645, TC-2857, TC-3119, TC-3158, TC-3159, TC-3160 TC-3161, TC-3162, TC-3163, TC-3164, TC-3165, TC-3166, TC-3167, TC-3176, TC-3177, TC-3178, TC-3179 and TC-3180 in that they comply with the Pollution Control Tax Credit Program requirements and regulations.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

Yes.

Note - Pollution Tax Credit Totals:

Proposed June 29, 1990 Totals:

Underground Storage Tanks	\$ 429,681
Air Quality	0
Water Quality	0
Hazardous/Solid Waste	0
Noise	0
	<hr/>
	\$ 429,681

Calendar Year Totals through May 31, 1990

Underground Storage Tanks	\$ 450,357
Air Quality	2,405,491
Water Quality	1,796,320
Hazardous/Solid Waste	106,934
Noise	0
	<hr/>
	\$4,759,102

Meeting Date: June 29, 1990
Agenda Item: B
Page 6

INTENDED FOLLOWUP ACTIONS:

Notify applicants of Environmental Quality Commission actions.

Approved:

Section: Administrative Services

Division: Administrative Services

Director: Jill Hansen

Pat A. DeLuca

Report Prepared By: Barbara J. Anderson

Phone: 229-5870

Date Prepared: May 30, 1990

BA:y
MY100581
June 11, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Byrnes Oil Company, Inc.
P. O. Box 700
Pendleton, OR 97801
UST Facility Number 10256

The applicant owns and operates a commercial fueling facility at the corner of Hale and Morrison, Adams, OR 97810.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the new installation of one Xerxes 12,000 gallon, three compartment fiberglass tank and piping to hold petroleum motor fuel; and the installation of EBW spill containment manholes and Emco-Wheaton overflow prevention devices and a monitoring well for advanced release detection.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided an accountant's certification of cost.

Claimed facility cost	\$30,343
Percent allocable to pollution control	26%

Of the amount shown above, the Department determined that \$19,596 was ineligible pursuant to the definition of a pollution control facility as stated in ORS 468.155 and the adjusted facility cost is \$10,747. The rationale for making this adjustment is explained in Section 4.a., the evaluation of the application.

Adjusted claimed facility cost	\$10,747
--------------------------------	----------

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. A request for preliminary certification was filed.
- b. The request for preliminary certification was approved before application for certification was made.
- c. Installation of the facility was substantially completed in March 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

This is a new facility; there is no prior condition to report.

To respond to corrosion protection requirements, the applicant installed a Xerxes fiberglass tank and piping. This equipment meets EPA requirements for corrosion protection.

To respond to spill and overflow prevention requirements, the applicant installed EBW spill containment manholes and Emco-Wheaton overflow prevention devices on each of the three tanks. This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a monitoring well for advanced release detection. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$30,343 and the Department's adjustment downward to \$10,747 shown in detail in the table below, the Department determined that most of the cost of installing the tank and piping was not eligible pursuant to ORS 648.155. An explanation of each cost adjustment follows the table.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Fiberglass tanks and piping	\$ 9,139	\$ 9,139
EBW spill containment manholes	166	166
EBW overflow prevention devices	85	85
Monitoring well	110	110
Installation of manholes, overflow devices and monitoring well	747	747
Installation, excavation, paving on tanks and piping	<u>20,096</u>	<u>500</u>
Total	\$30,343	\$10,747
Eligible Facility Cost		\$10,747

With respect to the cost of installation of the tank and piping, which, in this case, is a cost associated with a new system rather than a replacement system, the Department has determined that in the case of new systems, such costs are incurred for installation purposes, not for pollution control and, therefore, are not eligible. However, in this case part of the cost is considered eligible based on documentation provided by the applicant showing that installation of the pollution control equipment required additional labor costs that would not otherwise be incurred.

Based on information currently available to us, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods chosen are acceptable methods for meeting the requirements of federal regulations. Other than different manufacturers of similar equipment, there are no significant alternatives.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 26% of the claimed facility cost of \$30,343 was allocable to pollution control based primarily on the elimination of all installation costs.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of fiberglass tanks and piping by using a formula based on the difference in cost between a fiberglass and a bare steel tank and piping system as a percent of the fiberglass system. Applying this formula to the costs presented by the applicant, where the fiberglass system cost is \$9,139 and the bare steel system is \$3,481, the resulting portion of the eligible tank cost allocable to pollution control is 62%.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Fiberglass tanks and piping	\$ 9,139	62%	\$5,666
Spill and Overflow Prevention:			
Spill containment manholes	166	100%	166
Overflow prevention devices	85	100%	85
Leak Detection:			
Monitoring well	110	100%	110
Extra labor to install tank	500	100%	500
Installation of manholes, over- fill devices and well	<u>747</u>	<u>100%</u>	<u>747</u>
Total	\$10,747	68%	\$7,274

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 68%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$10,747 with 68% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-2645.

Barbara J. Anderson
(503) 229-5870
May 28, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Texaco Foodmart
500 Campbell Street
Baker City, OR 97814
UST Facility Number 1606

The applicant owns and operates a service station at the above location.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the replacement of three bare steel underground storage tanks with three 10,000 gallon Xerxes single-wall fiberglass tanks and the installation of cathodic protection on a fourth tank, and replacement of all steel piping with double-wall fiberglass piping with interstitial monitors and emergency shutoff valves; and the installation of EBW spill containment manholes, a Veeder-Root TLS-250 automatic tank monitor connected to the four tanks, and monitoring wells.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided an accountant's certification of cost.

Claimed Facility cost	\$64,944
Percent allocable to pollution control	100%

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

- c. Installation of the facility was substantially completed on May 25, 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had four single-wall steel underground storage tanks and piping with no corrosion protection and no system for detecting leaks or preventing spills and overfills.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection requirements, the applicant replaced three bare steel tanks with three Xerxes fiberglass tanks and installed cathodic protection on the fourth tank, and replaced all steel piping with double wall fiberglass piping with interstitial monitors. Fiberglass tanks and piping and adding cathodic protection to the fourth tank meet EPA requirements for corrosion protection.

To respond to spill and overflow prevention requirements, the applicant installed EBW spill containment manholes and a liquid level alarm system on all four tanks (part of the tank monitor system described below). This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic

tank monitoring system connected to each of the four tanks, and interstitial monitors and emergency shutoff valves in the piping. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$64,944, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Xerxes Fiberglass tanks	\$12,900	\$12,900
Fiberglass piping, fittings, valves, interstitial monitors	14,261	14,261
EBW spill containment manholes	703	703
EBW monitoring wells	149	149
Cathodic protection, installation, excavation, repaving	25,710	25,710
TLS-250 tank monitor	7,521	7,521
Tank monitor installation	<u>3,700</u>	<u>3,700</u>
Total	\$64,944	\$64,944
Eligible Facility Cost		\$64,944

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on the records available to us at the time of this review, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods chosen are acceptable methods for meeting the requirements of federal regulations. The applicant did consider double-wall tanks with interstitial monitors, single-wall pipe with leak detectors and suction pumps to drain product back into the tank in case of a leak, but chose the method installed based upon recommendations from vendors and consultants.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of fiberglass tanks by using a formula based on the difference in cost between a fiberglass and a bare steel tank system as a percent of the fiberglass system. Applying this formula to the costs presented by the applicant, where the fiberglass system cost is \$12,900 and the

bare steel system is \$11,670, the resulting portion of the eligible tank cost allocable to pollution control is 10%.

The applicant's claimed cost for a leak detection system, the Veeder-Root TLS-250 automatic tank monitor, is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the equipment can be used for other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Fiberglass tanks	\$12,900	10%	\$ 1,290
Spill and Overflow Prevention:			
Spill containment manholes	703	100%	703
Leak Detection:			
TLS-250 tank monitor	7,521	90%	6,769
Tank monitor installation	3,700	100%	3,700
Monitoring wells	149	100%	149
Piping, fittings, valves, interstitial monitors	14,261	100%	14,261
Cathodic protection, installa- tion, excavation, repaving	<u>25,710</u>	<u>100%</u>	<u>25,710</u>
Total	\$64,944	81%	\$52,582

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 81%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$64,944 with 81% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-2857.

Barbara J. Anderson
(503) 229-5870
May 29, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Dirksen Investments
P. O. Box 9
Roseburg, OR 97470
UST Facility Number 3467

The applicant owns and operates a retail service station at 5th and Pine Streets, Canyonville, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the replacement of two steel underground storage tanks and piping holding petroleum motor fuel, with two Xerxes fiberglass tanks and piping; the installation of Emco-Wheaton spill containment basins; and a Veeder-Root TLS-250 automatic tank monitor connected to each tank.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided an accountant's certification of cost.

Claimed Facility cost	\$32,396
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed on November 29, 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had two bare steel underground storage tanks and piping with no system for detecting leaks. The tanks could have corroded and leaked fuel into the ground without detection.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection requirements, the applicant replaced two bare steel tanks and piping systems with Xerxes fiberglass tanks and piping. Fiberglass tanks and piping meet EPA requirements for corrosion protection.

To respond to spill and overflow prevention requirements, the applicant installed Emco-Wheaton spill containment basins and a Veeder-Root TLS 250 tank monitor overflow alarm. This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank monitoring system connected to each of the two tanks. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$32,396, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Fiberglass tanks	\$10,155	\$10,155
Fiberglass piping and fittings	6,338	6,338
Freight charge	86	86
Installation and excavation	7,645	7,645
Spill containment basins	984	984
TLS-250 tank monitor	5,961	5,961
Tank monitor installation	1,227	1,227
Total	\$32,396	\$32,396
Eligible Facility Cost		\$32,396

The applicant provided documentation indicating that both soil assessment and tank tightness testing were performed during construction and that the facility meets federal and State regulations.

Based on the records available to us at the time of this review, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods chosen are acceptable methods for meeting the requirements of federal regulations. Other than different manufacturers of similar equipment, there are no significant alternatives.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of a fiberglass tank system by using a formula based on the difference in cost between fiberglass and bare steel tanks as a percent of the fiberglass tank system. Applying this formula to the costs presented by the applicant, where the fiberglass system cost is \$10,155 and the bare steel system is \$6,760, the resulting portion of the eligible tank cost allocable to pollution control is 33%.

The applicant's claimed cost for a leak detection system, the Veeder-Root TLS-250 automatic tank monitor, is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the equipment can be used for other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Fiberglass tanks	\$10,155	33%	\$ 3,351
Fiberglass pipe and fittings	6,338	100%	6,338
Installation and Excavation	7,645	100%	7,645
Freight charge	86	100%	86
Spill and Overflow Prevention:			
Spill containment basins	984	100%	984
Leak Detection:			
TLS-250 tank monitor	5,961	90%	5,365
Tank monitor installation	<u>1,227</u>	<u>100%</u>	<u>1,227</u>
Total	\$32,396	77%	\$24,996

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 77%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$32,396 with 77% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3119.

Barbara J. Anderson
(503) 229-5870
May 29, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 7179

The applicant owns and operates a cardlock for commercial fueling and fuel distribution at 2660 Dock Road, Hood River, OR.

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

2. Description of Facility

The claimed pollution control facility described in this application is the replacement of galvanized piping with fiberglass piping.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$1,244
Percent allocable to pollution control	54%

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 installation of the facility was substantially completed on December 15, 1988 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into

soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had galvanized steel piping with no corrosion protection.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection, the applicant installed fiberglass piping. This equipment meets EPA requirements for corrosion protection.

With respect to the applicant's claimed facility cost of \$1,244, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
Fiberglass piping	<u>\$1,244</u>	<u>\$1,244</u>
Total	\$1,244	\$1,244
Adjusted Eligible Facility Cost		\$1,244

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 54% of the claimed facility cost of \$1,244 was allocable to pollution control. The applicant arrived at this percentage by reducing the total cost by an amount equal to the difference in cost between bare steel piping and the fiberglass piping he installed.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative

Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section.

With respect to the fiberglass piping installed by the applicant, the Department has determined that the cost of corrosion protected piping that is installed as a replacement to unprotected piping for the purpose of pollution control is 100% allocable.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection: Fiberglass piping	<u>\$1,244</u>	<u>100%</u>	<u>\$1,244</u>
Total	\$1,244	100%	\$1,244

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:, defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- 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 \$1,244 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3158.

Barbara J. Anderson
(503) 229-5870
May 27, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 9407

The applicant owns and operates a commercial fueling station at 4865 Highway 35, Hood River, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the new installation of one 3,000 gallon STI-P3 underground storage tank and cathodic protection on the tank and galvanized steel piping; and an EBW spill containment basin.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$3,662
Percent allocable to pollution control	50%

Of the amount shown above, the Department determined that \$649 was ineligible pursuant to the definition of a pollution control facility as stated in ORS 468.155, resulting in an adjusted facility cost of \$3,013. The rationale for making this adjustment is explained in Section 4.a., the evaluation of the application.

Adjusted claimed facility cost	\$3,013
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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 installation of the facility was substantially completed on March 20, 1989 and the application for certification was found to be

complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

This is a new tank installation. There is no prior condition to report. There is another underground storage tank at the facility not owned by the applicant.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overfill, and to monitor for leaks.

To respond to corrosion protection, the applicant installed a STI-P3 tank with cathodic protection. This equipment meets EPA requirements for corrosion protection.

To respond to spill and overfill prevention, the applicant installed an EBW spill containment basin. This equipment meets EPA requirements for spill and overfill prevention.

With respect to the applicant's claimed facility cost of \$3,662 and the Department's downward adjustment to \$3,013, shown in detail in the table below, the Department determined that one of the claimed facility costs was not eligible pursuant to the definition of a pollution control facility in ORS 648.155. An explanation of the adjustment follows the table.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
STI-P3 tank	\$ 2,315	\$ 2,315
Galvanized piping - cost difference from bare steel	649	0
Cathodic protection anode	522	522
Spill containment basin	<u>176</u>	<u>176</u>
Total	\$ 3,662	\$ 3,013
Adjusted Eligible Facility Cost		\$ 3,013

The Department removed the amount claimed by the applicant as the difference between the cost of galvanized steel piping and bare steel piping because galvanized steel piping does not meet Environmental Protection Agency standards for corrosion protection, i.e., that piping be either (1) fiberglass reinforced plastic or (2) coated and cathodically protected steel, and, therefore, is not eligible for pollution control tax credits.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 50% of the claimed facility cost of \$3,662 was allocable to pollution control. The applicant arrived at this percentage by reducing his total cost by an amount equal to the difference in cost between a bare steel tank and piping system and the STI-P3 tank and galvanized piping system; and by omitting the cost of the cathodic protection anode.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of a corrosion protected tank system by using a formula based on the difference in cost between the protected tank system and a bare steel tank system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the STI-P3 tank cost is \$2,315 and the bare steel cost is \$1,317, the resulting portion of the eligible tank cost allocable to pollution control is 43%.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
STI-P3 tank	\$2,315	43%	\$ 995
Cathodic protection anode	522	100%	522
Spill & Overflow Prevention:			
Spill containment basin	<u>176</u>	<u>100%</u>	<u>176</u>
Total	\$3,013	56%	\$1,693

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 56%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$3,013 with 56% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3159.

Barbara J. Anderson
(503) 229-5870
May 28, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 3475

The applicant owns and operates a commercial fueling station and bulk loading facility for company vehicles at 1208 SE 8th, Portland, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the replacement installation of four STI-P3 (with cathodic protection) underground storage tanks and fiberglass piping; and the installation of Emco-Wheaton spill containment manholes.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$22,933
Percent allocable to pollution control	33%

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 installation of the facility was substantially completed on February 3, 1988 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental

Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had eight bare steel underground storage tanks and piping approximately 25 years of age holding motor fuel. (Four tanks were subsequently removed). The facility had no system for leak detection or spill and overflow prevention.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection, the applicant installed STI-P3 tanks with cathodic protection and fiberglass piping. This equipment meets EPA requirements for corrosion protection.

To respond to spill and overflow prevention, the applicant installed Emco-Wheaton spill containment manholes. This equipment meets EPA requirements for spill and overflow prevention.

With respect to the applicant's claimed facility cost of \$22,933, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
STI-P3 tanks	\$ 20,188	\$ 20,188
Fiberglass piping	1,641	1,641
Spill containment manholes	704	704
Installation	400	400
Total	\$ 22,933	\$ 22,933
Adjusted Eligible Facility Cost		\$ 22,933

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 33% of the claimed facility cost of \$22,933 was allocable to pollution control. The applicant arrived at this percentage by reducing the claimed facility cost by an amount equal to the difference in cost between bare steel tanks and piping and STI-P3 tanks and fiberglass piping.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of a corrosion protected tank system by using a formula based on the difference in cost between the protected tank system and a bare steel tank system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the STI-P3 tank system cost is \$20,188 and the bare steel system is \$14,648, the resulting portion of the eligible tank cost allocable to pollution control is 27%.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Corrosion Protection:			
STI-P3 tanks	\$20,188	27%	\$ 5,451
Fiberglass piping	1,641	100%	1,641
Spill & Overfill Prevention:			
Spill Containment Manholes	704	100%	704
Installation	400	100%	400
Total	\$22,933	36%	\$ 8,196

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.

- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:, defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 36%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$22,933 with 36% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3160.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 5103

The applicant owns and operates a fuel dispensing station and cardlock at 2169 NW Thurman, Portland, OR.

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

2. Description of Facility

The claimed pollution control facility described in this application is the installation of a Veeder-Root TLS-250 automatic tank monitoring system with an overflow alarm connected to each of the applicant's four underground storage tanks holding motor fuel.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$9,783
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed on August 1, 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and

water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had corrosion protection and spill and overflow prevention, but no leak detection equipment.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank level monitoring system with an overflow alarm. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$9,783, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
TLS-250 automatic tank monitor	\$9,240	\$9,240
Install tank monitor	<u>543</u>	<u>543</u>
Total	\$9,783	\$9,783
Adjusted Eligible Facility Cost		\$9,783

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section.

Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Leak Detection:			
Automatic tank monitor	\$9,240	90%	\$8,316
Install tank monitor	<u>543</u>	<u>100%</u>	<u>543</u>
Total	\$9,783	91%	\$8,859

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 91%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$9,783 with 91% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3161.

Barbara J. Anderson
(503) 229-5870
May 28, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 3469

The applicant owns and operates a commercial fueling/bulk loading station for company vehicles at 9911 SE Elon Street, Clackamas, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Red Jacket line leak detectors on four underground storage tanks holding motor fuel.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$1,144
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed on August 15, 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and

water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had five STI-P3 tanks with cathodic protection, fiberglass piping, spill and overflow protection, an automatic tank monitor system, but no line leak detection system. The applicant felt the need to further minimize the risk of undetected leaks in four of his five tank systems.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to leak detection requirements, the applicant installed Red Jacket line leak detectors. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$1,144, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
Red Jacket line leak detectors	\$ 504	\$ 504
Install line leak detectors	<u>\$ 640</u>	<u>\$ 640</u>
Total	\$1,144	\$1,144
Adjusted Eligible Facility Cost		\$1,144

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Leak Detection:			
Line leak detectors	\$ 504	100%	\$ 504
Installation	<u>640</u>	<u>100%</u>	<u>640</u>
Total	\$1,144	100%	\$1,144

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- 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 \$1,144 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3162.

Barbara J. Anderson
 (503) 229-5870
 May 27, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 9406

The applicant owns and operates a commercial fueling station on property owned by Hanel Lumber Company at 3289 Neal Creek Road, Hood River, OR. Hanel uses fuel from tanks for their business purposes.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the new installation of one 2,000 gallon STI-P3 underground storage tank and cathodic protection on the tank and galvanized steel piping; and an EBW spill containment basin.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$3,514
Percent allocable to pollution control	50%

Of the amount shown above, the Department determined that \$649 was ineligible pursuant to the definition of a pollution control facility as stated in ORS 468.155, resulting in an adjusted facility cost of \$2,865. The rationale for making this adjustment is explained in Section 4.a., the evaluation of the application.

Adjusted claimed facility cost	\$2,865
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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 installation of the facility was substantially completed on December 20, 1988 and the application for certification was found to be

complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

This is a new tank installation. There is no prior condition to report. A 1,000 gallon underground storage tank at the site is not owned by the applicant.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overfill, and to monitor for leaks.

To respond to corrosion protection, the applicant installed a STI-P3 tank with cathodic protection. This equipment meets EPA requirements for corrosion protection.

To respond to spill and overfill prevention, the applicant installed an EBW spill containment basin. This equipment meets EPA requirements for spill and overfill prevention.

With respect to the applicant's claimed facility cost of \$3,514 and the Department's downward adjustment to \$2,865, shown in detail in the table below, the Department determined that one of the claimed facility costs was not eligible pursuant to the definition of a pollution control facility in ORS 648.155. An explanation of the adjustment follows the table.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
STI-P3 tank	\$ 2,167	\$ 2,167
Galvanized piping	649	0
Cathodic protection anode	522	522
Spill containment basin	<u>176</u>	<u>176</u>
Total	\$ 3,514	\$ 2,865
Adjusted Eligible Facility Cost		\$ 2,865

The Department removed the cost of the galvanized steel piping that was installed with the cathodic protection system because galvanized steel piping alone is not considered to be pollution control and, therefore, is not an eligible cost. The cathodic protection anode installed with the steel piping is considered to be eligible, however.

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 50% of the claimed facility cost of \$3,514 was allocable to pollution control. The applicant arrived at this percentage by reducing his total cost by an amount equal to the difference in cost between a bare steel tank and piping system and his STI-P3 tank and galvanized piping system; and by omitting the cost of the cathodic protection anode.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of a corrosion protected tank system by using a formula based on the difference in cost between the protected tank system and a bare steel tank system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the STI-P3 tank cost is \$2,167 and the bare steel cost is \$1,250, the resulting

portion of the eligible tank cost allocable to pollution control is 42%.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
STI-P3 tank	\$2,167	42%	\$ 910
Cathodic protection anode	522	100%	522
Spill & Overfill Prevention:			
Spill containment basin	<u>176</u>	<u>100%</u>	<u>176</u>
Total	\$2,865	56%	\$1,608

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 56%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$2,865 with 56% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3163.

Barbara J. Anderson
(503) 229-5870
May 28, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 9286

The applicant owns and operates a commercial fueling station and bulk loading facility at Southwest 114th and McBride Place, Beaverton, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the new installation of five STI-P3 (with cathodic protection) underground storage tanks and fiberglass piping; Red Jacket line leak detectors; a Veeder-Root TLS-250 automatic tank monitoring system; Emco-Wheaton spill containment manholes; an oil/water separator; and monitoring wells.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$57,086
Percent allocable to pollution control	43%

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 installation of the facility was substantially completed on January 31, 1989 and the application for certification was found to be complete within two 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 underground storage

tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

This is a new installation. There is no prior condition to report.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection, the applicant installed STI-P3 tanks with cathodic protection and fiberglass piping. This equipment meets EPA requirements for corrosion protection.

To respond to spill and overflow prevention, the applicant installed Emco-Wheaton spill containment manholes and an oil/water separator. This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank level monitoring system, Red Jacket line leak detectors, and monitoring wells for advanced release detection. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$57,086, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
5 STI-P3 tanks & fiberglass pipe	\$ 43,061	\$ 43,061
Spill containment manholes	975	975
Oil/Water separator	1,715	1,715
TLS-250 automatic tank monitor	6,659	6,659
Line leak detectors	1,712	1,712
Monitoring wells	124	124
Installation (ex. tanks & pipe)	<u>2,840</u>	<u>2,840</u>
Total	\$ 57,086	\$ 57,086
Adjusted Eligible Facility Cost		\$ 57,086

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 43% of the claimed facility cost of \$57,086 was allocable to pollution control. The applicant arrived at this percentage by reducing his cost by an amount equal to the difference in cost between bare steel tanks and piping and the STI-P3 tanks and fiberglass piping he installed. The applicant also omitted part of the cost of the tank monitor system (cap and adapter - \$386).

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

With respect to corrosion protection, the Department has determined the percent allocable on the cost of a corrosion protected tank system by using a formula based on the difference in cost between the protected tank system and a bare steel tank system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the STI-P3 tank and fiberglass piping system cost is \$43,061 and the bare steel system is \$32,203, the resulting portion of the eligible tank cost allocable to pollution control is 25%.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection: STI-P3 tanks and fiber- glass piping	\$43,061	25%	\$10,765
Spill & Overflow Prevention: Spill Containment Manholes	975	100%	975
Oil/Water separator	1,715	100%	1,715
Leak Detection: Tank monitor and fittings	6,659	90%	5,993
Line leak detectors	1,712	100%	1,712
Monitoring Wells	124	100%	124
Install (ex. tanks & pipe)	<u>2,840</u>	<u>100%</u>	<u>2,840</u>
Total	\$57,086	42%	\$24,124

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 42%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$57,086 with 42% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3164.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 6371.

The applicant owns and operates a commercial fueling station at 9920 NE Sandy Blvd., Portland, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Bridgeport Chemical GA 27P epoxy lining in four steel underground storage tanks; impressed current cathodic protection around these and one additional tank and piping; splash/spill (containment) basins; line leak detectors; and a Veeder-Root TLS-250 automatic tank monitor.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$49,361
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed on March 15, 1989 and the application for certification was found to be complete within two 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 underground storage

tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had five bare steel underground storage tanks and piping holding motor fuel. One of these five tanks was subsequently emptied and will be decommissioned in the near future. A sixth tank holding kerosene was decommissioned. The facility had no system for leak detection or spill and overflow prevention.

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection, the applicant lined the interior of four bare steel tanks with epoxy resin. The applicant also installed impressed current cathodic protection around all tanks (five) and piping. Epoxy tank lining and impressed current cathodic protection meet EPA requirements for corrosion protection.

To respond to spill and overflow prevention, the applicant installed splash/spill containment basins. This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank level monitoring system, and line leak detectors. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$49,361, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
Epoxy tank lining	\$ 28,020	\$ 28,020
Cathodic protection	9,613	9,613
Splash/Spill containment basins	2,200	2,200
TLS-250 automatic tank monitor	8,650	8,650
Line leak detectors	<u>878</u>	<u>878</u>
Total	\$ 49,361	\$ 49,361
Adjusted Eligible Facility Cost		\$ 49,361

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Epoxy tank lining	\$28,020	100%	\$28,020
Cathodic protection	9,613	100%	9,613
Spill & Overfill Prevention:			
Splash/spill basins	2,200	100%	2,200
Leak Detection:			
Automatic tank monitor	8,650	90%	7,785
Line leak detectors	878	100%	878
Total	\$49,361	98%	\$48,496

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 98%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$49,361 with 98% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3165.

Barbara J. Anderson
(503) 229-5870
May 27, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 3066

The applicant owns and operates a cardlock fueling station at 3125 NW 35th, Portland, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Red Jacket line leak detectors and a Veeder-Root TLS-250 automatic tank monitoring system on five underground storage tanks holding motor fuel.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$10,867
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed on June 29, 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution

control facility", defined in OAR 340-16-025(2)(g):
"Installation or construction of facilities which will
be used to detect, deter, or prevent spills or
unauthorized releases."

Prior to completing the work claimed, the facility had
five corrosion protected underground storage tanks and
piping holding motor fuel with spill and overflow
protection, but no leak detection system. There are
also ten other tanks at the site holding lube oil. No
pollution control work was performed on these tanks at
this time.

Effective December 22, 1988, EPA established a ten year
phase-in program for tank owners to upgrade existing
underground storage tanks to new tank standards. This
includes installing pollution control equipment to
provide protection against releases due to corrosion, to
prevent spills and release from overflow, and to monitor
for leaks.

To respond to leak detection requirements, the applicant
installed a Veeder-Root TLS-250 automatic tank level
monitoring system and Red Jacket line leak detectors on
five tank systems. This equipment meets EPA
requirements for leak detection.

With respect to the applicant's claimed facility cost of
\$10,867, the Department determined that all of the costs
included in this figure are eligible pursuant to the
definition of a pollution control facility in ORS
648.155. A breakdown of the applicant's claimed costs
is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
TLS-250 automatic tank monitor	\$ 8,313	8,313
Installation tank monitor	1,019	1,019
Line leak detectors	735	735
Install line leak detectors	<u>800</u>	<u>800</u>
Total	\$ 10,867	\$ 10,867
Adjusted Eligible Facility Cost		\$ 10,867

Although the applicant did not indicate if any soil
assessment or tank testing work was accomplished before
undertaking this project, the Department would not
expect the applicant to proceed with the investment if

any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative

Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Facility Cost</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Leak Detection:			
Automatic tank monitor	\$ 8,313	90%	\$ 7,482
Install tank monitor	1,019	100%	1,019
Line leak detectors	735	100%	735
Install line leak detectors	<u>800</u>	<u>100%</u>	<u>800</u>
Total	\$10,867	92%	\$10,036

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:, defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 92%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$10,867 with 92% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3166.

Barbara J. Anderson
(503) 229-5870
May 27, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Carson Oil Company, Inc.
P. O. Box 10948
Portland, OR 97210
UST Facility Number 3475

The applicant owns and operates a commercial fueling station and bulk loading facility for company vehicles at 1208 SE 8th, Portland, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Red Jacket line leak detectors and a Veeder-Root TLS-250 automatic tank monitor.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of costs.

Claimed facility cost	\$10,406
Percent allocable to pollution control	99%

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 installation of the facility was substantially completed on August 15, 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into

soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had no leak detection system. (Corrosion protection and spill and overflow prevention were previously installed at this location - see current tax credit review report No. TC-3160.)

Effective December 22, 1988, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank monitor and Red Jacket line leak detectors.

With respect to the applicant's claimed facility cost of \$10,406, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Adjusted Costs</u>
Automatic tank monitor system	\$ 7,242	\$ 7,242
Installation of tank monitor	1,436	1,436
Line leak detectors	1,088	1,088
Installation of line leak det.	640	640
Total	\$ 10,406	\$ 10,406
Adjusted Eligible Facility Cost		\$ 10,406

Although the applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project, the Department would not expect the applicant to proceed with the investment if any indication of leaking would have been detected during the project.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 equipment 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 annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The applicant indicated that no alternative methods were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The applicant estimated that 99% of the claimed facility cost of \$10,406 was allocable to pollution control. The applicant arrived at this percentage by reducing the claimed facility cost by an amount equal to the difference in cost between bare steel

pipng and fiberglass piping used in connection with the installation of the tank monitor system.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control. (The applicant's costs to install the tank monitor system, including the required piping, are considered by the Department to be 100% allocable because without such an expenditure, the pollution control could not have been accomplished.)

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
Leak Detection:			
Tank monitor system	\$ 7,242	90%	\$ 6,518
Install tank monitor	1,436	100%	1,436
Line leak detectors	1,088	100%	1,088
Installation	640	100%	640
Total	\$10,406	93%	\$ 9,682

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities

which will be used to detect, deter, or prevent spills or unauthorized releases."

- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 93%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$10,406 with 93% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3167.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Younger Oil Company
P. O. Box 87
Albany, OR 97321
UST Facility Number 3579

The applicant owns and operates service station/cardlock station/convenience store at 3648 SE Highway 34, Albany, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Bridgeport Chemical GA 27P epoxy lining in four steel underground storage tanks; fiberglass piping; Skyway spill containment basins; Red Jacket line leak detectors; EBW automatic shutoff breakaway devices; a Veeder-Root TLS-250 automatic tank monitor; and monitoring wells. The facility has one above-ground tank for which no work was claimed.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of cost.

Claimed Facility cost	\$ 52,491
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed in December 1989 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had four bare steel underground storage tanks and piping approximately 20 years of age holding motor fuel and one holding used oil. The facility had no system for leak detection or spill and overflow prevention.

Effective 12-22-88, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection, the applicant lined the interiors of the four steel motor fuel tanks with epoxy resin. The applicant also replaced the bare steel piping with fiberglass piping. Epoxy tank lining and fiberglass piping meet EPA requirements for corrosion protection.

To respond to spill and overflow prevention, the applicant installed Skyway spill containment basins and EBW automatic shutoff breakaway devices. This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank monitor, Red Jacket line leak detectors and monitoring wells. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$52,491, the Department determined that all of the costs

included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Epoxy tank lining - installed	\$ 20,350	\$20,350
Skyway spill containment basins	864	864
EBW breakaway devices	413	413
Veeder-Root TLS-250 tank monitor	6,486	6,486
Install tank monitor	6,178	6,178
Red Jacket line leak detectors	441	441
Monitoring wells	220	220
Fiberglass piping, installation, excavation, and repaving	<u>17,539</u>	<u>17,539</u>
Total	\$ 52,491	\$ 52,491
Eligible Facility Cost		\$ 52,491

The applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project. The Department would not expect the company to proceed with the investment in lining the tank if any indication of leaking would have been detected during this project.

Based upon information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 claimed facility is intended to prevent leaks from corrosion or spillage and does not recover or

convert waste products into salable or usable commodity.

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

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods, equipment and costs chosen are acceptable for meeting the requirements of federal regulations. The applicant felt that there were no reasonable alternatives.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is less than 100%, the rationale is presented in the following paragraphs.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Claimed Costs</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Epoxy tank lining	\$20,350	100.0%	\$20,350
Spill & Overfill Prevention:			
Spill containment basins	864	100.0%	864
Breakaway shutoff devices	413	100.0%	413
Leak Detection:			
Automatic tank monitor	6,486	90.0%	5,837
Install tank monitor	6,178	100.0%	6,178
Line leak detectors	441	100.0%	441
Monitoring wells	220	100.0%	220
Fiberglass piping, install., excavation, repaving	<u>17,539</u>	<u>100.0%</u>	<u>17,539</u>
Total	\$52,491	99.0%	\$51,842

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 99.0%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$52,491 with 99.0% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3176.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Younger Oil Company
P. O. Box 87
Albany, OR 97321
UST Facility Number 7068

The applicant owns and operates a service station at 3135 Santiam Highway, Albany, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Bridgeport Chemical GA 27P epoxy lining in four steel underground storage tanks; replacement of bare steel with fiberglass piping; Skyway spill containment basins; and Red Jacket line leak detectors. The site was also stubbed in for an automatic tank monitor leak detection system.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of cost.

Claimed Facility cost	\$ 36,163
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed in July 1988 and the application for certification was found to be complete within two 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 underground storage

tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had four bare steel underground storage tanks and piping approximately 20 years of age holding motor fuel. The facility had no system for preventing spills and overfill. (A fifth waste oil tank was decommissioned subsequent to the pollution control work.)

Effective 12-22-88, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overfill, and to monitor for leaks.

To respond to corrosion protection, the applicant lined the interior of the bare steel tanks with epoxy resin. The applicant also replaced the bare steel piping with fiberglass piping. Epoxy tank lining and fiberglass piping meet EPA requirements for corrosion protection.

To respond to spill and overfill prevention, the applicant installed Skyway spill containment basins. This equipment meets EPA requirements for spill and overfill prevention.

To respond to leak detection requirements, the applicant installed Red Jacket line leak detectors. In addition, the site was stubbed in for an automatic tank monitor system, which will be installed in the near future. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$36,163, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Epoxy tank lining - installed	\$ 21,784	\$21,784
Skyway spill containment basins	864	864
Red Jacket line leak detectors	462	462
Fiberglass piping, installation, excavation, and repaving	<u>13,053</u>	<u>13,053</u>
Total	\$ 36,163	\$ 36,163
Eligible Facility Cost		\$ 36,163

The applicant did not indicate if any soil assessment or tank testing work was accomplished before undertaking this project. The Department would not expect the company to proceed with the investment in lining the tank if any indication of leaking would have been detected during this project.

Based upon information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 claimed facility is intended to prevent leaks from corrosion or spillage and does not recover or convert waste products into salable or usable commodity.

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

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods, equipment and costs chosen are acceptable for meeting the requirements of federal regulations. The applicant felt that there were no reasonable alternatives.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Claimed Costs</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Epoxy tank lining	\$21,784	100.0%	\$21,784
Spill & Overfill Prevention:			
Spill containment basins	864	100.0%	864
Leak Detection:			
Line leak detectors	462	100.0%	462
Fiberglass pipe, installation, excavation, paving	<u>13,053</u>	<u>100.0%</u>	<u>13,053</u>
Total	\$36,163	100.0%	\$36,163

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to

comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 100.0%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$36,163 with 100.0% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3177.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Younger Oil Company
P. O. Box 87
Albany, OR 97321
UST Facility Number 7065

The applicant owns and operates service station/cardlock station/convenience store at 1810 Main Street, Sweet Home, OR.

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

2. Description of Facility

The claimed pollution control facilities described in this application are the installation of Bridgeport Chemical GA 27P epoxy lining in five steel underground storage tanks; fiberglass piping; Red Jacket line leak detectors; a Veeder-Root TLS-250 automatic tank monitor with overflow alarm; and an oil/water separator.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of cost.

Claimed Facility cost	\$ 50,520
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed in February 1990 and the application for certification was found to be complete within two 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 underground storage

tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had five bare steel underground storage tanks and piping approximately 20 years of age holding motor fuel and one tank holding used oil. The facility had monitoring wells, but no system for preventing spills and overflow.

Effective 12-22-88, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overflow, and to monitor for leaks.

To respond to corrosion protection, the applicant lined the interiors of the five steel motor fuel tanks with epoxy resin. The applicant also replaced the bare steel piping with fiberglass piping. Epoxy tank lining and fiberglass piping meet EPA requirements for corrosion protection. The applicant stated the intention of installing cathodic protection in the near future.

To respond to spill and overflow prevention, the applicant installed a tank monitor overflow alarm system and an oil/water separator. This equipment meets EPA requirements for spill and overflow prevention.

To respond to leak detection requirements, the applicant installed a Veeder-Root TLS-250 automatic tank monitor and Red Jacket line leak detectors. This equipment meets EPA requirements for leak detection.

With respect to the applicant's claimed facility cost of \$50,520, the Department determined that all of the costs included in this figure are eligible pursuant to the

definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Epoxy tank lining - installed	\$ 25,896	\$25,896
Veeder-Root TLS-250 tank monitor	7,851	7,851
Install tank monitor	1,100	1,100
Red Jacket line leak detectors	588	588
Oil/Water separator	535	535
Fiberglass piping, installation, excavation, and repaving	14,550	14,550
Total	\$ 50,520	\$ 50,520
Eligible Facility Cost		\$ 50,520

The applicant indicated that no leaks were believed to exist at the time the improvements were undertaken; that daily inventory is taken and that tank testing has been done. The Department would not expect the company to proceed with the investment of lining the tank if any indication of leaking would have been detected during this project.

Based upon information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 claimed facility is intended to prevent leaks from corrosion or spillage and does not recover or convert waste products into salable or usable commodity.

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

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods, equipment and costs chosen are acceptable for meeting the requirements of federal regulations. The applicant felt that the best methods were chosen.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section. Where the percent allocable is determined to be less than 100%, an explanation presented in the following paragraphs.

The applicant's claimed cost for a Veeder-Root TLS-250 tank monitor is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, e.g., inventory control.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Claimed Costs</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection:			
Epoxy tank lining	\$25,896	100.0%	\$25,896
Spill & Overfill Prevention:			
Oil/Water separator	535	100.0%	535
Leak Detection:			
Automatic tank monitor	7,851	90.0%	7,066
Install tank monitor	1,100	100.0%	1,100
Line leak detectors	588	100.0%	588
Fiberglass pipe, installation, excavation, paving	<u>14,550</u>	<u>100.0%</u>	<u>14,550</u>
Total	\$50,520	98.0%	\$49,735

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 98.0%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$50,520 with 98.0% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3178.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Younger Oil Company
P. O. Box 87
Albany, OR 97321
UST Facility Number 7067

The applicant owns and operates service station at 643 Park Street, Lebanon, OR.

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

2. Description of Facility

The claimed pollution control facility described in this application is the installation of impressed current cathodic protection on seven steel underground storage tanks.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of cost.

Claimed Facility cost	\$ 6,859
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed in October 1988 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into

soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had five bare steel underground storage tanks and piping approximately 20 years old and one six years old holding motor fuel, and a 20 year old tank holding used oil. The facility had a line leak detection system but no spill and overfill prevention.

Effective 12-22-88, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overfill, and to monitor for leaks.

To respond to corrosion protection, the applicant installed impressed current cathodic protection on seven bare steel tanks. Impressed current cathodic protection meets EPA requirements for corrosion protection.

The applicant did not claim any work in response to spill and overfill prevention requirements, which are effective December 1998.

In response to leak detection requirements, the applicant stated that he performs daily tank monitoring and had an annual inspection done in January 1990.

With respect to the applicant's claimed facility cost of \$6,859, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Impressed current cathodic protection	<u>\$ 6,859</u>	<u>\$ 6,859</u>
Total	\$ 6,859	\$ 6,859
Eligible Facility Cost		\$ 6,859

The applicant stated that daily tank monitoring and an annual inspection give no indication of leaks. The Department would not expect the company to proceed with the investment if any indication of leaking would have been detected during this project.

Based upon information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 claimed facility is intended to prevent leaks from corrosion and does not recover or convert waste products into salable or usable commodity.

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

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods, equipment and costs chosen are acceptable for meeting the requirements of federal regulations. The applicant felt that there were no reasonable alternatives.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Claimed Costs</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection: Impressed current cathodic protection	\$ 6,859	100.0%	\$ 6,859
Total	\$ 6,859	100.0%	\$ 6,859

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 100.0%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$6,859 with 100.0% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3179.

Barbara J. Anderson
(503) 229-5870
May 25, 1990

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

1. Applicant

Younger Oil Company
P. O. Box 87
Albany, OR 97321
UST Facility Number 3565

The applicant owns and operates service station/cardlock fueling station at 2525 E. Pacific Blvd., Albany, OR.

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

2. Description of Facility

The claimed pollution control facility described in this application is the installation of impressed current cathodic protection on six steel underground storage tanks and piping.

The applicant claims the following cost and percentage for the claimed pollution control facility. The applicant provided documentation of cost.

Claimed Facility cost	\$ 6,859
Percent allocable to pollution control	100%

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 installation of the facility was substantially completed in September 1988 and the application for certification was found to be complete within two 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 underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases into

soil or water. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."

Prior to completing the work claimed, the facility had three bare steel underground storage tanks approximately 30 years old and two tanks approximately seven years old holding motor fuel, and a 30 year old tank holding used oil.

Effective 12-22-88, EPA established a ten year phase-in program for tank owners to upgrade existing underground storage tanks to new tank standards. This includes installing pollution control equipment to provide protection against releases due to corrosion, to prevent spills and release from overfill, and to monitor for leaks.

To respond to corrosion protection, the applicant installed impressed current cathodic protection on six bare steel tanks. Impressed current cathodic protection meets EPA requirements for corrosion protection. The applicant stated that he planned to install fiberglass tank linings at a later date.

The applicant did not claim any work in response to spill and overfill requirements, which become effective December 1998.

In response to leak detection requirements, the applicant stated that he performs daily tank monitoring and had an annual inspection in January 1990.

With respect to the applicant's claimed facility cost of \$6,859, the Department determined that all of the costs included in this figure are eligible pursuant to the definition of a pollution control facility in ORS 648.155. A breakdown of the applicant's claimed costs is shown below.

<u>Facility</u>	<u>Applicant Claimed Costs</u>	<u>Department Approved Costs</u>
Impressed current cathodic protection	<u>\$ 6,859</u>	<u>\$ 6,859</u>
Total	\$ 6,859	\$ 6,859
Eligible Facility Cost		\$ 6,859

The applicant stated that daily tank monitoring and a recent annual inspection had disclosed no indication of any leaks. The Department would not expect the company to proceed with the investment if any indication of leaking would have been detected during this project.

Based upon information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

b. Eligible Cost Findings

In determining the percent of the eligible 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 claimed facility is intended to prevent leaks from corrosion and does not recover or convert waste products into salable or usable commodity.

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

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

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

The methods, equipment and costs chosen are acceptable for meeting the requirements of federal regulations. The applicant felt that there were no reasonable alternatives.

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

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

The Department determined the percent allocable using standardized methodology pursuant to the latest interpretation of the Oregon Administrative Rules Chapter 340 Division 16. The result is displayed in the table at the end of this section.

In summary, we find the actual cost of the facility properly allocable to pollution control as follows:

	<u>Eligible Claimed Costs</u>	<u>Percent Allocable</u>	<u>Amount Allocable</u>
Corrosion Protection: Impressed current cathodic protection	<u>\$ 6,859</u>	<u>100.0%</u>	<u>\$ 6,859</u>
Total	\$ 6,859	100.0%	\$ 6,859

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil and water. This is accomplished by preventing releases in soil or water. The facility qualifies as a "pollution control facility:, defined in OAR 340-16-025(2)(g): Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 100.0%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$6,859 with 100.0% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-3180.

Barbara J. Anderson
(503) 229-5870
May 25, 1990



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: D
Division: Air Quality
Section: Planning & Development

SUBJECT:

Air Quality Rules: Amendments to General Emission Standards for Volatile Organic Compounds (VOCs)

PURPOSE:

To align state VOC rules with federal Environmental Protection Agency (EPA) requirements for national consistency, and revise the State Implementation Plan (SIP).

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 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 ___

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DESCRIPTION OF REQUESTED ACTION:

The Department of Environmental Quality's (Department) proposed rule amendments to its VOC rules will better assure attainment of the National Ambient Air Quality Standard for Ozone for the Portland area, by incorporating the following changes consistent with federal guidelines: 1) lowering the exemption point for small surface coating operations; 2) changing monthly recordkeeping for small surface coaters to daily; 3) remove generic exemption for stencil coating operations, allowing an exemption only for railroad car stencil coating; 4) remove five other exemptions from the rules; 5) require RACT permanently for any source exceeding an applicable exemption point; and 6) add 19 minor rule definitions and revise 8 other definitions consistent with federal definitions.

Sources affected by these proposed rule amendments are primarily small surface coating operations located in the Portland area. A few small gasoline storage sources and small bulk gasoline plants in the same area will also be affected.

AUTHORITY/NEED FOR ACTION:

___ Required by Statute: _____	Attachment ___
Enactment Date: _____	
___ Statutory Authority: _____	Attachment ___
___ Pursuant to Rule: _____	Attachment ___
___ Pursuant to Federal Law/Rule: _____	Attachment ___
___ Other: _____	Attachment ___
___ Time Constraints: (explain)	

DEVELOPMENTAL BACKGROUND:

___ Advisory Committee Report/Recommendation	Attachment ___
___ Hearing Officer's Report/Recommendations	Attachment ___
___ Response to Testimony/Comments	Attachment ___
___ Prior EQC Agenda Items: (list)	Attachment ___
___ Other Related Reports/Rules/Statutes:	Attachment ___
___ Supplemental Background Information	Attachment ___

In 1979 and 1980 the Environmental Quality Commission (EQC) adopted rules to control Volatile Organic Compounds as part of Oregon's State Implementation Plan to assure that the

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federal ozone standard is achieved and maintained. Volatile organic compounds are principally associated with gasoline marketing, motor vehicle emissions, and solvents in paints. These compounds react under high temperatures, sunlight, and with other pollutants to form ozone, a highly reactive and respiratory irritating gas. The VOC rules contained emission standards based on "reasonably available" technology, and consistent with federal Control Technology Guideline (CTG) documents.

Many states did not meet EPA's ozone attainment demonstration requirements by the December 31, 1987 Clean Air Act deadline. As a result EPA initiated a "SIP call", informing these states that revisions to their ozone SIPs were necessary. Specifically, EPA requested that such states make their VOC rules consistent nationally. Oregon was not able to demonstrate attainment by the 1987 deadline in the Portland area, and thus was among the states receiving a SIP call. The Department has informed EPA that while ozone monitoring since 1987 has shown marginal compliance with the federal standard, we agree that revisions to its ozone control strategies are needed to maintain compliance, and to effectively control toxic air emissions from small VOC sources where control technology is available.

To assist states in revising their ozone control strategies, EPA began a national VOC Rule Effectiveness Study in 1988. Part of this study involved a determination as to whether each states' VOC regulations were consistent with federal CTGs. This study concluded that Oregon's VOC rules contained some definitions, exemptions, and other requirements inconsistent with federal CTGs or with EPA policy. As a result, EPA has requested that certain rule changes be made in order to make them nationally consistent.

The Department has met with EPA to discuss and identify changes to the VOC Rules that would meet their national consistency guidance, and has come to agreement on specific changes needed.

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The lowering of the exemption point for small surface coaters, as outlined on page 2 of this report, is the most significant change contained in these proposed amendments.

In 1986 the EQC adopted amendments to the VOC Rules which incorporated exemptions for small surface coaters, due to the unavailability at the time of acceptable lower VOC coatings

to comply with the federal emission limits. However, over the last four years increased concern about toxic emissions and the adequacy of state ozone control strategies, particularly the contribution of many previously exempted small sources, has lead to a review of reasonably available control technology for sources such as surface coaters (also known as miscellaneous metal coating).

EPA has indicated that the use of waterborne compliance paints and other process modifications now allow most surface coaters to meet the more stringent VOC emission limits. Other states have recently amended their rules to incorporate EPA's exemption point of 10 tons/year.

Lowering of the exemption point from 40 tons/year to 10 tons/year will require at least the following sources in the Portland area to use current control technology to reduce VOC emissions:

1. Columbia Steel Shelving
2. Dura Industries, Inc.
3. Cascade Corporation
4. Wagner Mining Equipment Co.
5. Mercer Industries, Inc.
6. Union Pacific
7. Portland Chain Manufacturing Co.
8. Quali-Cote, Inc
9. The Boeing Company
10. Comtech Manufacturing of Oregon, Inc.
11. Anodizing Inc.
12. Pacific Coatings, Inc.

The applicable control technology for miscellaneous metal coaters, according to EPA's Control Guidance Technology document (450/2-78-015), is as follows:

1. Process Modification. Emissions can be controlled by changing from an organic coating to a low-solvent coating. This can be accomplished by: (1) use of waterborne coating; (2) use of higher solids coating; (3) converting to powder coatings; (4) increase transfer efficiency by automated electrostatic spray; and (5) a lower applied film thickness (depending on coating thickness requirements).
2. Exhaust Gas Treatment. This consists primarily of installing an incineration system to treat the exhaust stream. Use of an carbon adsorption system is also possible, but not widely used.

Cost estimates outlined in the federal CTG document for miscellaneous metal coating indicate that modification of the coating process to a low-solvent coating is more cost effective for control of VOCs than installing exhaust gas controls for small sources. However, there is a wide range in the estimated costs, and the specific economic impact on each individual source cannot be assessed by the Department. Costs associated with modification of the coating process to a low-solvent coating vary considerably, significantly affecting the control costs and the cost-effectiveness of different options. For the small surface coaters affected by these proposed rule amendments, there will be situations where current technology does not provide low-solvent coatings which can successfully replace conventional coatings for some specialty coatings now provided. If other process modifications or use of add-on technology for exhaust gas treatment cannot be applied to remedy these situations, some specific coating lines may have to be discontinued. If a source feels it is technically and economically impossible to meet a specific VOC emission limit, the source can present its case through the rule-making process, and if warranted, the Department can consider amending the proposed requirement to provide for a special exemption.

The Department is aware of only one other source directly affected by these rule amendments. This source - a small bulk plant owned by Union Oil Co. - will be affected by the removal of the exemption for small gasoline bulk plants. This small plant is expected to close down.

PROGRAM CONSIDERATIONS:

While the proposed rule amendments will affect mostly small sources (under 100 tons/year), and is expected to achieve only a small reduction in VOC emissions, the Department recognizes that, due to the potential risk to public health from toxic air pollutants associated with VOCs, any reduction in VOC emissions in Oregon's non-attainment areas is important. In addition, EPA has identified small source compliance as an essential element in achieving nationwide attainment of the ozone air quality standard. The Department believes that the proposed amendments strengthen the state's VOC rules by removing certain exemptions and improving enforceability, thereby helping to assure attainment and maintenance of the federal ozone standard.

The Department does not expect any significant workload increase as a result of these proposed rule amendments.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Do not consider amendments to the Department's VOC Rules. Data from 1987 through 1989 has shown the required three years of attainment pursuant to the federal standard for ozone. However, EPA maintains that uniform RACT controls must be applied to areas that did not attain by the deadline. Failure to revise the SIP could lead to EPA promulgating rules as part of a Federal Implementation Plan (FIP) to control VOC emissions in the state.
2. Consider amendments which align the Department's VOC Rules with federal requirements for national consistency. Although ozone attainment has been achieved, the Department believes these amendments are important to maintain compliance with the federal standard and to control toxic air contaminants.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission authorize a rulemaking hearing so that the Department may receive public comments and testimony concerning revisions to the state's VOC rules to make them nationally consistent and to effectively control toxic air emissions from small VOC sources in the Portland area where control technology is available.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed amendments are also consistent with Goal 3 of the Strategic Plan, in applying "highest and best" technology in conjunction with pollution prevention methods.

ISSUES FOR COMMISSION TO RESOLVE:

1. Should the Department proceed with rule changes in order to make its VOC rules nationally consistent with other ozone non-attainment areas in the country?

INTENDED FOLLOWUP ACTIONS:

1. File public hearing notice with the Secretary of State.
2. Hold a public hearing.

Meeting Date: June 29, 1990
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3. Review oral and written testimony and revise proposed rules as appropriate.
4. Return to Commission for final rule adoption.

Approved:

Section: John Kowalski

Division: John Kowalski

Director: Bill Hen

Report Prepared By: Brian Finneran

Phone: 229-6278

Date Prepared: June 12, 1990

BRF:a
PLAN/AH10051
(6/90)

**General Emission Standards for
Volatile Organic Compounds**

Introduction

340-22-100 (1) These rules regulate sources of VOC which contribute to the formation of photochemical oxidant, mainly ozone.

(2) Since ozone standards are not violated in Oregon from October through April (because of insufficient solar energy), natural gas-fired afterburners may be permitted, on a case-by-case basis, to lay idle during the winter months.

(3) Sources regulated by these rules are:

(a) New sources and all existing sources in the Portland and Medford AQMA's and in the Salem SATS for subsections (b) through (m) of this section;

(b) Gasoline stations, underground tank filling;

(c) Bulk gasoline plants and delivery vessels;

(d) Bulk gasoline terminal loading;

(e) Cutback asphalt;

(f) Petroleum refineries, petroleum refinery leaks;

(g) VOC liquid storage, secondary seals;

(h) Coating including paper coating and miscellaneous painting;

(i) Degreasers;

(j) Asphaltic and coal tar pitch in roofing;

(k) Flat wood coating;

(l) Rotogravure and Flexographic printing;

(m) Perchloroethylene dry cleaning.

Stat. Auth.: ORS ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79; DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Definitions

340-22-102 As used in these regulations, unless otherwise required by context:

(1) "Air dried coating" means coatings which are dried by the use of air at ambient temperature.

(2) "Applicator" means a device used in a coating line to apply coating.

{(2)}(3) "Bulk gasoline plant" means a gasoline storage and distribution facility which receives gasoline from bulk terminals by railroad car or trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.

{(3)}(4) "Bulk gasoline terminal" means a gasoline storage facility which receives gasoline from refineries primarily by pipeline, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck.

{(4)}{(5) "Can Coating" means any coating applied by spray, roller, or other means to the inside and/or outside surfaces of metal cans, drums, pails, or lids.

{(5)}{(6) "Carbon Bed Breakthrough" means the initial indication of depleted adsorption capacity characterized by a sudden measurable increase in VOC concentration exiting a carbon adsorption bed or column.

{(6)}{(7) "Certified Underground Storage Device" means vapor recovery equipment for underground storage tanks as certified by the State of California Air Resources Board Executive Orders, copies of which are on file with the Department, or equivalent approval by other air pollution control agencies.

{(7)}{(8) "Class II hardboard paneling finish" means finishers which meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.

{(8)}{(9) "Clear coat" means a coating which lacks color and opacity or is transparent and uses the undercoat as a reflectant base or undertone color.

(10) "Coating" means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, adhesives, thinners, diluents, and inks.

{(9)}{(11) "Coating Line" means one or more apparatus or operations which include a coating applicator, flash-off area, and oven or drying station wherein a surface coating is applied, dried, and/or cured.

(12) "Condensate" means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

(13) "Crude oil" means a naturally occurring mixture which consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

(14) "Custody transfer" means the transfer of produced petroleum and/or condensate after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

{(10)}{(15) "Cutback asphalt" means a mixture of a base asphalt with a solvent such as gasoline, naphtha, or kerosene. Cutback asphalts are rapid, medium, or slow curing (known as RC, MC, SC), as defined in ASTM D2399.

{(11)}{(16) "Day" means a 24-hour period beginning at midnight.

{(12)}{(17) "Delivery vessel" means any tank truck or trailer used for the transport of gasoline from sources of supply to stationary storage tanks.

{(13)}{(18) "Dry cleaning facility" means any facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes but is not limited to any washer, dryer, filter and purification systems, waste disposal systems, holding tanks, pumps, and attendant piping and valves.

(19) "External floating roof" means a cover over an open top storage tank consisting of a double deck or pontoon single deck which rests upon and is supported by the volatile organic liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

~~{(14)}~~(20) "Extreme performance coatings" means coatings designed for extreme environmental conditions such as exposure to any one of the following: continuous ambient conditions ~~{the weather-all-of-the-time}~~, temperature consistently above 95°C., detergents, abrasive and scouring agents, solvents, corrosive atmosphere, or similar environmental conditions.

(21) "Fabric coating" means any coating applied on textile fabric. Fabric coating includes the application of coatings by impregnation.

~~{(15)}~~(22) "Flexographic Printing" means the application of words, designs and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

~~{(16)}~~(23) "Freeboard ratio" means the freeboard height divided by the width (not length) of the degreaser's air/solvent area.

~~{(17)}~~(24) "Forced air dried coating" means a coating which is dried by the use of warm air at temperatures up to 90°C (194°F).

~~{(18)}~~(25) "Gasoline" means any petroleum distillate having a Reid vapor pressure of 27.6 kPa (4.0 psi) or greater which is used to fuel internal combustion engines.

~~{(19)}~~(26) "Gasoline dispensing facility" means any site where gasoline is dispensed to motor vehicle, boat, or airplane gasoline tanks from stationary storage tanks.

~~{(20)}~~(27) "Gas service" means equipment which processes, transfers or contains a volatile organic compound or mixture of volatile organic compounds in the gaseous phase.

~~{(21)}~~(28) "Hardboard" is a panel manufactured primarily from inter-felted ligno-cellulosic fibers which are consolidated under heat and pressure in a hot press.

~~{(22)}~~(29) "Hardwood plywood" is plywood whose surface layer is a veneer of hardwood.

~~{(23)} -- "High-Performance-Architectural-Coating" means coatings applied to aluminum panels and moldings being coated away from the place of installation. }~~

(30) "Internal floating roof" means a cover or roof in a fixed roof tank which rests upon or is floating upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

~~{(24)} -- "LAER" means the rate of emissions which reflects:~~

~~(a) -- The most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or not maintainable for the proposed source; or~~

~~(b) -- The most stringent emission limitations which is achieved and maintained in practice by such class or category of source, whichever is more stringent. -- In no event shall the application of LAER allow a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (GAR-340-25-535). }~~

(31) "Large appliance" means any residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dish washers, trash compactors, air conditioners, and other similar products.

~~{(25)}~~(32) "Leaking component" means any petroleum refinery source which has a volatile organic compound concentration exceeding 10,000 parts

per million (ppm) when tested in the manner described in method 31 and 33 on file with the Department. These sources include, but are not limited to, pumping seals, compressor seals, seal oil degassing vents, pipeline valves, flanges and other connections, pressure relief devices, process drains, and open-ended pipes. Excluded from these sources are valves which are not externally regulated.

(33) "Liquid-mounted" means a primary seal mounted so the bottom of the seal covers the liquid surface between the tank shell and the floating roof.

~~{(26)}~~(34) "Liquid service" means equipment which processes, transfers or contains a volatile organic compound or mixture of volatile organic compounds in the liquid phase.

(35) "Low solvent coating" refers to coatings which contain less organic solvent than the conventional coatings used by industry. Low solvent coatings include water-borne, higher solids, electrodeposition and powder coatings.

(36) "Miscellaneous metal parts or products" means any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, magnet wires, automobiles, ships, and airplane bodies.

~~{(27)}~~ "Modified" means any change in the method of operation of, or addition to, or physical change of a stationary source which increases the allowable emission rate of any VOC regulated (including any not previously emitted and taking in to account all accumulated increases in allowable emissions occurring at the source since regulations were adopted under this section, or since the time of the last construction approval was issued for the source pursuant to such regulations approved under this section, whichever time is more recent, regardless of any emission reductions achieved elsewhere in the source):

(a) -- A physical change shall not include routine maintenance, repair and replacement, unless there is an increase in emission;

(b) -- A change in the method of operation, unless previously limited by enforceable permit conditions, shall not include:

(A) -- An increase in production rate, if such does not involve a physical change or exceed permit limits;

(B) -- An increase in the hours of operation;

(C) -- Use of an alternative fuel or raw material by reason of an order in effect under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act;

(D) -- Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accommodating such fuel or material; or

(E) -- Use of an alternative fuel by reason of any order or rule under Section 125 of the Federal Clean Air Act, 1977;

(F) -- Change in ownership of the source.}

~~{(28)}~~(37) "Natural finish hardwood plywood panels" means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

~~{(29)}~~(38) "Operator" means any person who leases, operates, controls, or supervises a facility at which gasoline is dispensed.

(39) "Oven dried" means a coating or ink which is dried, baked, cured, or polymerized at a temperatures over 90 C (194°F).

~~{(30)}~~(40) "Owner" means any person who owns, operates, leases, controls, or supervises an emission source or air pollution control equipment. ~~{-has-legal-or-equitable-title-to-the-gasoline-storage-tanks-at-a-facility-}~~

~~{(31)}~~(41) "Packaging rotogravure printing" means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products and labels for articles to be sold.

(42) "Paper coating" means any coating applied on paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, or pressure sensitive tapes. Paper coating includes the application of coatings by impregnation and/or saturation.

~~{(32)}~~(43) "Person" means the federal government, any state, individual, public or private corporation, political subdivision, governmental agency, municipality, industry, co-partnership, association, firm, trust, estate, or any other legal entity whatsoever.

~~{(33)}~~(44) "Petroleum refinery" means any facility engaged in producing gasoline, aromatics, kerosene, distillate fuel oils, residual fuel oils, lubricants, asphalt, or other products through distillation of petroleum, crude oil, or through redistillation, cracking, or reforming of unfinished petroleum derivatives. "Petroleum refinery" does not mean a re-refinery of used motor oils or other waste chemicals. "Petroleum refinery" does not include asphalt blowing or separation of products shipped together.

~~{(34)}~~(45) "Plant site basis" means all of the sources on the premises (contiguous land) covered in one Air Contaminant Discharge Permit unless another definition is specified in a Permit.

(46) "Potential emissions before add on controls" and "potential to emit before add on controls" means the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source, based on the design capacity or maximum production capacity of the source and 8760 hours per year before the application of capture systems or control devices. The design capacity or maximum production capacity includes use of coating(s) or ink(s) with the highest organic material content.

~~{(35)}~~(47) "Printed interior panels" means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

~~{(36)}~~(48) "Printing" means the formation of words, designs and pictures, usually by a series of application rolls each with only partial coverage.

(49) "Prime coat" means the first of two or more films of coating applied in an operation.

~~{(37)}~~(50) "Publication rotogravure printing" means rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.

(51) "RACT" means the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

~~{(38)}~~(52) "Roll printing" means the application of words, designs and pictures to a substrate by means of hard rubber or steel rolls.

~~{(39)}~~**(53)** "Specialty Printing" means all gravure and flexographic operations which print a design or image, excluding publication gravure and packaging printing. Specialty Printing includes printing on paper plates and cups, patterned gift wrap, wallpaper, and floor coverings.

~~{(40)}~~--"Stationary Source"--means any structure, building, facility, or installation, which emits or may emit any VOC.}

~~{(41)}~~**(54)** "Splash filling" means the filling of a delivery vessel or stationary storage tanks through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.

~~{(42)}~~**(55)** "Source" means any {"S}structure, building, facility, or installation["-means any grouping of pollutant emitting activities] or combination thereof which emits or is capable of emitting air contaminants to the atmosphere which are located on one or more contiguous or adjacent properties and which are owned or operated by the same person (or by persons under common control).

~~{(43)}~~**(56)** "Submerged fill" means any fill pipe or hose, the discharge opening of which is entirely submerged when the liquid is 6 inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe, the discharge of which is entirely submerged when the liquid level is 18 inches, or is twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank.

~~{(44)}~~**(57)** "Thin particleboard" is a manufactured board 1/4 inch or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.

(58) "Thirty-day rolling average" means any value arithmetically averaged over any consecutive thirty days.

~~{(45)}~~**(59)** "Tileboard" means panelling that has a colored waterproof surface coating.

(60) "Top coat" means the final film of coating applied in a multiple coat operation.

~~{(46)}~~**(61)** "True Vapor Pressure" means the equilibrium pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation loss from Floating Roof Tanks", February 1980.

~~{(47)}~~**(62)** "Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

(63) "Vapor-mounted means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the primary seal, the tank shell, the liquid surface, and the floating roof.

~~{(48)}~~**(64)** "Volatile Organic Compound", (VOC), means any compound of carbon that is photochemically reactive. Excluded from the category of Volatile Organic Compounds are ~~{carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and}~~ those compounds which the U.S. Environmental Protection Agency classifies as being of negligible photochemical reactivity which are methane, ethane, methyl chloroform, methylene chloride, and trichlorotrifluoroethane, trichlorotrifluoroethane, dichlorodifluoromethane, chlorodifluoromethane, trifluoromethane, dichlorotetrafluoroethane, chloropentafluoroethane.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79; DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Limitations and Requirements

General Requirements for New and Existing Sources

340-22-104 (1) Notwithstanding the emission limitations in these rules, all new major sources or major modifications at existing sources [or ~~modified-stationary-sources,~~] located within the areas cited in section (2) of this rule, shall comply with OAR 340-20-220 through 340-20-276 [with allowable VOG emission increases in excess of 90,720 kilograms (100 tons) per year, ~~shall meet the Lowest Achievable Emission Rate (LAER).~~].

(2) All new and existing sources inside the following areas shall comply with the General Emission Standards for Volatile Organic Compounds:

- (a) Portland-Vancouver Air Quality Maintenance Area;
- (b) Medford-Ashland Air Quality Maintenance Area;
- (c) Salem Area Transportation Study (SATS) Area.

(3) VOC sources located outside the areas cited in section (2) of this rule are exempt from the General Emission Standards for Volatile Organic Compounds.

(4) All new and existing sources inside the areas identified in subsection (2) of this section must apply Reasonably Available Control Technology (RACT) once an exemption point for a particular source category has been exceeded. For sources not covered by a source category in these rules, RACT requirements shall be determined by the Department and EPA sources with the potential to emit more than 100 tons per year (TPY). Once the exemption haint has been exceeded RACT must be applied thereafter.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79; DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Exemptions

340-22-106 Natural gas-fired afterburners installed for the purpose of complying with these rules shall be operated during the months of May, June, July, August, and September. During other months, the afterburners may be turned off with prior written Departmental approval, provided that the operation of such devices is not required for purposes of occupational health or safety, or for the control of toxic substances, malodors, or other regulated pollutants, or for complying with visual air contaminant limitations.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79; DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Compliance Determination

340-22-107 (1) Certification and test procedures are listed in each specific section and on file with the Department. Applicants are encouraged to submit designs approved by other air pollution control agencies where VOC control equipment has been developed. Construction approvals and proof of compliance will, in most cases, be based on Departmental evaluation of the source and controls.

(2) The person responsible for an existing emission source shall proceed promptly with a program to comply as soon as practicable with these rules. A proposed program and implementation plan including increments of progress shall be submitted to the Department for review.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79; Renumbered from 340-22-106 (3) & (4); DEQ 23-1980, f. & ef. 9-26-80; DEQ 12-1981 (Temp), f. & ef. 4-29-81, DEQ 3-1986, f. & ef. 2-12-86;

[ED. NOTE: The text of Temporary rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Applicability of Alternative control Systems

340-22-108 [DEQ 23-1080, f. & ef. 9-26-80; Repealed by DEQ 5-1983, f. & ef. 4-18-83]

Small Gasoline Storage

340-22-110 (1) No person may transfer or cause or allow the transfer of gasoline from any delivery vessel which was filled at a Bulk Gasoline Terminal or nonexempted Bulk Gasoline Plant into any stationary storage tank of less than 40,000 gallon capacity unless:

(a) The tank is filled by Submerged Fill; and

(b) A vapor recovery system is used which consists of a Certified Underground Storage Tank Device capable of collecting the vapor from volatile organic liquids and gases so as to prevent their emission to the outdoor atmosphere. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place; or

(c) The vapors are processed by a system demonstrated to the satisfaction of the Department to be of equal effectiveness.

(d) All equipment associated with the vapor recovery system shall be maintained to be vapor tight and in good working order. No gasoline delivery shall take place unless the vapor return hose is connected by the delivery truck operator, if required by subsection (1)(b) of this section.

(e) ~~{i}In the Portland-Vancouver AQMA, no person shall deliver gasoline to a gasoline dispensing facility [to a rate exceeding 10,000 gallons per month from a bulk gasoline plant;]~~ unless the gasoline vapor is handled as required by subsection (1)(b) or (c) of this rule. Gasoline dispensing facilities with a throughput of less than 10,000 gallons per month (determined by using a thirty-day rolling average) are exempt from this requirement.

(2) Exemptions. This section will not apply to:

(a) Transfers made to storage tanks of gasoline dispensing facilities equipped with floating roofs or their equivalent;

(b) Stationary gasoline storage containers of less than 2,085 liters (550 gallons) if used for agricultural purposes.

~~(c) [However, in the Medford-Ashland AQMA],~~ all existing tanks rated 1,000 gallon capacity, or less, will be exempt from submerged fill, if located in the Medford-Ashland AQMA.;

~~[(d) -- Stationary gasoline storage tanks located at a gasoline dispensing facility that are filled by a delivery vessel which was filled at an exempted bulk gasoline plant; provided that the storage tanks use submerged fill.]~~

(d) Stationary gasoline storage tanks with offset fill lines, welded in drop tubes, or fill pipes of less than 3" diameter, if installed before January 1, 1979.

(3) The owner, operator, or builder of any stationary storage container subject to this rule shall comply by April 1, 1981, except where added equipment is required by rule changes adopted in 1980, compliance is delayed to April 1, 1983.

(4) Compliance with subsection (1)(b) of this rule shall be determined by verifications of use of equipment identical to equipment most recently approved and listed for such use by the Department or by testing in accordance with Method 30 on file with the Department.

Stat. Auth.: ORS CH. 468

Hist.: DEQ 21- 1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 12-1981 (Temp), f. & ef. 4-29-81; DEQ 16-1983, f. & ef. 10-19-83; DEQ 3-1986, f. & ef. 2-12-86

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Bulk Gasoline Plants and Delivery Vessel(s)

340-22-120 (1) No person shall transfer or allow the transfer of gasoline to or from a bulk gasoline plant unless:

(a) Each stationary storage tank and each delivery vessel uses submerged fill when transferring gasoline;

(b) The displaced vapors from filling each tank and each delivery vessel are prevented from being released to the atmosphere through use of a vapor tight vapor balance system, or equivalent system as approved in writing by the Department. All equipment associated with the vapor balance system shall be maintained to be vapor tight and in good working order. Exceptions and limitations are as follows in subsections (1)(c), (d) and (e) of this rule;

(c) If a bulk gasoline plant which is located in the Portland AQMA and transfers less than 4,000 gallons of gasoline per day, (thirty-day rolling average) ~~[(annual through-put divided by the days worked); or if each of the dispensing facilities to which the plant delivers receives less than 10,000 gallons per month; then]~~ capture of displaced vapors during the filling of delivery vessel(s) from the bulk plant is exempt from subsection (1)(b) of this rule ~~[and the bulk plant's customers are exempt from rule 340-22-110(1)(b) and (c)].~~ If a bulk gasoline plant is located in the Medford-

Ashland AQMA, or in the Salem SATS, capture of displaced vapors during the filling of delivery vessel(s) from the bulk plant is exempt from subsection (1)(b) of this rule ~~[and the bulk plant's customers are exempt from rule 340-22-110(1)(b) and (c)].~~

(d) Each stationary gasoline storage tank may release vapor to the atmosphere through a pressure relief valve set to release at the highest possible pressure (in accordance with State or local fire codes, or the National Fire Prevention Association guidelines) and no less than 3.4 kPa (.50 psi) or some other setting approved in writing by the Department.

(e) Gasoline is handled in a manner to prevent spillage, discharging into sewers, storage in open containers, or handled in any other manner that would result in evaporation. If more than five gallons is spilled, the operator shall report the spillage in accordance with rules 340-21-065 to 340-21-075.

(2) The owner(s) or operator(s) of bulk gasoline plants and delivery vessels subject to this rule shall comply with the provisions of this rule by April 1, 1981, except where added equipment is required by rule changes adopted in 1980, compliance is delayed to April 1, 1983.

(3) Compliance with subsection (1)(a) of this rule shall be determined by visual inspection to ensure minimal spillage of gasoline and proper installation of bottom loading couples.

(4) Compliance with subsection (1)(b) of this rule shall be determined by verification of use of equipment approved by the Department and/or by testing and monitoring in accordance with applicable portions or rules 340-22-137 and/or Method 31 and/or 32 on file with the Department.

(5) The owner or operator of a gasoline delivery vessel shall maintain the vessel to be vapor tight at all times, in accordance with rule 340-22-137(1), if such vessel is part of a vapor balance system required by these rules.

~~{(5) - Rule 340-22-120 shall not apply to bulk plants which load 600,000 or less gallons of gasoline per year.}~~

Stat. Auth.: ORS CH. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 12-1981 (Temp), f. & ef. 4-29-81; DEQ 3-1986, f. & ef. 2-12-86

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Bulk Gasoline Terminals

340-22-130 (1) After April 1, 1981, no terminal owner or operator, shall allow volatile organic compounds (VOC) to be emitted into the atmosphere in excess of 80 milligrams of VOC per liter of gasoline loaded from the operation of loading truck tanks, and truck trailers at bulk gasoline terminals with daily through-puts of greater than 76,000 liters (20,000 gallons) per day of gasoline. A thirty-day rolling average must be used to determine applicability. ~~{(The daily through-puts are annual through-put divided by 365 days;)}~~

(a) The owner or operator of a gasoline loading terminal shall only allow the transfer of gasoline between the facility and a truck tank or a truck trailer when a current leak test certification for the delivery vessel is on file with the terminal or a valid inspection sticker (OAR 340-22-137(1)(c)) is displayed on the delivery vessel.

(b) The owner or operator of a truck tank or a truck trailer shall not make any connection to the terminal's gasoline loading rack unless the gasoline delivery vessel has been tested in accordance with OAR 340-22-137(1).

(c) The truck driver or other operator who fills a delivery truck tank and/or trailer tank shall not take on a load of gasoline unless the vapor return hose is properly connected.

(d) All equipment associated with the vapor recovery system shall be maintained to be vapor tight and in good working order.

(2) Compliance with section (1) of this rule shall be determined by testing in accordance with Method 33 on file with the Department. The method for determining compliance with section (1) of this rule are delineated in 40 CFR Part 60, Subpart XX, 60.503.

(3) Bulk Gasoline terminals shall comply with the following within the limits of section (1) of this rule:

(a) All displaced vapors and gases during tank truck gasoline loading operations are vented only to the vapor control system[~~;-except when gasoline delivery vessels are switched to diesel delivery service or to delivery of other VOG with Reid vapor pressure less than 4.0 psia~~].

(b) The loading device must not leak when in use. The loading device shall be designed and operated to allow no more than 10 cubic centimeters drainage per disconnect on the basis of 5 consecutive disconnects.

(c) All loading liquid lines shall be equipped with fittings which make vapor-tight connections and which close automatically and immediately when disconnected.

(d) All vapor lines shall be equipped with fittings which make vapor-tight connections and which close automatically and immediately when disconnected or which contain vapor-tight unidirectional valves.

(e) Gasoline is handles in a manner to prevent its being discarded in sewers or stored in open containers or handled in any manner that would result in evaporation. If more than 5 gallons are spilled, the operator shall report the spillage in accordance with rules 340-21-065 to 340-21-075.

(f) The vapor collection system is operated in a manner to prevent the pressure therein from exceeding the tank truck or trailer pressure relief settings.

Stat. Auth.: ORS CH. 468

Hist.: DEQ 21- 1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 12-1981 (Temp), f. & ef. 4-29-81; DEQ 3-1986, f. & ef. 2-12-86

[ED. NOTE: The test of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

340-22-133 [Renumbered to 340-33-130(2)]

340-22-136 [Renumbered to 340-22-130(3)]

Testing Vapor Transfer and Collection Systems

340-22-137 (1) After April 1, 1981, no person shall allow a vapor-laden delivery vessel subject to rule 340-22-(4) to be filled or emptied unless the delivery vessel:

(a) Is tested annually according to the test method 32 on file with the Department, or EPA Method 21, or EPA Method 27, 40 CFR 60.:

(b) Sustains a pressure change of not more than 750 pascals (3 inches of H₂O) in 5 minutes when pressurized to a gauge pressure of 4,500 pascals (18 inches of H₂O) or evacuated to a gauge pressure of 1,500 pascals (6 inches of H₂O) during the testing required in subsection (1)(a) of this rule; and

(c) Displays a sticker near the Department of Transportation test date markings required by 49 CFR 177.824h, which:

(A) Shows the year and month that the gasoline tank truck last passed the test required in sections (a)(a) and (b) of this rule;

(B) Shows the identification of the sticker; and

(C) Expires not more than one year from the date of the leak-test test.

(d) Has its vapor return hose connected by the truck operator so that gasoline vapor is not expelled to the atmosphere.

(2) After April 1, 1981, the owner or operator of a vapor collection system subject to this regulation shall design and operate the vapor collection system and the gasoline loading equipment in a manner that prevents:

(a) Gauge pressure from exceeding 4,500 pascals (18 inches H₂O) and vacuum from exceeding 1,500 pascals (6 inches of H₂O) in the gasoline tank truck being loaded;

(b) A reading equal to or greater than 100 percent of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters from all points on the perimeter of a potential leak source when measured by the Method 31 and 33 on file with the Department, or unloading operations at gasoline dispensing facilities, bulk plants and bulk terminals; and

(c) Visible liquid leaks during loading or unloading operations at gasoline dispensing facilities, bulk plants and bulk terminals.

(3) The Department may, at any time, monitor a gasoline tank truck, vapor collection system, or vapor control system, by the methods on file with the Department, to confirm continuing compliance with sections (1) or (2) of this rule.

(4) Recordkeeping and Reporting:

(a) The owner or operator of a source of volatile organic compounds subject to this regulation shall maintain records of all certification testing and repairs. The records must identify the gasoline tank truck, vapor collection system, or vapor control system; the date of the test or repair; and if applicable, the type of repair and the date of retest. The records must be maintained in a legible, readily available condition for at least two years after the date of testing or repair was completed.

(b) Copies of all records and reports under subsection (4)(a) of this rule shall immediately be made available to the Department, upon verbal or written request, at any reasonable time.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS CH. 468

Hist.: DEQ 23-1980, f. & ef. 9-26-80; DEQ 12-1981 (Temp), f. & ef. 4-29-81; DEQ 3-1986, f. & ef. 2-12-86

[ED. NOTE: The test of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Cutback and Emulsified Asphalt

340-22-140 (1) After April 1, 1979, use of any cutback asphalts for paving roads and parking areas is prohibited during the months of April, May, June, July, August, September, and October, except as provided for in section (2) of this rule.

(2) Slow curing (SC) and medium curing (MC) cutback asphalts are allowed during all months for the following uses and applications.

(a) Solely as a penetrating prime coat for aggregate bases prior to paving;

(b) For the manufacture of medium-curing patching mixes to provide long-period storage stockpiles used exclusively for pavement maintenance; or

(c) For all uses when the National Weather Service forecast of the high temperature during the 24-hour period following applications is below 10°C. (50°F.).

(3) Rapid curing (RC) grades of cutback asphalt are always prohibited.

(4)(a) Use of emulsified asphalts is unrestricted if solvent content is kept at or less than the limits listed below. If these limits are exceeded, then the asphalt shall be classified as medium curing (MC) cutback asphalts, and shall be limited to only the uses permitted by section (2) of this rule. (Grades of Emulsion Per AASHTO Designation M 208-72-Maximum Solvent Content by Weight):

(A) CRS-1.....	3%
(B) CRS-2.....	3%
(C) CSS-1.....	3%
(D) CSS-1h.....	3%
(E) CMS-2.....	8%
(F) CMS-2h.....	8%
(G) CMS-2S.....	12%

(b) Solvent content is determines by ASTM distillation test D-244.

Stat. Auth.: ORS CH. 468

Hist.: DEQ 21- 1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Petroleum Refineries

340-22-150 After April 1, 1979, these regulations shall apply to all petroleum refineries:

(1) Vacuum-Producing Systems:

(a) Noncondensable VOC from vacuum producing systems shall be piped to an appropriate firebox, incinerator or to a closed refinery system.

(b) Hot wells associated with contact condensers shall be tightly covered and the collected VOC introduced into a closed refinery system.

(2) Wastewater Separators:

(a) Wastewater separators' forebays shall incorporate a floating pontoon or fixed solid cover with all openings sealed totally enclosing the compartmented liquid contents, or a floating pontoon or double deck-type cover equipped with closure seals between the cover edge and compartment wall.

(b) Accesses for gauging and sampling shall be designed to minimize VOC emissions during actual use. All access points shall be closed with suitable covers when not in use.

(3) Process Unit Turnaround:

(a) The VOC contained in process unit to be depressurized for turnaround shall be introduced to a closed refinery system, combusted by a flare, or vented to a disposal system.

(b) The pressure in a process unit following depressurization for turnaround shall be less than 5 psig before venting to the ambient air.

(4) Maintenance and Operation of Emission Control Equipment: Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with the level of maintenance and house-keeping of the overall plant.

(5) Recordkeeping: Operators shall maintain a record of process unit turnarounds including an approximation of the quantity of VOC emitted to the atmosphere. Records shall be maintained for two years.

Stat. Auth.: ORS CH. 468

Hist.: DEQ 21- 1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80

Petroleum Refinery Leaks

340-22-153 (1) After October 1, 1980, all persons operating petroleum refineries shall comply with the following rules concerning leaks;

(a) The owner or operator of a petroleum refinery complex, upon detection of a leaking component, which has a volatile organic compound concentration exceeding 10,000 ppm when tested in the manner described below shall:

(A) Include the leaking component on a written list of scheduled repairs; and

(B) Repair and retest the component within 15 days.

(b) Except for safety pressure relief valves, no owner or operator of a petroleum refinery shall install or operate a valve at the end of a pipe or line containing volatile organic compounds unless the pipe or line is sealed with a second valve, a blind flange, a plug, or a cap. The sealing device may be removed only when a sample is being taken during maintenance operations.

(c) Pipeline valves and pressure relief valves in gaseous volatile organic compound service shall be marked in some manner that will be readily obvious to both refinery personnel performing monitoring and the Department.

(2) Testing Procedures: Testing and calibration procedures to determine compliance with this regulation shall be done in accordance with EPA Method 21.

(3) Monitoring, Recordkeeping, Reporting:

(a) The owner or operator of a petroleum refinery shall maintain, as a minimum, records of all testing conducted under this rule; plus records of all monitoring conducted under subsections (b) and (c) of this section.

(b) The owner or operator of a petroleum refinery subject to this regulation shall:

(A) Monitor yearly by the methods referenced in section (2) of this rule all:

- (i) Pump seals;
- (ii) Pipeline valves in liquid service; and
- (iii) Process drains.

(B) Monitor quarterly by the methods referenced in section (2) of this rule all:

- (i) Compressor seals;
- (ii) Pipeline valves in gaseous service; and
- (iii) Pressure relief valves in gaseous service.

(C) Monitor weekly by visual methods all pump seals;

(D) Monitor immediately any pump seal from which liquids are observed dripping;

(E) Monitor any relief valve within 24 hours after it has vented to the atmosphere; and

(F) Monitor immediately after repair of any component that was found leaking.

(c) Pressure relief devices which are connected to an operating flare header, vapor recovery device, inaccessible valves, storage tank valves, or valves that are not externally regulated are exempt from the monitoring requirements in subsection (b) of this section.

(d) The owner or operator of a petroleum refinery, upon the detection of a leaking component, shall affix a weatherproof and readily visible tag bearing an identification number and the date the leak is located to the leaking component. This tag shall remain in place until the leaking component is repaired.

(e) The owner or operator of a petroleum refinery, upon the completion of each yearly and/or quarterly monitoring procedure, shall:

(A) Submit a report to the Department on the 15th day of January, April, July, and September, listing the leaking components that were located but not repaired within the required time limit in subsection (1)(a) of this rule;

(B) Submit a signed statement attesting to the fact that, with the exception of those leaking components listed in paragraph (A) of this subsection, all monitoring and repairs were performed as stipulated.

(f) The owner or operator of a petroleum refinery shall maintain a leaking component monitoring log which shall contain, at a minimum, the following data:

(A) The name of the process unit where the component is located;

(B) The type of component (e.g., valve, seal);

(C) The tag number of the component;

(D) The date on which a leaking component is discovered;

(E) The date on which a leaking component is repaired; and

(F) The date and instrument reading of the recheck procedure after a leaking component is repaired;

(G) A record of the calibration of the monitoring instrument;

(H) Those leaks that cannot be repaired until turnaround, (exceptions to the 15 day requirement of paragraph (1)(a)(B) or this rule;

(I) The total number of components checked and the total number of components found leaking.

(g) Copies of all records and reports required by this section shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report submitted.

(h) Copies of all records and reports required by this section shall immediately be made available to the Department upon verbal or written request at any reasonable time.

(i) The Department may, upon written notice, modify the monitoring, recordkeeping and reporting requirements.

~~[(4) - Exemptions: - This rule does not apply to components handling liquids with a true vapor pressure of less than 10.5 kPa (1.52 psia), where the true vapor pressure is determined at the highest temperature at which the liquid is handled or stored.]~~

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS CH. 468

Hist.: DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Liquid Storage

340-22-160 (1) After April 1, 1981, owners or operators which have tanks storing methanol or other volatile organic compound liquids with a true vapor pressure, as stored, greater than 10.5 kPa (kilo Pascals)(1.52 psia), ~~[but less than 76.7 kPa (11.1 psia)]~~ at actual monthly average storage temperatures, and having a capacity greater than 150,000 liters (approximately 39,000 gallons) shall comply with one of the following

(a) Meet the equipment specifications and maintenance requirements of the federal standards of performance for new stationary sources - Storage Vessels for Petroleum Liquids, 40 CFR 60 Subpart K, and Ka, as amended by Federal Register, April 4, 1980, pages 23379 through 23381;

(b) Be retrofitted with a floating roof or internal floating cover using at least a nonmetallic resilient seal as the primary seal meeting the equipment specifications in the federal standards referred to in subsection (a) of this rule or its equivalent;

(2) All seals used in subsections (1)(b) and (c) of this rule are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears or other opening.

(3) All openings, except stub drains and those related to safety (such as slotted gage wells), are to be sealed with suitable closures. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place; except for slotted gage wells which must have floating seals with one half inch edge gaps or less.

(4) Secondary Seals:

(a) Applicability Subsection (c) of this section applies to all VOC liquid storage vessels equipped with external floating roofs, having capacities greater than 150,000 liters (39,000 gallons).

(b) Exemptions: Subsection (c) of this section does not apply to petroleum liquid storage vessels which:

(A) Are used to store waxy, heavy pour crude oil;

(B) Have capacities less than 1,600,000 liters (420,000 gallons) and are used to store produced crude oil and condensate prior to lease custody transfer;

(C) Contain a VOC liquid with a true vapor pressure of less than 10.5 kPa (1.5 psia) where the vapor pressure is measured at the storage temperature;

(D) Contain a VOC liquid with a true vapor pressure less than 27.6 kPa (4.0 psia):

(i) Are of welded construction; and
(ii) Presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal, or other closure device of demonstrated equivalence approved by the Department: or

(E) Are of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoemounted secondary seal).

(c) After December 31, 1981, no owner of a VOC liquid storage vessel subject to this rule shall store VOC liquid in that vessel unless:

(A) The vessel has been fitted with:

(i) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(ii) A closure or other device which controls VOC emissions with an effectiveness equal to or greater than a seal required under paragraph (A)(i) of this subsection as approved in writing by the Department.

(B) All seal closure devices meet the following requirements:

(i) There are no visible holes, tears, or other openings in the seal(s) or seal fabric;

(ii) The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(iii) For vapor mounted seals, the accumulated area of gaps exceeding 0.32 cm (1/8 inch) in width between the secondary seal and the tank wall are determined by the method in subsection (d) of this section and shall not exceed 21.2 cm² per meter of tank diameter (1.0 in² per foot of tank diameter).

(C) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves,

(i) Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

(ii) Equipped with projections into the tank which remain below the liquid surface at all times.

(D) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(E) Rim vents are set to open only when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

(F) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening;

(G) The owner or operator of a VOC liquid storage vessel with an external floating roof subject to subsection (c) of this section shall:

(i) Perform routine inspections semi-annually [~~once-per-year~~] in order to ensure compliance with paragraphs (A) through (F) of this subsection and the inspections shall include a visual inspection of the secondary seal tag;

(ii) Measure the secondary seal gap annually in accordance with subsection (d) of this section when the floating roof is equipped with a vapor-mounted primary seal; and

(iii) Maintain records of the types of VOC liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of the inspections performed in subparagraphs (G)(i) and (ii).

(H) The owner or operator of a VOC liquid storage vessel with an external floating roof not subject to this regulation but containing a VOC liquid with a true vapor pressure greater than 7.00 kPa (1.0 psi), shall maintain records of the average monthly storage temperature, the type of liquid, and the maximum true vapor pressure for all VOC liquids with a true vapor pressure greater than 7.0 kPa;

(I) The owner or operator of a VOC liquid storage vessel subject to this regulation, shall submit to the Department, as a minimum, annual reports summarizing the inspections;

(J) Copies of all records and reports under paragraphs (G)(H), and (I) of this section shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report submitted;

(K) Copies of all records and reports under this section shall immediately be made available to the Department, upon verbal or written request, at any reasonable time;

(L) The Department may, upon written notice, require more frequent reports or modify the monitoring and recordkeeping requirements, when necessary to accomplish the purposes of this rule.

(d) Secondary Seal Compliance Determination:

(A) The owner or operator of any volatile organic compound source required to comply with section (4) of this rule shall demonstrate compliance by the methods of this section or an alternative method approved by the Department.

(B) A person proposing to conduct a volatile organic compound emissions test shall notify the Department of the intent to test not less than 30 days before the proposed initiation of the tests so the Department may observe the test. The notification shall contain the information required by, and be in a format approved by the Department.

(C) Compliance with paragraph (c)(B)(iii) of this section shall be determined by:

(i) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (1/8 inch) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall; and

(ii) Summing the area of the individual gaps.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS CH. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78 ; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Surface Coating in Manufacturing

340-22-170 (1) After 31, 1982, no person shall operate a coating line which emits into the atmosphere volatile organic compounds greater than the amounts in section (4) of this rule per volume of coating excluding water as delivered to the coating applicators. The limitations shall be based on a daily average except subsection (4)(e) of this rule shall be based on a monthly average. Daily monitoring and monthly reporting of emissions are required after July 1, 1980, for sources which emit or have the potential to emit [emitting] more than 1,000 tons per year of VOC, unless exempted as unnecessary by the Department in writing. The owner or operator shall keep records consistent with compliance time frames (e.g., daily compliance requires daily records).

(2) Exceptions:

(a) This rule does not apply to airplanes painted out of doors in open air; automobile and truck refinishing: customized top coating of automobiles and trucks, if production is less than 35 vehicles per day; marine vessels and vessel parts painted out in the open air; flat wood coating; wood furniture and wood cabinets; wooden doors, mouldings, and window frames; machine staining of exterior wood siding; high temperature coatings (for service above 500° F.); lumber marking coatings; potable water tank inside coatings; high performance inorganic zinc coatings, air dried, applied to fabricated steel; and [paint-used-to-apply] markings by stencil for railroad cars.

(b) This rule does not apply to:

(A) Sources, regulated by this rule, whose potential emissions before and on controls of volatile organic compounds are less than 10 tons per year (or 3 lb VOC/hr or 15 lb VOC/day actual) [40-ton-per-year]; or

(B) Sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance (such as research facilities, pilot plant operations, and laboratories) unless:

(i) The operation of the source is an integral part of the production process; or

(ii) The emissions from the source exceed 363 kilograms (800 pounds) in any calendar month.

(3) Applicability: This rule applies to each coating line, which includes the application area(s), flashoff area(s), air and forced air drier(s), and oven(s) used in the surface coating of the metal parts and products in subsections (4)(a) through (j) of this rule.

(4) Stringency: If more than one emission limitation in this rule applies to a specific coating, then the least stringent emission limitation shall be applied. Process and Limitation:

(a) Can Coating:

(A) Sheet basecoat (exterior and interior) and over-varnish; two-piece can exterior

(basecoat and over-varnish).....2.8 lb/gal:

(B) Two- and three-piece can interior and exterior body spray, two-piece can exterior end

(spray or roll coat).....4.2 lb/gal.

(C) Three-piece can side-seam spray.....5.5 lb/gal.

(D) End sealing compound.....3.7 lb/gal.

(E) End Sealing Compound for fatty foods.....4.4 lb/gal.

(b) Fabric Coating.....2.9 lb/gal.

(c) Vinyl Coating.....3.8 lb/gal.

(d) Paper Coating.....	2.9 lb/gal.
(e) Existing Coating of Paper and Film in the Medford-Ashland AQMA.....	55 lb.*
* 55 lb VOC per 1000 sq. yds. of material per pass.	
(f) Auto and Light Duty Truck Coating:	
(A) Prime.....	1.9 lb/gal.
(B) Topcoat.....	2.8 lb/gal.
(C) Repair.....	4.8 lb/gal.
(g) Metal Furniture Coating.....	3.0 lb/gal.
(h) Magnet Wire Coating.....	1.7 lb/gal.
(i) Large Appliance Coating.....	2.8 lb/gal.
(j) Miscellaneous Products and Metal Parts:	
(A) Clear Coatings.....	4.3 lb/gal.
(B) Force Air Dried or Air Dried.....	3.5 lb/gal.
(C) Extreme Performance Coatings.....	3.5 lb/gal.
(D) Other Coatings (i.e., Powder, oven dried).....	3.0 lb/gal.
{(E) -High-Performance-Architectural-Coatings-on-Aluminum.....}	6.2 lb/gal.}

(5) Compliance Determination: Compliance with this rule shall be determined by testing in accordance with 40 CFR Part 60 EPA Method 18, 24, 25, a material balance method, or an equivalent plant specific method approved by EPA and the Department and on file with the Department. The limit in section (1) of this rule of VOC in the coating is based upon an assumed solvent density, and other assumptions unique to a coating line; where conditions differ, such as a different solvent density, a plant specific limit developed pursuant to the applicable Control Technology Guideline document may be submitted to the Department and EPA for approval.

(6) Reduction Method: The emission limits of section (1) of this rule shall be achieved by:

- (a) The application of low solvent content coating technology (formulations which directly meet the values required); or
- (b) An incineration system which oxidizes at least 90.0 percent of the nonmethane volatile organic compounds entering the incinerator (VOC measured as total combustible carbon) to carbon dioxide and water; or
- (c) An equivalent means of VOC removal. The equivalent means must be approved in writing by the Department and EPA. The average time period used to determine equivalency shall not exceed twenty-four hours. (equivalency calculated on a lb/solid applied basis). A capture system must be used in conjunction with the emission control systems in subsections (6)(b) and (c) of this rule. The design and operation of a capture system must be consistent with good engineering practice and shall be required to enable overall emission reduction equivalent to the emission limitations in section (1) of this rule. The protocols for determining the VOC capture system efficiency must conform to EPA guidance or an equivalent plant specific method approved by and on file with the Department.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
 DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Degreasers

340-22-180 Cold cleaners open top vapor degreasers, and conveyORIZED degreasers are exempt from the following rules if they use fluids which are not photochemically reactive. These fluids are: $C_2Cl_3F_3$ trichlorotrifluoroethane, also known as Freon 113 or Freon TF; CH_2Cl_2 methylene chloride; 1, 1, 1- $C_2H_3Cl_3$, methyl chloroform, also known as 1-1-1 trichloroethane or chlorothen VG.

(1) The owner or operator of dip tank cold cleaners shall comply with the following equipment specifications after April 1, 1980:

(a) Be equipped with a cover that is readily opened and closed. This is required of all cold cleaners, whether a dip tank or not;

(b) Be equipped with a drainrack, suspension basket, or suspension hoist that returns the drained solvent to the solvent bath;

(c) Have a freeboard ratio of at least 0.5;

(d) Have a visible fill line.

(2) An owner or operator of a cold cleaner shall be responsible for following the required operating parameters and work practices. The owner shall post and maintain in the work area of each cold cleaner a pictograph or instructions clearly explaining the following work practices:

(a) The solvent level shall not be above the fill line;

(b) The spraying of parts to be cleaned shall be performed only within the confines of the cold cleaner;

(c) The cover of the cold cleaner shall be closed when not in use or when parts are being soaked or cleaned by solvent agitation;

(d) Solvent-cleaned parts shall be rotated to drain cavities or blind holes and then set to drain until dripping has stopped;

(e) Waste solvent shall be stored in covered leak-proof containers and returned to the supplier or a disposal firm handling solvents for final disposal, such that no greater than 20 percent of the waste (by weight) can evaporate into the atmosphere. Handling of the waste must also be done in accordance with rules 340-100.

(3) The owner or operator shall maintain cold cleaners in good working condition and free of solvent leaks.

(4) If the solvent has a volatility greater than 2.0 kPa (0.3 psi) measured at 38° C. (100° F.), or if the solvent is agitated or heated, then the cover must be designed so that it can be easily operated with one hand or foot.

(5) If the solvent has a volatility greater than 4.3 kPa (0.6 psi) measured at 38° C. (100° F.), then the drainage facility must be internal, so that parts are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit unto the cleaning system.

(6) If the solvent has a volatility greater than 4.3 kPa (0.6 psi) measured at 38° C. (100° F.), or if the solvent is heated above 50° C. (120° F.), then one of the following solvent vapor control systems must be used:

(a) The freeboard ratio must be equal to or greater than 0.70; or

(b) Water must be kept over the solvent, which must be insoluble in and heavier than water; or

(c) Other systems of equivalent control, such as a refrigerated chiller.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Open Top Vapor Degreasers

340-22-183 (1) The owner or operator of all open top vapor degreasers shall comply with the following equipment specifications after April 1, 1980:

(a) Be equipped with a cover that may be readily opened and closed. When a degreaser is equipped with a lip exhaust, the cover shall be located below the lip exhaust. The cover shall move horizontally or slowly so as not to agitate and spill the solvent vapor. The degreaser shall be equipped with at least the following three safety switches:

(A) Condenser flow switch and thermostat - (shuts off sump heat if coolant is either not circulating or too warm).

(B) Spray safety switch - (shuts off spray pump or conveyor if the vapor level drops excessively, e.g., greater than 10 cm (4 inches)).

(C) Vapor level control thermostat - (shuts off sump heat when vapor level rises too high).

(b) Have the following:

(A) A closed design such that the cover opens only when the part enters or exits the degreaser (and when the degreaser starts up, forming a vapor layer, the cover may be opened to release the displaced air) and either;

(B) A freeboard ratio equal to or greater than 0.75; or

(C) A freeboard, refrigerated or cold water, chiller.

(c) Post a permanent and conspicuous pictograph or instructions clearly explaining the following work practices:

(A) Do not degrease porous or absorbent materials such as cloth, leather, wood or rope;

(B) The cover of the degreaser should be closed at all times except when processing workloads;

(C) When the cover is open the lip of the degreaser should not be exposed to steady drafts greater than 15.3 meters per minute (50 feet/minute);

(D) Rack parts so as to facilitate solvent drainage from the parts;

(E) Workloads should not occupy more than one-half of the vapor-air interface area;

(F) When using a powered hoist, the vertical speed of parts in and out of the vapor zone should be less than 3.35 meters per minute (11 feet/minute);

(G) Degrease the workload in the vapor zone until condensation ceases;

(H) Spraying operations should be done within the vapor layer;

(I) Hold parts in the degreaser until visually dry;

(J) When equipped with a lip exhaust, the fan should be turned off when the cover is closed;

(K) The condenser water shall be turned on before the sump heater when starting up a cold vapor degreaser. The sump heater should be turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser;

(L) Water shall not be visible in the solvent stream from the water separator;

(2) A routine inspection and maintenance program shall be implemented for the purpose of preventing and correcting solvent losses, as for example, from dripping drain taps, cracked gaskets, and malfunctioning equipment. Leaks must be repaired immediately.

(3) Sump drainage and transfer of hot or warm solvent shall be carried out using threaded or other leakproof couplings.

(4) Still and sump bottoms shall be kept in closed containers.

(5) Waste solvent shall be stored in covered leak-proof containers and returned to the supplier or a disposal firm handling solvents for final disposal, such that no greater than 20 percent of the waste (by weight) can evaporate into the atmosphere. Handling of the waste must also be done in accordance with rules 340-100.

(6) Exhaust ventilation shall not exceed $20 \text{ m}^3/\text{minute}$ per m^2 (65 cfm per foot^2) of degreaser open area, unless necessary to meet OSHA requirements. Ventilation fans shall not be used near the degreaser opening.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Conveyorized Degreasers

340-22-186 (1) The owner or operator of conveyorized cold cleaners and conveyorized vapor degreasers shall comply with the following operating requirements after April 1, 1980:

(a) Exhaust ventilation should not exceed 20 cubic meters per minute of square meter (65 cfm per foot^2) of degreaser opening, unless necessary to meet OSHA requirements. Workplace fans should not be used near the degreaser opening.

(b) Post in the immediate work area a permanent and conspicuous pictograph or instructions clearly explaining the following work practices:

(A) Rack parts for best drainage;

(B) Maintain vertical speed of conveyed parts to less than 3.35 meters per minute (11 feet/minute);

(C) The condenser water shall be turned on before the sump heater when starting up a cold vapor degreaser. The sump heater shall be turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser.

(2) A routine inspection and maintenance program shall be implemented for the purpose of preventing and correcting solvent losses, as for example, from dripping drain taps, cracked gaskets, and malfunctioning equipment. Leaks must be repaired immediately.

(3) Sump drainage and transfer of hot or warm solvent shall be carried out using threaded or other leakproof couplings.

(4) Still and sump bottoms shall be kept in closed containers.

(5) Waste solvent shall be stored in covered leak-proof containers and returned to the supplier or a disposal firm handling solvents for final disposal, such that no greater than 20 percent of the waste (by weight) can evaporate into the atmosphere. Handling of the waste must also be done in accordance with rules 340-100.

(6) All conveyorized cold cleaners and conveyorized vapor degreasers with air/vapor interfaces of 2.0 m² or greater shall have one of the following major control devices installed and operating after April 1, 1982:

- (a) Carbon adsorption system, exhausting less than 25 ppm of solvent averaged over a complete adsorption cycle (based on exhaust ventilation of 15 m³/minutes per m² of air/vapor area, when down-time covers are open); or
- (b) Refrigerated chiller with control effectiveness equal to or better than subsection (a) of this section; or
- (c) A system with control effectiveness equal to or better than subsection (a) of this section.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

Asphaltic and Coal Tar Pitch Used for Roofing Coating

340-22-190 (1) A person shall not operate or use equipment after April 1, 1980, for melting, heating or holding asphalt or coal tar pitch for the on-site construction, installation, or repair of roofs unless the gas-entrained effluents from such equipment are contained by close fitting covers.

(2) A person operating equipment subject to this rule shall maintain the temperature of the asphaltic or coal tar pitch below 285° C. (550° F.), or 17° C. (30° F.) below the flash point whichever is the lower temperature, as indicated by a continuous reading thermometer.

(3) The provisions of this rule shall not apply to equipment having a capacity of 100 liters (26 gallons) or less; or to equipment having a capacity of 600 liters (159 gallons) or less provided it is equipped with a tightly fitted lid or cover.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 21-1978, f. & ef. 12-28-78; DEQ 17-1979, f. & ef. 6-22-79;
DEQ 23-1980, f. & ef. 9-26-80

Flat Wood Coating

340-22-200 (1) This rule applies to all flat wood manufacturing and surface finishing facilities, that manufacture the following products:

- (a) Printed interior panels made of hardwood plywood and thin particle board;
- (b) Natural finish hardwood plywood panels; or
- (c) Hardboard paneling with Class II finishes.

(2) This rule does not apply to the manufacture of exterior siding, tileboard, particle board used as a furniture component, or paper or plastic laminates on wood or wood-derived substrates.

(3) After December 31, 1982, no owner or operator of a flat wood manufacturing facility subject to this regulation shall emit volatile organic compounds from a coating application system in excess of:

- (a) 2.9 kg per 100 square meters of coated finished product (6.0 lb/1,000 square feet) from printed interior panels, regardless of the number of coats applied;

(b) 5.8 kg per 100 square meters of coated finished product (12.0 lb/1,000 square feet) from natural finish hardwood plywood panels, regardless of the number of coats applied; and

(c) 4.8 kg per 100 square meters of coated finished product (10.0 lb/1,000 square feet) from Class II finishes on hardboard panels, regardless of the number of coats applied.

(4) The emission limits in section (3) of this rule shall be achieved by:

(a) The application of low solvent content coating technology; or

(b) An incineration system which oxidizes at least 90.0 percent of the nonmethane volatile organic compounds entering the incinerator (VOC measured as total combustible carbon) to carbon dioxide and water; or

(c) An equivalent means of VOC removal. The equivalent means must be approved in writing by the Department and EPA. The time period used to determine equivalency shall not exceed twenty-four hours.

(5) A capture system must be used in conjunction with the emission control systems in subsections (4)(b) and (c) of this rule. The design and operation of a capture system must be consistent with good engineering practice and shall be required to provide for an overall emission reduction sufficient to meet the emission limitations in section (3) of this rule.

(6) Compliance Demonstration:

(a) The owner or operator of a volatile organic compound source required to comply with this rule shall demonstrate compliance by the methods of subsection (c) of this section, or an alternative method approved by the Department and EPA.

(b) A person proposing to conduct a volatile organic compound emissions test shall notify the Department of the intent to test not less than 30 days before the proposed initiation of the tests so the Department may observe the test.

(c)(A) Test procedures in 40 CFR Part 60 EPA Method 18, 24, and 25 shall be used to determine compliance with section (3) of this rule. [~~must be approved by the Department and be consistent with:~~

~~(i) EPA Guideline Series document, "Measurement of Volatile Organic Compounds", EPA-450/2-78-041; and~~

~~(ii) Appendix A of "Control of Volatile Organic Emissions from Existing Stationary Sources -- Volume II: Surface Coating of Gans, Coils, Paper, Fabrics, Automobile, and Light-Duty Trucks", EPA-450/77-008.]~~

(B) The Department may accept, instead of the coating analysis required by paragraph (c)(A) [~~(ii)~~] of this section, a certification by the coating manufacturer of the composition of the coating, if supported by actual batch formulation records. In the event of any inconsistency between a Method 18, 24, or 25 test and a facility's formulation data, the Method 18, 24, or 25 test will govern.

(d) If add-on control equipment is used, continuous monitors of the following parameters shall be installed, periodically calibrated, and operated at all times that the associated control equipment is operating:

(A) Exhaust gas temperature of all incinerators;

(B) Temperature rise across a catalytic incinerator bed; and

(C) Breakthrough of VOC on a carbon absorption unit.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Rotogravure and Flexographic Printing

340-22-210 (1) After July 1, 1982, no owner or operator of a packaging rotogravure, publication rotogravure, flexographic or specialty printing facility, with the potential to emit before add on controls greater [emitting more] than 90 mg/year (100 ton/year), employing ink containing solvent may operate, cause, allow or permit the operation of the press unless:

(a) The volatile fraction of ink, as it is applied to the substrate contains 25.0 percent by volume or less of organic solvent and 75 percent by volume or more of water; or

(b) The ink as it is applied to the substitute, less water, contains 60.0 percent by volume or more nonvolatile material; or

(c) The owner or operator installs and operates:

(A) A carbon absorption system which reduces the volatile organic emissions from the capture system by at least 90.0 percent by weight;

(B) An incineration system which oxidizes at least 90.0 percent of the nonmethane volatile organic compounds (VOC measured as total combustible carbon) to carbon dioxide and water; or

(C) An alternative volatile organic compound emissions reduction system demonstrated to have at least a 90.0 percent reduction efficiency, measured across the control system, and has been approved by the Department.

(2) A capture system must be used in conjunction with the emission control systems in subsection (1)(c) of this rule. The design and operation of a capture system must be consistent with good engineering practice, and shall be required to provide for an overall reduction in volatile organic compound emissions of at least:

(a) 75.0 percent where a publication rotogravure process is employed;

(b) 65.0 percent where a packaging rotogravure process is employed; or

(c) 60.0 percent where a flexographic printing process is employed.

(3) Compliance Demonstration:

(a) Upon request of the Department, the owner or operator of a volatile organic compound source shall demonstrate compliance by the methods of this section or an alternative method approved by the Department and EPA. All tests shall be made by, or under the direction of, a person qualified by training and/or experience in the field of air pollution testing.

(b) A person proposing to conduct a volatile organic compound emissions test shall notify the Department of the intent to test not less than 30 days before the proposed initiation of the tests so the Department may observe the test. The notification shall contain the information required by, and be in a format approved by, the Department.

(c) Test procedures to determine compliance with this rule must be approved by the Department and consistent with:

(A) EPA test Method 18, 24, or 25, 40 CFR Part 60; [EPA-Guideline Series document, -"Measurement of Volatile Organic Compounds", -EPA-450-/2-78-041; -and

(B) Appendix A of "Control Volatile Organic Emissions from Existing Stationary Sources Volume II: Surface Coating of Cars, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks", -EPA-450-/2-77-008;]

~~{(G)}~~(B) The Department may accept, instead of ink-solvent analysis, a certification by the ink manufacturer of the composition of the ink solvent, if supported by actual batch formulation records. In the event of any inconsistency between an EPA Method test and a facility's formulation data, the EPA Method test will govern.

(d) If add-on control equipment is used, continuous monitors of the following parameters shall be installed, periodically calibrated, and operated at all times that the associated control equipment is operating:

- (A) Exhaust gas temperature of all incinerators;
- (B) Breakthrough of VOC on a carbon adsorption unit; and
- (C) Temperature rise across a catalytic incinerator bed.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86.

Perchloroethylene Dry Cleaning

340-22-220 (1) After January 1, 1982 the owner or operator of a perchloroethylene dry cleaning facility shall:

- (a) Vent the entire dryer exhaust through a properly functioning carbon adsorption system or equally effective control device;
- (b) Emit no more than 100 ppmv of volatile organic compounds from the dryer control device before dilution;
- (c) Immediately repair all components found to be leaking liquid volatile organic compounds;
- (d) Cook or treat all diatomaceous earth filters so that the residue contains 25 kg or less of volatile organic compounds per 100 kg of wet waste material;
- (e) Reduce the volatile organic compounds from all solvent stills to 60 kg or less per 100 kg of wet waste material;
- (f) Drain all filtration cartridges, in the filter housing, for at least 24 hours before discarding the cartridges; and
- (g) When possible, dry all drained cartridges without emitting volatile organic compounds to the atmosphere.

(h) Any other filtration or distillation system can be used if equivalency is demonstrated. Any system reducing waste losses below 1 kg solvent per 100 kg clothes cleaned will be considered equivalent.

~~{(h)}~~(i) For dry-to-dry configuration units, the following shall apply in lieu of subsection (1)(a) and (b) of this rule:

(A) The dryer/condenser system must be closed to the atmosphere at all times except when articles are being loaded or unloaded through the door of the machine.

(B) The dryer/condenser system must not vent to the atmosphere until the air-vapor stream temperature on the outlet side of the refrigerated condenser is equal to or less than 45°F.

(2) Exemptions: The requirements of subsections (1)(a) and (b) of this rule are not applicable to:

- (a) Coin-operated facilities;

(b) Facilities where an absorber or other necessary control equipment cannot be accommodated because of inadequate space; or
(c) Facilities with insufficient steam capacity to desorb absorbers; or

~~(d) -- Small facilities which consume less than 320 gallons of perchloroethylene per year.]~~

(3) Compliance Demonstration: Compliance to this rule shall be demonstrated as follows:

(a) Compliance with subsections (1)(a), (f), and (g) of this rule shall be determined by means of a visual inspection.

(b) Compliance with subsections (1)(c) of this rule shall be determined by means of a visual inspection of the following components:

- (A) Hose connections, unions, couplings and valves;
- (B) Machine door gaskets and seatings;
- (C) Filter head gasket and seating;
- (D) Pumps;
- (E) Base tanks and storage containers;
- (F) Water separators;
- (G) Filter sludge recovery;
- (H) Distillation unit;
- (I) Diverter valves;
- (J) Saturated lint from lint basket; and
- (K) Cartridge filters;

(c) Compliance with subsection (1)(b) of this rule shall be determined by:

(A) A test consistent with EPA Guideline Series document "Measurement of Volatile Organic Compounds", EPA-450/2-78-041 and in accordance with Draft EPA Method 23 "Determination of Halogenated Organics from Stationary Sources" (proposed 43 FR 39766, June 11, 1980); or

(B) The proper installation, operation, and maintenance of equipment which has been demonstrated to be adequate to meet the emission limits of 100 ppmv.

(d) Compliance with subsections (1)(d) and (e) of this rule shall be determined by means of the procedure in the "Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation", ANSI/ASTM D322.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 23-1980, f. & ef. 9-26-80; DEQ 3-1986, f. & ef. 2-12-86

STANDARD FOR AUTOMOTIVE GASOLINE

Reid Vapor Pressure for Gasoline

340-22-300 (1)(a) No person shall sell or supply as a fuel for motor vehicles, during the period of June 1 through September 15 of each year, a gasoline having a Reid Vapor Pressure greater than ten and a half pounds per square inch (10.5 psi).

(b) This section shall not apply to gasoline delivered to retail outlets more than 14 days immediately preceding the periods established.

(c) Gasoline and ethyl alcohol blends of at least 9% by volume (gasohol) are given a one pound per square inch allowance, so as not to exceed an RVP of 11.5 psi.

(2)(a) As used in this regulation, "gasoline" means any blend of petroleum distillate sold as a motor fuel having a Reid Vapor Pressure of more than four pounds as defined by the most current method of ASTM Method D 323, and meeting the other general specifications defined by the most current method of ASTM D 439 or D 4814.

(b) ASTM refers to the standards test methods and procedures published by the American Society for Testing and Materials.

(3) The Reid Vapor Pressure specified in paragraph (1) of this section shall be measured according to the procedures established in the most current method of ASTM D 323.

(4) The geographic coverage of this regulation shall be consistent with boundary specified in ASTM D 439, specifically all of Oregon, west of 122 degrees Longitude.

(5) Samples submitted to the Department by refiners or distributors of gasoline shall be sampled and tested pursuant to methods established by the most current method of ASTM D 323.

(6) The Department reserves the right to audit records and to sample gasoline for the purposes of compliance. Samples of petroleum shall be sampled pursuant and tested by methods established by the most current method of ASTM D 323 or by methods established under the California Air Resources rule, Title 13 §2251 or Part 80 of Title 40 of the Code of Federal Regulations - Fuel and Fuel Additives.

(7) Pursuant to ORS 468.130, civil penalties of not more than \$10,000 per day may be assessed for violation of paragraph 1 of this section at wholesale fuel facilities, including terminals, fleet facilities, cardlocks, and not more than \$2500 per day at retail.

(8) The effective date of this section is June 15, 1989.

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(6/90)

**RULEMAKING STATEMENTS FOR
PROPOSED VOC RULE AMENDMENTS**

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the intended action to amend a rule.

(1) **Legal Authority**

This proposal amends Oregon Administrative Rules (OAR) 340-22-100 to 340-22-300. It is proposed under authority of Oregon Revised Statutes (ORS) Chapter 468.020, 468.280, and 468.295.

(2) **Need for these rules**

To align the Department's Rules on General Emission Standards to Volatile Organic Compounds with federal Control Technology Guidelines (CTG), as part of the revision to the State Implementation Plan.

(3) **Principal Documents Relied Upon**

OAR 340, Division 22, General Gaseous Emissions

EPA Office of Air Quality Planning and Standards: Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations, May 25, 1988.

Engineering Science, Inc.: Final Report for Washington and Oregon VOC Program Evaluation, July 1988.

EPA Office of Air Quality Planning and Standards: Summary of Group I and Group II Control Technique Guideline Documents for Control of Volatile Organic Emissions from Existing Stationary Sources, December 1978 and 1979.

LAND USE CONSISTENCY STATEMENT

The Department has concluded that the proposed rule amendments do not appear to affect land use and will be consistent with Statewide Planning Goals and Guidelines.

With regard to Goal 6, (air, water, and land resources quality), the proposed changes are designed to enhance and preserve air quality in the state and are considered consistent with the goal. The proposed rule changes do not appear to conflict with the other goals.

Public comment on any land use issue involved is welcome and may be submitted in the same fashion as indicated for other testimony on these rules.

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.

FISCAL AND ECONOMIC IMPACT STATEMENT

Sources affected by the Department's VOC rules are required to meet emission standards which are based on reasonably available control technology (RACT) and information contained in federal Control Technique Guidelines (CTG). Therefore, sources affected by these rules are already subject to the costs of control and compliance.

The proposed rule amendments to the VOC rules will eliminate or lower certain exemption points, requiring several smaller sources to apply RACT to achieve these VOC emission standards. The proposed amendments will also require RACT on a permanent basis for any source which exceeds any exemption point listed in a VOC rule. This means that a source would not be able to reinstall minimal (less than RACT) controls if emissions fall below the exemption point, and would always be subject to the control requirement of the regulation.

In the case of small surface coating operations (miscellaneous metal coaters), the lowering of the exemption point from 40 tons/year to 10 tons/year will require these sources to control VOC emissions by either process modifications or exhaust gas treatment.

The federal Control Technology Guidance (CTG) document for miscellaneous metal coating (EPA-450/2-78-015) provides a general cost analysis for a small size coating line (139,000 m²/yr, 1,500,000 ft²/yr), for a one-color, single or two-coat operation, using either flow, dip, or spray-coat applications. The estimated cost range reflects several different VOC control options (costs based on CTG 1977 dollars):

o Capital Costs (\$1000)	12 - 761
o Annualized Costs (\$1000)	5 - 206

o Cost Effectiveness	
(\$/Mg of solvent controlled)	294 - 13,733
(\$/ton)	267 - 12,458

In general, the cost estimates outlined in this CTG indicate that modification of the coating process to a low-solvent coating is more cost effective for control of VOCs than installing exhaust gas controls. However, given the wide range in estimated costs, the specific economic feasibility of applying this CTG to each individual source cannot be assessed by the Department. Costs associated with modification of the coating process to a low-solvent coating vary considerably based on coating material costs, process equipment requirements, dry coating thickness, coating transfer efficiency, raw material costs, and coating specifications. These parameters significantly affect control costs and the cost-effectiveness of different options, and therefore can only be determined by the individual source.

For the small surface coaters affected by these proposed rule amendments, the Department recognizes that there will be situations where current technology does not provide low-solvent coatings which can successfully replace conventional coatings for some specialty coatings now provided. If other process modifications or use of add-on technology for exhaust gas treatment cannot be applied to remedy these situations, some specific coating lines may have to be discontinued.

BRF:a
 PLAN\AH10050
 (6/90)

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

NOTICE OF PUBLIC HEARING FOR PROPOSED VOC RULES

Hearing Date: July 31, 1990
Comments Due: August 3, 1990

- WHO IS AFFECTED:** Any source which emits air contaminants of Volatile Organic Compounds (VOC).
- WHAT IS PROPOSED:** The Department of Environmental Quality is proposing amendments to its General Emission Standards for Volatile Organic Compounds, OAR 340-22-100 through 340-22-300.
- WHAT ARE THE HIGHLIGHTS:** The Department's proposed rule amendments to its VOC rules will better assure attainment of the National Ambient Air Quality Standard for Ozone by incorporating the following changes consistent with federal guidelines: 1) lowering the exemption point for small surface coating operations; 2) changing monthly recordkeeping for small surface coaters to daily; 3) remove generic exemption for stencil coating operations, allowing an exemption only for railroad car stencil coating; 4) remove five other exemptions from the rules; 5) require RACT permanently for any source exceeding an applicable exemption point; and 6) add 19 rule definitions and revise 8 other definitions consistent with federal definitions.
- HOW TO COMMENT:** Copies of the complete proposed rule package may be obtained from 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:
- 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 Friday, August 3, 1990.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

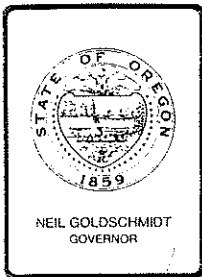
Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

**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 as part of the State Clean Air Act Implementation Plan. The Commission's deliberation should come in September 21, 1990, 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.

BRF:a
PLAN\AH10052
(6/90)



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: E
Division: Air Quality
Section: Planning & Development

SUBJECT:

Grants Pass Particulate Matter (PM₁₀) Control Strategy

PURPOSE:

Revision of the State Implementation Plan (SIP) to include the PM₁₀ air pollution control strategy for the Grants Pass Nonattainment Area.

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 ___

Meeting Date: June 29, 1990
Agenda Item: E
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DESCRIPTION OF REQUESTED ACTION:

This report requests authorization by the Environmental Quality Commission (EQC, Commission) to hold a public hearing on the proposed PM₁₀ control strategy for the Grants Pass Urban Growth Boundary (UGB) area within Josephine County.

The proposed control strategy document describes the State of Oregon's plan to meet Federal Clean Air Act requirements to attain the 24-hour PM₁₀ standard by the end of 1992 and maintain both the annual and 24-hour PM₁₀ standards within the area of the Grants Pass UGB through the year 2000. This control strategy document is proposed as a revision to the State Implementation Plan (OAR 340-20-047). This action will make the previously adopted state rules for industrial sources (applicable to Grants Pass) federally enforceable, as required by the Clean Air Act.

Additional details on the proposal are outlined in the Executive Summary of the control strategy (Attachment A).

AUTHORITY/NEED FOR ACTION:

<input type="checkbox"/> Required by Statute: _____	Attachment _____
Enactment Date: _____	
<input checked="" type="checkbox"/> Statutory Authority: <u>ORS 468.305</u>	Attachment <u>E</u>
<input type="checkbox"/> Pursuant to Rule: _____	Attachment _____
<input type="checkbox"/> Pursuant to Federal Law/Rule: _____	Attachment _____
<input type="checkbox"/> Other: _____	Attachment _____
<input checked="" type="checkbox"/> Time Constraints: _____	

The U.S. Environmental Protection Agency (EPA) adopted new particulate National Ambient Air Quality Standards (NAAQS) for PM₁₀ effective July 31, 1987. The Federal Clean Air Act requires that states develop and adopt SIP revisions to assure that areas which exceed the NAAQS are brought into attainment within a 49-month time frame following adoption of the new health standards (by September 1991 for PM₁₀).

The adopted PM₁₀ control strategies were due to EPA as SIP revisions by May 1988, but none of the states were able to meet this deadline. The Sierra Club has sued EPA for failure to require states nationally to submit PM₁₀ plans according to the Clean Air Act schedule. The Department of Environmental Quality (Department) and EPA Region 10 agreed to a November 1990 PM₁₀ SIP submittal date which will be offered in the suit settlement negotiations. This date has been incorporated into the FY91 State/EPA Agreement as well.

Meeting Date: June 29, 1990
Agenda Item: E
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Congress is expected to complete the reauthorization of the Clean Air Act later this year. This may or may not result in extensions of the deadlines for PM₁₀ SIP submittals and attainment of PM₁₀ standards in Oregon.

DEVELOPMENTAL BACKGROUND:

<input checked="" type="checkbox"/> Advisory Committee Report/Recommendation	Attachment <u>F</u>
<input type="checkbox"/> Hearing Officer's Report/Recommendations	Attachment <u> </u>
<input type="checkbox"/> Response to Testimony/Comments	Attachment <u> </u>
<input checked="" type="checkbox"/> Prior EQC Agenda Items	Attachment <u>G</u>
<input type="checkbox"/> Supplemental Background Information:	Attachment <u> </u>

Preliminary draft control plan documents were sent to EPA Region 10, City of Grants Pass, Josephine County and Southern Oregon environmental organizations. Comments were received from EPA Region 10, Josephine County and the Coalition to Improve Air Quality (Coalition). The City of Grants Pass sent a letter indicating agreement with the Josephine County Commissioner's comments, which were generally supportive of the proposed plan. Changes were made in the revised draft to address the local government and EPA comments, and several of the Coalition comments. The Department and the Coalition continue to disagree on some technical issues (refer to Attachment H of the Medford-Ashland AQMA staff report), most notably the relative contribution of woodstoves and industry to the PM₁₀ problem.

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

Implementation of the PM₁₀ control strategy involves residents, industries, local governments, and state and federal agencies. The two groups most affected by the proposed PM₁₀ control strategy for the Grants Pass area are the owners/operators of wood products industries and residents with woodstoves or fireplaces. The economic impacts from the industrial rules, which have been adopted already, and the voluntary woodburning curtailment program are outlined in Attachment C.

Wood products industry emissions will be reduced by additional control requirements on veneer dryers and large wood-fired boilers at plywood plants, including more extensive source testing and continuous emission monitoring in order to maximize performance of pollution control equipment.

Woodstove and fireplace emissions will be reduced by an expanded public information program, an area wide local voluntary woodburning curtailment program and the Oregon woodstove certification program. Approximately 4,200 homes (1986 estimate) within the Grants Pass UGB would be affected.

Meeting Date: June 29, 1990
Agenda Item: E
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There are 1 to 10 expected curtailment days per year on average. Compliance with the voluntary curtailment program is expected to be 25 percent, based on experience in other areas.

PROGRAM CONSIDERATIONS:

The new industrial emission control and monitoring requirements will require additional plan reviews, inspections, monitoring report reviews and other compliance assurance activities by Department staff. This additional work will be done by shifting existing resources, resulting in less attention to lower priority sources and an increased backlog in some permit or inspection activities. The Department intends to address this backlog problem in decision packages in the next legislative session.

The daily decision on woodburning curtailment programs will be based on air quality information from the Department's existing air monitoring network and meteorological information from the National Weather Service. The daily woodburning decision (red, yellow, green call) is expected to be made locally. However, the Department could implement a voluntary woodburning curtailment program if local governments fail to implement such a program, or are prevented from doing so.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

The major alternatives are:

1. Proceed with completion and adoption of the Grants Pass PM₁₀ control strategy as a revision to the State Implementation Plan;
2. Delay submittal of the State Implementation Plan until Congress reauthorizes the Clean Air Act and new PM₁₀ schedules possibly go into effect;
3. Do not submit a State Implementation Plan and allow EPA to impose sanctions or develop and implement a Federal Implementation Plan for the Grants Pass area;
4. Wait for the operational details of the voluntary woodburning curtailment program from local government (necessary elements include a comprehensive public awareness/information program, PM₁₀ level at which curtailment is called, curtailment notification procedures, exemptions and surveillance and tracking procedures to monitor program effectiveness).

Meeting Date: June 29, 1990
Agenda Item: E
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5. Delay submittal and continue to pursue resolution of the source impacts disagreement with The Coalition.

The Clean Air Act will likely be reauthorized this fall after work is completed by a conference committee which will be reconciling differences in Senate and House Bills which were recently passed. In terms of PM₁₀, the Senate Bill is far more specific than the House Bill and it likely will be the pattern for the final Act. The Senate Bill directs EPA to negotiate a control plan submittal date with the states not to exceed two years. The Bill requires attainment to be demonstrated as expeditiously as practicable but not later than the end of 1994.

With respect to the status of the states current PM₁₀ SIP development, most work has been completed. The Department has negotiated a reasonable plan submittal and attainment date with EPA which has been incorporated into the FY91 State/EPA Agreement. This agreement was adopted by the Commission at its May 25, 1990 meeting. Therefore, it is not certain that EPA would be inclined to allow Oregon much if any additional time to submit PM₁₀ plans and reach attainment once the Clean Air Act is reauthorized. More importantly, delaying adoption of the PM₁₀ plan could result in delaying achievement of healthful air quality for the public.

If the state does not adopt a plan, EPA may take federal action under the authority of the current Clean Air Act. This authority is expected to continue under the reauthorized Act.

With respect to waiting for operational details for voluntary woodburning curtailment, the Department believes that it is realistic to secure the necessary local commitments and to have the final documentation available by the time the Commission considers final adoption of PM₁₀ control plans in November 1990. This is based on already having the general support for the control plan from both Josephine County and the City of Grants Pass and the experience gained in putting together voluntary curtailment programs in Medford and Klamath Falls.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission authorize a public hearing on the proposed PM₁₀ control strategy as a revision to the State Implementation Plan. The Department believes that the proposed strategy is a balanced and reasonable combination of emission reduction elements that will be adequate to attain and maintain the PM₁₀ health and welfare standards in the Grants Pass area in an expeditious manner. Furthermore, the Department believes it is in the

Meeting Date: June 29, 1990
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best interest of the public to proceed ahead now with the PM₁₀ plan adoption process as a revision to the State Implementation Plan to bring about healthful air quality as expeditiously as possible.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed PM₁₀ control strategy for the Grants Pass area is consistent with Goals 2, 3, 4, and 5 of the Strategic Plan.

ISSUES FOR COMMISSION TO RESOLVE:

1. Should the proposed revisions to the State Implementation Plan be delayed until the Department and the Coalition to Improve Air Quality fully agree on the technical support analysis?
2. Should the proposed revisions to the State Implementation Plan be delayed until after reauthorization of the Clean Air Act?
3. Should the proposed revisions to the State Implementation Plan be delayed until local governments finalize the operational details of a voluntary woodburning curtailment program?

INTENDED FOLLOWUP ACTIONS:

1. Hold public hearing in Grants Pass in August 1990.
2. Summarize hearing testimony, respond to issues raised, revise proposal as necessary, recommend adoption to the Commission at its November 1990 EQC Meeting.

Approved:

Section:

Division:

Director:

John F. Kowalyngh
Nickie Fitch
[Signature]

Report Prepared By: Howard Harris
Phone: 229-6086
Date Prepared: June 12, 1990

**Draft State Implementation Plan
for Particulate Matter**

**Grants Pass, Oregon
Nonattainment Area**

**A Plan for Attaining and
Maintaining the National Ambient
Air Quality Standard for PM₁₀**

**State of Oregon
Department of Environmental Quality
Air Quality Division**

June 1990

State of Oregon
Department of Environmental Quality
Air Quality Division

State Implementation Plan For
PM₁₀ in Grants Pass

A Plan for Attaining and Maintaining the
National Ambient Air Quality Standard
For PM₁₀

June 1990

Preface and Acknowledgements

This document describes the State of Oregon's plan for attaining and maintaining the National Ambient Air Quality Standard (NAAQS) for PM_{10} in Grants Pass, Oregon. The plan is part of the State Implementation Plan (SIP) required by the Federal Clean Air Act.

This plan is based on the Grants Pass Clean Air Policy Advisory Committee Report of April 20, 1988. The Committee consisted of eight members, equally divided between appointees of the City of Grants Pass and the Josephine County Commission. The Committee's work was coordinated by the Josephine County Health Department, with technical assistance provided by the Department of Environmental Quality.

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Appendices

- Appendix 1: Grants Pass Clean Air Policy Committee Report
- Appendix 2: Grants Pass Particulate Survey Report
- Appendix 3: Grants Pass PM₁₀ Monitoring Data
- Appendix 4: Grants Pass PM₁₀ Design Value Calculations
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Note: Appendices are available upon request

Executive Summary

The US Environmental Protection Agency (EPA), in accordance with the provisions of the Clean Air Act, adopted a new particulate national ambient air quality standard (NAAQS), known as PM₁₀, on July 1, 1987. PM₁₀ is an abbreviation for particulate matter that is ten (10) micro-meters (microns) or less in aerodynamic diameter. The 10 micron size corresponds roughly to one-tenth of the diameter of a human hair. EPA identified the Grants Pass area as having a strong likelihood of violating the new standard. Subsequent monitoring conducted by the Department of Environmental Quality has confirmed that the Grants Pass area did not meet the standard as of the end of 1988.

The Clean Air Act requires that states develop and adopt State Implementation Plan (SIP) revisions to assure that areas which exceed the PM₁₀ NAAQS are brought into attainment within the time frames prescribed by the Clean Air Act (September 1991), and that healthful air quality is maintained. This document describes the State of Oregon's plan to attain the PM₁₀ standard in Grants Pass.

High exposure to particulate matter is of concern because of human health effects such as changes in lung functions and increased respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alternation in the body's defense system against foreign materials, damage to lung tissue, increased risk of cancer and, in extreme cases, premature death. Most sensitive to the effects of particulate matter are people with chronic obstructive pulmonary cardiovascular disease and those with influenza, asthmatics, the elderly, children and mouth-breathers.

Air quality measurements taken in Grants Pass have determined that the 24-hour PM₁₀ health NAAQS is exceeded about 1-10 days per year during the winter months. The annual average concentration of PM₁₀ does not exceed the annual average PM₁₀ NAAQS. The NAAQS adopted by the US Environmental Protection Agency were established to protect public health and welfare.

The 24-hour PM₁₀ NAAQS is 150 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$). Excluding the pollution episode due to the Silver Complex wildfire which occurred in September, 1987, the maximum concentration of PM₁₀ measured at the 11th and K Streets monitor in Grants Pass was 208 $\mu\text{g}/\text{m}^3$ on January 21, 1987. The 24-hour standard cannot be exceeded more than three times averaged over three calendar years. The annual average PM₁₀ concentration in Grants Pass is 42 $\mu\text{g}/\text{m}^3$ (four years of data) as compared to the average annual PM₁₀ NAAQS of 50 $\mu\text{g}/\text{m}^3$.

An inventory of PM₁₀ emissions developed for the Grants Pass Urban Growth Boundary (UGB) indicates that the major sources of particulate emissions during winter periods of worst-case 24-hour PM₁₀ concentrations are residential wood combustion (54%), industrial emissions (25%) and soil dust (13%). On an annual basis, these sources contribute 31%, 39%, and 17% respectively. Emission inventory information representative of worst-case 24-hour conditions have been qualitatively confirmed through receptor modeling techniques which apportion source contributions on the basis of their chemical "fingerprints".

An air monitoring survey conducted in October 1985 showed that the PM₁₀ problem area in Grants Pass includes the central portion of the urban area (city limits and the urbanized area south of the Rogue River). Based on this survey, ambient air monitoring conducted at 11th & K Streets represents the highest PM₁₀ levels within the Urban Growth Boundary.

PM₁₀ design values are those 24-hour worst case and annual average concentrations from which reductions must be made to achieve the NAAQS. Analysis of all of the available PM₁₀ air quality data over the period of December, 1985 to November, 1989 indicates a 24-hour design value of 171 $\mu\text{g}/\text{m}^3$ and an annual average design value of 42 $\mu\text{g}/\text{m}^3$. For the control strategy analysis, these design values were compared to a 1986 base year emission inventory. Control strategies included in this plan have been designed to reduce current 24-hour concentrations of PM₁₀ by at least 22 $\mu\text{g}/\text{m}^3$. The strategy will also reduce the annual average PM₁₀ concentration.

The control strategies needed to assure attainment and maintenance of the PM₁₀ National Ambient Air Quality Standard focus on control of industrial emissions and residential wood combustion. Additional reductions are expected from statewide efforts to reduce slash burning smoke.

Although residential wood combustion (RWC) emissions are the predominant source contributing to the occasionally high winter 24-hour concentrations found in Grants Pass, industrial controls will contribute substantially (approximately 55%) to the necessary reduction to meet the 24-hour standard. A voluntary curtailment program on wood stove and fireplace use during pollution episodes, coupled with a public information effort and normal phase-in of certified stoves, will provide the balance of control needed to meet the PM₁₀ health standard. The Department estimates that 25% of the wood burning households will forego use of their woodstoves during the 1-10 days of voluntary curtailment likely to occur each winter. These strategies will bring the area into attainment by the end of 1992 with an ample safety margin at the 11th & K critical monitoring site, which is near the City's industrial area. This safety margin will insure attainment at other non-monitored sites where the source impacts are more oriented toward residential wood combustion. In fact, the wood

heating control strategy alone will be sufficient to achieve attainment in these areas.

With respect to slash burning, those emissions will be reduced in western Oregon by about 50% between 1978 and year 2000 as part of the Oregon Visibility Protection Plan. These emission reductions will further insure that background PM₁₀ concentrations will not increase in future years.

Implementation of the PM₁₀ control strategy will require the efforts of residents and industries within the Grants Pass UGB, Josephine County, the Oregon Department of Environmental Quality, the State Forestry Department, U.S. Forest Service and Bureau of Land Management.

Maintenance of ambient PM₁₀ concentrations below the NAAQS will rely on the same strategies. To demonstrate continued maintenance of the annual and 24-hour NAAQS for PM₁₀, annual and worst case day emissions were projected to the year 2000. For the worst case day, the emissions for each individual source category were forecast, taking into account expected growth and the application of the relevant control strategy element. Individual source impacts were then determined directly from the change in emissions between 1992 and 2000. The projection indicates a worst case day concentration in the year 2000 of 135 $\mu\text{g}/\text{m}^3$, which is significantly less than the 24-Hour standard of 150 $\mu\text{g}/\text{m}^3$. To check for continued maintenance of the annual standard, the total annual emissions for 1986 (the base year for which the annual design value was determined to be below the annual standard) and 2000 were compared. Annual emissions are expected to be approximately 18% lower in 2000 than in 1986. Thus, continued maintenance of the annual standard will be achieved.

4.13.0 State Implementation Plan for Grants Pass PM₁₀ Nonattainment Area

4.13.0.1 Introduction

On July 1, 1987, the Environmental Protection Agency promulgated new federal ambient air quality standards for particles less than or equal to 10 micrometers in aerodynamic diameter (PM₁₀) to replace the Total Suspended Particulate (TSP) standard.¹ The standard became effective 30 days later on July 31, 1987. On August 7, 1987, EPA designated Grants Pass as a Group 1 PM₁₀ nonattainment area (52 FR 29383). Group 1 areas are those which have a greater than 95 percent probability of exceeding the PM₁₀ NAAQS. Subsequent air monitoring has shown that air quality within the central area of Grants Pass exceeds the 24-hour PM₁₀ NAAQS.

Section 110 of the Federal Clean Air Act requires states to adopt and submit plans (State Implementation Plans or SIPs) to EPA within nine months after the effective date of the standard. The Clean Air Act allows EPA four months to approve or disapprove the plan. The plan must provide for attainment of the standard as expeditiously as practicable but no later than three years from the date of EPA approval of the SIP.² Hence, attainment theoretically must be reached by September 1, 1991.

The Air Quality Division of the Department of Environmental Quality has developed this plan in consultation with officials of the City of Grants Pass and Josephine County and the U.S. Environmental Protection Agency. The plan is based on the Grants Pass Clean Air Policy Advisory Committee Report dated April 20, 1988 (Appendix 1). The plan was prepared in accordance with the regulations and requirements of the Federal Clean Air Act and the US EPA. The Department expects the plan to achieve attainment of the NAAQS within the time frame required by the Act and to maintain ambient PM₁₀ concentrations below the level of the standards until at least the year 2000.

4.13.0.2 SIP Overview

The State Implementation Plan (SIP) has eight sections. The first (4.13.1) provides a description of PM₁₀ ambient air quality in Grants Pass. Section 4.13.2 is an analysis of the PM₁₀ air quality problem within the Grants Pass Nonattainment Area. Section 4.13.3 provides an analysis of control strategies for

¹A micrometer (μm) is a unit of length equal to 1/1,000,000 of a meter, about 1/25,000 of an inch. For comparison, the thickness of a human hair is about 100 to 200 micrometers. Common bacteria are about 1 to 2 micrometers in length.

² Clean Air Act Section 110 (a)(1).

attaining the NAAQS. Section 4.13.4 describes implementation of the control strategies and commitments to track the effectiveness of the SIP.

4.13.0.3 Area Description

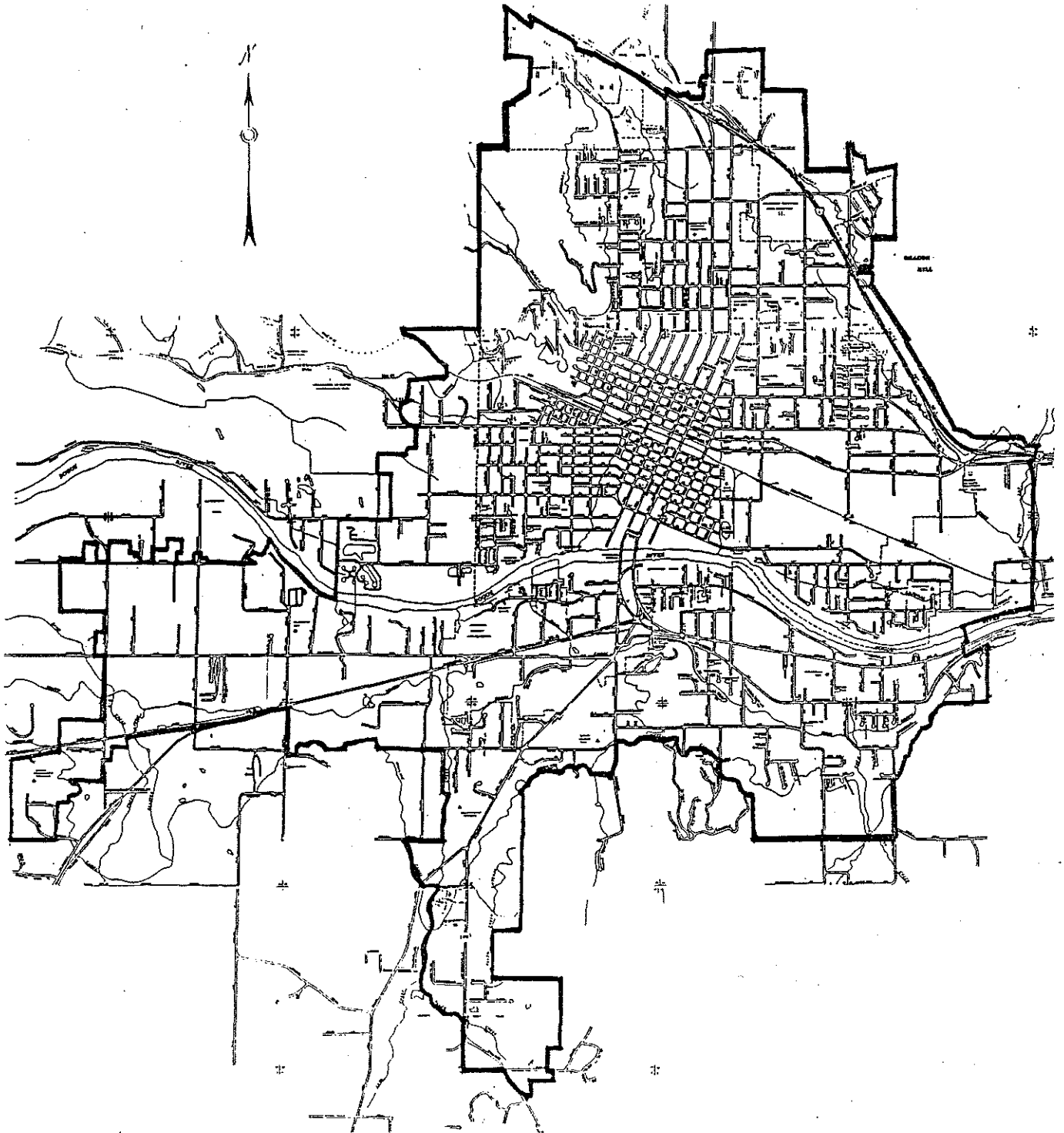
Grants Pass is located in southwestern Oregon. It lies in the Rouge River Valley at an elevation of 948 feet and is surrounded by the Siskiyou Mountains and the Coast Range. The City of Grants Pass had an incorporated population of 16,290 in 1986, the base year for this analysis. The population within the Urban Growth Boundary was estimated to be 27,650 in 1986.

The Grants Pass PM₁₀ problem area is located in the urbanized portion of Grants Pass, including the city limits and the urbanized land outside the city limits. Figure 4.13.0-1 shows the boundaries of the Grants Pass Urban Growth Boundary which was recommended by the Grants Pass Clean Air Policy Advisory Committee as the Nonattainment Area boundary. The criteria for selection of the UGB are as follows:

1. The nonattainment area boundary must include the geographical area within which national ambient air quality standards are currently being exceeded. Air Sampling surveys and ongoing monitoring indicate that maximum concentrations are found at the industrial/residential interface, consistent with local topography and the emission density of industrial and residential wood combustion sources.
2. The nonattainment boundary must include the area within which air standards may be exceeded in the future. EPA requires that SIP control strategies consider future population, transportation, housing and industrial growth to assure that air standards will be attained and maintained. Development of a strategy to assure maintenance of air standards therefore requires that the nonattainment area boundary be consistent with the regional planning boundary for which community growth projections are available.
3. The nonattainment area must be a legally defined boundary recognized by local governments. Legal definition is required for rulemaking purposes. Additionally, some component of the control strategy may need to be implemented through county land use planning ordinances tied to the Urban Growth Boundary.

Designation of the Urban Growth Boundary as the nonattainment area is the only legally defined boundary that meets all of the above criteria.

Figure 4.13.0-1: Nonattainment Area Map



4.13.0.4 Grants Pass Meteorology

The climate of the Rogue River Valley is moderate, with marked seasonal changes. The annual rainfall is approximately 32 inches. Winds are fairly light. Surface winds are often channeled to the east, or to the west, in general alignment with the River, which runs through the center of the urbanized area.

The topography of the area restricts natural ventilation of the valley. The combination of low wind speeds, frequent temperature inversions and topography results in a high potential for air pollution. During the winter episodic stagnation conditions may persist for a period of 3 to 4 days, or longer.

4.13.0.5 Health Effects of PM₁₀ and Wood Smoke

Particulate matter measuring less than or equal to 10 micrometers is considered a risk to human health due to the body's inability to effectively filter out particles of this size. These particles can become lodged in the alveolar regions of the respiratory system where they trigger biochemical and morphological changes in the lungs.³

For example, constriction of air passages (i.e., reduced air flow) occurs rapidly upon exposure to PM₁₀. Episodic and continuous exposure aggravates chronic respiratory diseases such as asthma, bronchitis, and emphysema which in turn restrict the lung's ability to transfer oxygen into the bloodstream. Traditionally, children, the elderly, and cigarette smokers are the most susceptible to lung dysfunctions and are, therefore, at greatest risk from PM₁₀ exposure.⁴ Episodic exposure can also cause changes in the activity of the lung's mucous secretions and accelerates the mucociliary action in an attempt to sweep the particulates out of the lungs. This results in increased symptoms of cough, phlegm, and dyspnea (difficulty in breathing). Continuous exposure can inhibit this defense mechanism by introducing new particles into the lungs and redistributing those being swept out. This slows the clearance of the bronchial system thus increasing susceptibility to acute bacterial and viral infections.

³J. Koenig, T.V. Larson, P. Jenkins, D. Calvert, N. Maykut and W. Pierson, "Wood Smoke: Health Effects and Legislation," Health Effects of Woodsmoke, Northwest Center for Occupational Health and Safety, January 20, 1988.

⁴U.S. Environmental Protection Agency, Second Addendum to Air Quality Criteria for Particulate Matter and Sulfur Oxides (1982: Assessment of Newly Available Health Effects). EPA 600/8-86-020-F. NTIS # PB-87-176574. 1987b.

The increased stress on the pulmonary system caused by PM₁₀ exposure is usually tolerable for those with healthy respiratory systems, however, it can lead to irreversible or fatal damage in people already suffering from cardiopulmonary disease, typically children, the elderly, the ill, and cigarette smokers.⁴ Another group that falls into the high risk category are people who breathe through their mouths.⁴ This group includes a wide range of people from chronic mouth-breathers to anyone involved in outdoor exercise and heavy labor. During mouth-breathing, particulate matter is breathed more directly into the lungs since it bypasses the filtering systems of the nasal passages.

Among the sources of PM₁₀ emissions, wood smoke is of particular concern in Grants Pass because it accounts for a majority of the small particulate matter measured in the nonattainment area. (A description of emission sources is found in Section 4.13.2.2). These particles are less than 1 μm in diameter and remain suspended in the air for long periods of time. Because of their small size and their ability to remain airborne, they are easily inhaled and lodged in the alveolar region of the lungs. These particles can also act as carriers for toxic chemicals which are transported deep into the respiratory system. Some of these toxic substances are then absorbed into the bloodstream.

Wood smoke contains fourteen carcinogenic compounds including benzo(a)pyrene, benzo(a)anthracene, and other polycyclic organic materials.⁵ Additionally, wood smoke contains several other hazardous compounds such as aldehydes, phenols, carbon monoxide and volatile organic vapors. These compounds can cause or contribute to illness ranging from neurological dysfunctions and headaches to lung cancer.³ Many of the components of wood smoke are also found in cigarette smoke and coke oven emissions and can affect the cilia in a similar manner making it difficult for the body to expel the particulate matter. Because wood smoke concentrations are highest in residential areas, a large segment of the population is routinely exposed to wood smoke pollution in the winter months. Additionally, it is those people who are most sensitive, children, the elderly, and the ill, who spend the most time in their homes, thereby increasing their risk.⁵

4.13.1 Ambient Air Quality

The historical ambient particulate monitoring site in Grants Pass was located at the Josephine County Courthouse near Sixth and C Streets. Total Suspended Particulate (TSP) was measured at this site year around starting in November 1969. Sampling was

⁵P.G. Jenkins, Washington Wood Smoke: Emissions, Impacts and Reduction Strategies, Washington Department of Ecology, Olympia, Washington. December, 1986.

conducted on a generally every-sixth-day schedule. Monitoring continued at this site until September 1987, when it was succeeded by monitoring for PM₁₀ at a new site located near Eleventh and K Streets.

The concentrations of smoke and dust particles in the central Grants Pass area have occasionally exceeded the old secondary (welfare based) TSP ambient air quality standard in the past. However, TSP levels have generally improved in recent years in the Grants Pass area. This improvement is apparently due to the combination of improved industrial controls and reduced road dust (from paving unpaved roads). The maximum and second highest daily TSP concentrations are shown in Figure 4.13.1-1 for the years 1974 to 1986.

PM₁₀ air quality monitoring began in December, 1985 following completion of an area-wide survey designed to characterize the spatial distribution of PM₁₀ concentrations (Appendix 2). Sampling was then conducted at the Josephine County Courthouse site and at a new site near 11th and K Streets. Based on the survey, the latter site appeared to be representative of maximum PM₁₀ impact in the Grants Pass area. Both Total Suspended Particulate and PM₁₀ samplers were operated from December 1985 to March 1986 to obtain comparison data. Since that time, PM₁₀ sampling has been conducted at the 11th and K site.

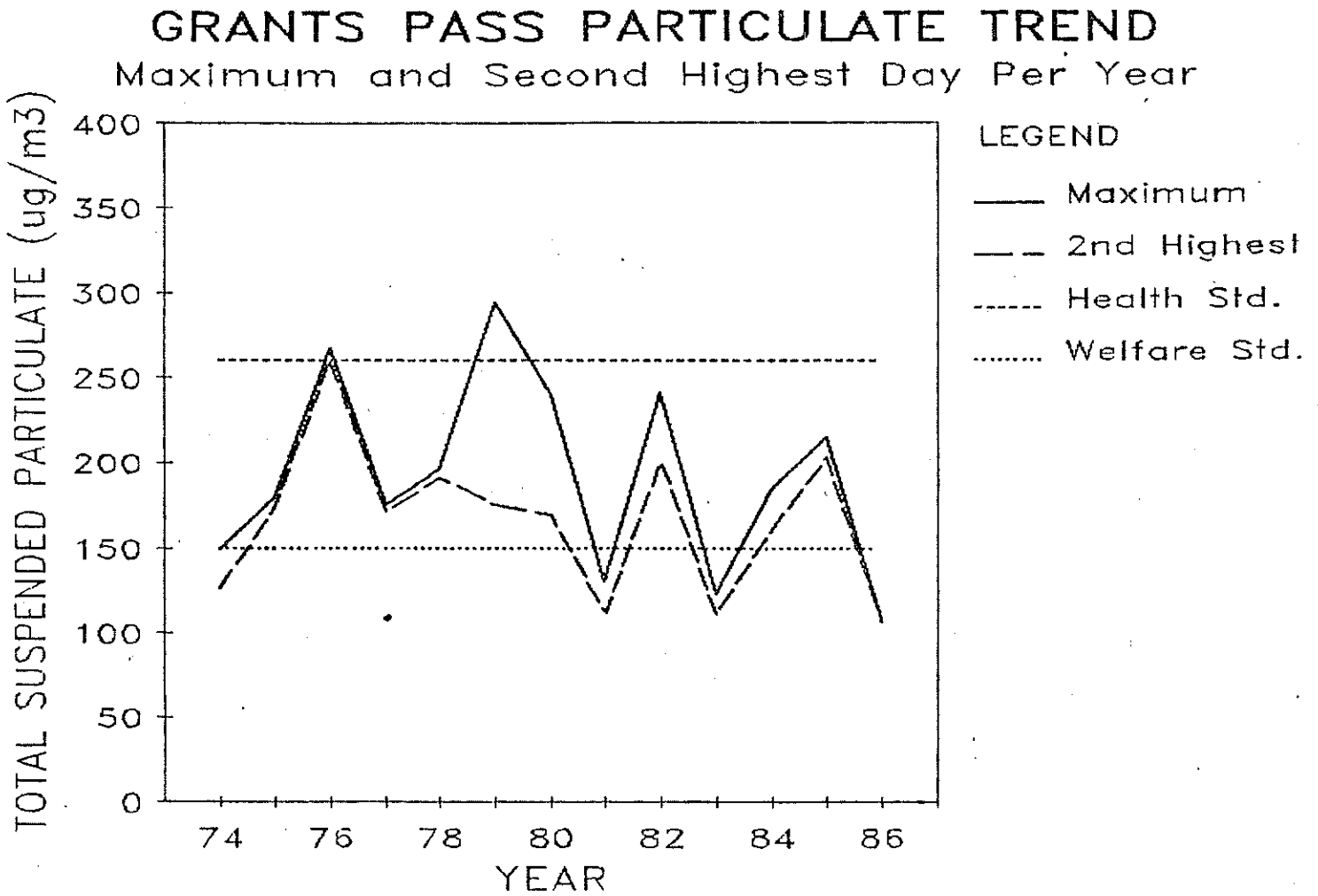
4.13.1.1 Air Monitoring Methods

Several sampling methods have been used to measure suspended ambient particulate concentrations in Grants Pass:

The PM₁₀ Medium-Vol. sampler collects PM₁₀ aerosol using a 12 port, 47 mm filter sequencing system that is programmed to collect 24-hour samples. The sampler pulls ambient air at a 4 CFM flow rate through a 10 μ Sierra-Anderson 254 inlet providing a PM₁₀ cut point. A dual-port system capable simultaneously collecting aerosol on both Teflon and quartz filter substrate is used to allow complete chemical analysis for Chemical Mass Balance receptor modeling purposes. Because of the excellent agreement between PM₁₀ concentrations measured by the Medium-Vol and the HV-SSI reference method, EPA has designated the Medium-Vol sampler as an acceptable equivalent method in Oregon.

The PM₁₀ High Volume Size Selective Inlet (HV-SSI) is a High Volume air sampler equipped with a Sierra-Anderson SA321A, SA321B or SA1200 PM₁₀ cut-point inlet. This

Figure 4.13.1-1: Grants Pass Total Suspended Particulate



Note: Every 6th Day Sampling

method has been designated by EPA as a reference method to be used to judge attainment with the NAAQS. Sampling occurs every 6th day.

The High Volume air sampler collects samples of Total Suspended Particulate (TSP). The method uses pre-weighed 8" X 10" filters through which air is drawn at 50 CFM over a 24 hour period. Because these samplers are not equipped with a size selective inlet, the upper limit of particle size captured on the filter may reach 100 μ . Prior to EPA's adoption of the PM₁₀ NAAQS, this method was the standard reference method for measurement of airborne particulate matter at the Josephine County Courthouse.

Sampling for total suspended particulate (TSP) had been conducted at the Josephine County Courthouse since 1969. PM₁₀ sampling has been conducted at both the Courthouse and 11th & K sites. Table 4.13.1-1 lists the data collection period for each measurement method at these two sites.

**Table 4.13.1-1: Data Collection Periods by Method
Courthouse and 11th & K**

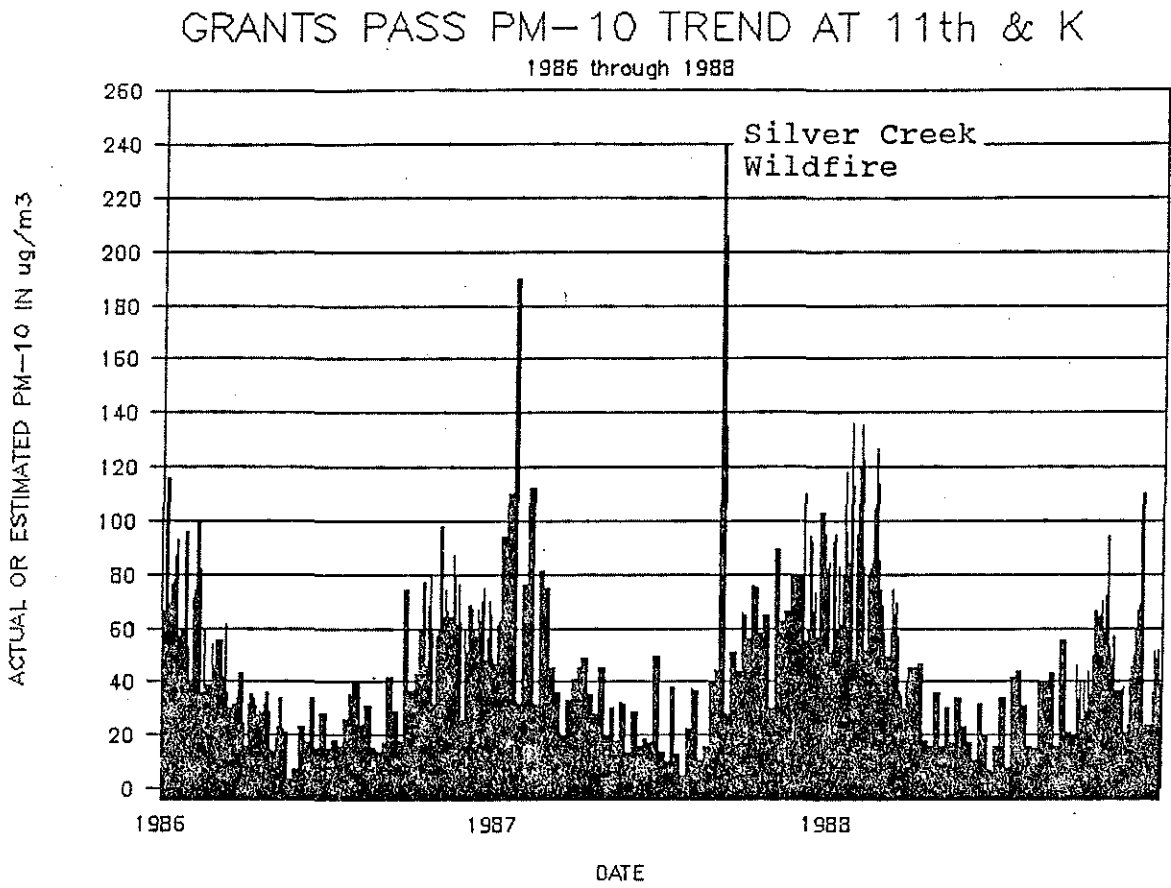
Measurement Method	Began	Terminated
<u>Courthouse</u>		
PM ₁₀ Medium-Vol. (MV) *	Dec. 1985	Mar. 1986
High-Volume TSP (TSP)	Nov. 1969	Oct. 1987
<u>11th & K Streets</u>		
PM ₁₀ High-Vol. SSI (SA321B & SA1200 inlets)	Dec. 1985 Sept. 1987	Apr. 1988 (SA321B) Sept. 1989 (SA1200)
PM ₁₀ Medium-Vol. (MV) *	Dec. 1985	Current
High-Volume TSP (TSP)	Dec. 1985	Jan. 1987

* Both Teflon and Quartz filter substrate are used.

4.13.1.2 PM₁₀ Air Quality in Grants Pass

Figure 4.13.1-2 illustrates the seasonal variations in PM₁₀ concentrations in Grants Pass. In general the highest 24-hour concentrations occur during the winter space heating season when PM₁₀ concentrations have reached levels as high as 208 $\mu\text{g}/\text{m}^3$ (measured by a High-Volume sampler, January 1987). Peak 24-hour concentrations decrease dramatically during the spring months and reach a low of about 20 to 40 $\mu\text{g}/\text{m}^3$ during the summer months. Concentrations then rise again in the fall months as woodstove use increases and atmospheric dispersion decreases.

Figure 4.13.1-2: Seasonal Variation in PM₁₀ Concentrations



Note: The PM₁₀ trend shown above depicts actual Medium-Volume sampler concentrations, or measurements by other particulate sampling instruments that have been adjusted by formula to equivalent Medium-Volume concentrations. Hence, the previously mentioned January 1987 concentration of 208 $\mu\text{g}/\text{m}^3$ is roughly equivalent to 190 $\mu\text{g}/\text{m}^3$, because the High-Volume samplers were determined to measure approximately 10% to 12% higher than the Medium-Volume samplers (refer to Appendix 4).

Review of PM₁₀ Concentrations

The maximum and second highest daily concentrations of PM₁₀ measured in 1985 through 1989 are summarized in the following table.

Table 4.13.1-2: PM₁₀ Maximum Concentrations, 24 Hour Averages

<u>Josephine County Courthouse</u>			<u>11th & K</u>		
<u>ug/m3</u>			<u>ug/m3</u>		
<u>Year</u>	<u>Max.</u>	<u>2nd High</u>	<u>Year</u>	<u>Max.</u>	<u>2nd High</u>
1985	217	181	1985	200	183
1986	91	79	1986	148	104
			1987	268	230
			1988	136	135

The above listed, relatively high concentrations of PM₁₀ for 1987 were measured in early September 1987 and were attributable to the Silver Creek forest fire. Wildfires, such as the Silver Creek fire, are considered to be exceptional events that do not affect the development of plans to meet ambient air quality standards. A complete summary of the PM₁₀ monitoring data from 1985 to 1988 is contained in Appendix 3.

Background Air Quality

PM₁₀ aerosols from sources external to the UGB collectively contribute to background air quality, which constitutes a portion of locally measured PM₁₀. Sources such as wildfires, slash, agricultural and open burning, wind entrained soil, and secondary aerosols are believed to be the principal contributors to background air quality. PM₁₀ concentrations at the Dodge Road site, which is in Sams Valley approximately 18 miles to the southeast of Grants Pass, are considered to be indicative of background concentrations in the Grants Pass urbanized area. Based on the Dodge Road site measurements, the 24-hour background concentration for worst case winter days is estimated to be approximately 44 $\mu\text{g}/\text{m}^3$.

Aerosol Chemistry

Chemically, Grants Pass winter-season PM₁₀ aerosol is principally composed of organic carbon (34%), elemental carbon or soot (0.5%), crustal elements (5%), other trace elements (2%) and secondary sulfate and nitrates (3%). The balance is associated oxygen, hydrogen, water and ammonium. While the winter season aerosol is chemically very similar to the composition of woodsmoke with small amounts of soil elements, the composition of the aerosol during the summer months is quite different and is largely composed of crustal elements (Al, Si, Ca and Fe). Lead

concentrations are very low, averaging $0.1 \mu\text{g}/\text{m}^3$, 24-hour average. The aerosol composition cannot be used to directly infer source contributions.

4.13.2 Nonattainment Area Analysis

This section describes the Department's analysis of PM_{10} air quality in Grants Pass as it relates to the National Ambient Air Quality Standards. Source contributions to the airshed's PM_{10} air quality are discussed both in terms of emission strengths and source contributions to air quality as measured at the 11th & K site.

4.13.2.1 Design Values Determination

Attainment of the NAAQS for PM_{10} requires that annual average concentrations not exceed the annual standard of $50 \mu\text{g}/\text{m}^3$ and that the expected number of exceedances of the daily standard must be less than or equal to one per year, averaged over a three-year period. Once an area has been identified as exceeding either standard, a PM_{10} design value must be based on concentrations measured during the baseline period. The design value can be used to determine the emission reductions needed to meet the NAAQS. Relative to the daily standard, the 24-hour design value is roughly comparable to the fourth highest measured PM_{10} concentration for the latest three full years of PM_{10} monitoring data. The annual design value is determined by computing the arithmetic average of the latest three full years of data. If the 24-hour design value requires a greater degree of control than the annual design value (as is the case in Grants Pass), then the 24-hour NAAQS becomes the controlling standard for purposes of SIP control strategy development.

The EPA PM_{10} SIP Development Guidelines specify that the preferred approach for estimating a design value is through the use of an applicable dispersion model corroborated by receptor models.⁶ If there is no applicable dispersion model and at least one complete year of PM_{10} data is available, then the PM_{10} data should be used to estimate the design value. Because the absence of an adequate meteorological data base prohibits dispersion modeling in Grants Pass, the methodology used by the Department focuses on evaluation of the ambient PM_{10} concentrations. EPA specifies that the annual design value should be calculated as the arithmetic average of 3 years of PM_{10} monitoring data and that the 24-hour design concentration should be estimated using the empirical frequency distribution of at least three years of data. In the event that a full three years of monitoring data are not

⁶ PM_{10} SIP Development Guidelines. US Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. June, 1987. EPA-450/2-86-001.

available, a table look-up procedure is specified. Both of these procedures have been applied to the Grants Pass data and are described in Appendix 4.

Determination of Annual Design Value

Based on the analysis described in Appendix 4 and summarized below, the Annual Design Value PM₁₀ concentration is 42 ug/m³. This calculated concentration indicates that Grants Pass is in compliance with the annual NAAQS of 50 ug/m³.

Determination of the 24-Hour Design Value

For Grants Pass the 24-Hour PM₁₀ Design Value is 171 µg/m³. This peak-day PM₁₀ concentration, calculated for the baseline period, indicates that Grants Pass is not in compliance with the 24-Hour NAAQS of 150 µg/m³. This is the starting point for determining the strategy needed to attain the standard in 1992. A description of the method used to calculate this value is also found in Appendix 4.

Table 4.13.2-1: Design Values Summary

<u>Averaging Time</u>	<u>Method</u>	<u>Design Value</u>
24 Hour	Graphical Procedure	171 µg/m ³
Annual	Quarterly Averaging	42

Once the 24-Hour and Annual design values have been determined, they must both be adjusted for emission changes due to growth and control strategies likely to occur by 1992, the year in which attainment must be demonstrated.

4.13.2.2 Emission Inventory

Introduction

Emission inventories provide useful information on the relative strength of sources within an airshed and provide a basis for control strategy evaluations. In addition, emission inventories provide a basis for tracking emission reductions and growth within an airshed. They cannot, however, estimate with certainty the impact of a source, or group of sources, at a specific location. Atmospheric dispersion caused by wind movements within the airshed and transport of pollutants into the airshed from exterior sources (i.e., wildfires, slash burning smoke and secondary aerosols) must be considered.

PM₁₀ emissions (usually expressed in tons of particulate per year or TPY) are calculated from emission factors and source

activity records. Emission factors are the weight of pollutant emitted per unit of material processed such as grams of PM₁₀ emitted per pound of cordwood burned; pounds of road dust emitted per vehicle mile driven or pounds of particulate emitted per unit area of plywood veneer processed. Emission factors used in this analysis are principally from the Environmental Protection Agency's compilation of emission factors AP-42.⁷

Information on activities which result in air contaminant emissions, such as the amount of cordwood burned by residents, vehicle miles driven, or veneer production volumes are obtained from a variety of sources. This includes industrial air contaminant discharge permit reports, mail surveys of the the public, and data gathered from other government agencies.

Estimation of seasonal or worst-case day PM₁₀ emissions requires development of a source operating schedule which describes the percent of annual emissions that occur during specific seasons, months, or 24-hour periods.

Base Year Emission Inventory

PM₁₀ emissions for the 1986 base year within the Urban Growth Boundary (UGB) were estimated for industrial sources, residential heating (gas, oil and wood), commercial space heating, residential open burning, burning for agriculture and forestry, paved and unpaved roads, construction and agricultural dust and transportation sources (cars, trucks, railroads and aircraft). The basis of the emission estimates for the most significant sources are described below:

Industrial Sources: 465 TPY PM₁₀. These emissions are principally from the wood products industry, mainly wood-fired boilers and veneer dryers.

Residential Wood Heating: 373 TPY PM₁₀. Information obtained from the Department's 1987 wood heating survey⁸ in Medford was combined with locally based population estimates to project emissions from woodheating appliances in the Grants Pass UGB. (Medford woodheating characteristics are considered to be representative of Grants Pass, since Grants Pass is only 29 miles to the west of Medford.) Approximately 11,012 housing units

⁷Compilation of Emission Factors, U.S. Environmental Protection Agency AP-42 Fourth Edition and subsequent supplements. US EPA Office of Air Quality Planning and Standards. Research Triangle Park, N.C. 27711.

⁸Oregon Woodheating Survey for 1987: Medford Area. State of Oregon Department of Environmental Quality, Air Quality Division. February, 1987.

(1986 estimate) were located within the UGB, and approximately 5,950 housing units used wood burning devices. Approximately 66% of the devices were woodstoves while the remainder were fireplaces. The survey indicated that, on average, residents burn 2.7 cords/year of firewood in their woodstoves and 1.2 cords/year in fireplaces. At 40 pounds of PM₁₀ emitted per ton of wood burned in a woodstove, 323 tons of PM₁₀ are emitted per year. Fireplace emissions at 27 pounds per ton of wood burned total 50 TPY. About 12% of the woodstoves are DEQ-certified models.

Fugitive Dust Emissions: 206 TPY PM₁₀. The principal sources of dust within the UGB are paved and unpaved road dust (143 and 37 TPY, respectively). These figures are calculated from a 1986 estimate of 613,922 vehicles miles per day and a calculated PM₁₀/TSP ratio of 23.7%. The ratio is based on Department studies conducted for the compilation of base year emission inventories for the state Group I PM₁₀ areas (refer to the memorandum in Appendix 5). There are also 158 miles of unpaved roads within the UGB.

Transportation Sources: 134 TPY PM₁₀. Highway vehicles (autos and trucks) emit 130 TPY PM₁₀ in tailpipe and tire wear particulate; off highway vehicles 3 TPY and railroad diesel engines 1 TPY.

Other Sources: 14 TPY PM₁₀. Residential and Commercial space heating with fuels other than wood contribute 6 TPY. Approximately 354 tons of backyard debris is burned each year generating 1 TPY of PM₁₀. About an equal amount is generated from solid waste incineration onsite at industrial facilities. There is no significant agricultural burning conducted within the UGB. Structural Fires contribute 6 TPY.

Table 4.13.2-2 summarizes annual PM₁₀ emissions within the UGB for 1986 and Table 4.13.2-3 summarizes the 24-hour worst case emissions for 1986. Figure 4.13.2-1 illustrates the percent contribution from each major source group for both annual and 24-hour worst case periods.

Table 4.13.2-2: Grants Pass UGB Annual Emission Inventory for 1986

Source	Tons/Year PM ₁₀	Percent
Industry	469	39 %
Residential Wood Burning	373	31
Fugitive Dust	206	17
Transportation	134	11
Other Sources	16	2
Totals	1198	100 %

24-Hour Worst Case Inventory

Development of an inventory representative of emissions during a 24 hour period when PM₁₀ ambient air concentrations reach their highest levels is important to understanding the sources that cause winter season, high PM₁₀ episodes in Grants Pass. The relative proportion of emissions during these periods is expected to be quite different than those reflected in the annual emission inventory, because some sources (such as open burning) are not as active, while others (such as residential wood heating) are much more active.

The 24-hour worst case inventory for the UGB is based on the following information and assumptions:

Industrial Source emissions were factored to 24-hour values on the basis of the respective ratios from the operating permits of 24-hour PSEL's to the annual PSEL's. The 24-hour PSEL's incorporate shift capacity estimates. To reflect maximum production, the plants were assumed to be operating 350 days per year.

Transportation Source emissions are assumed to be constant throughout the year. The worst case day inventory therefore assumes that 1/365 of the annual emissions from this source occurs during the period.

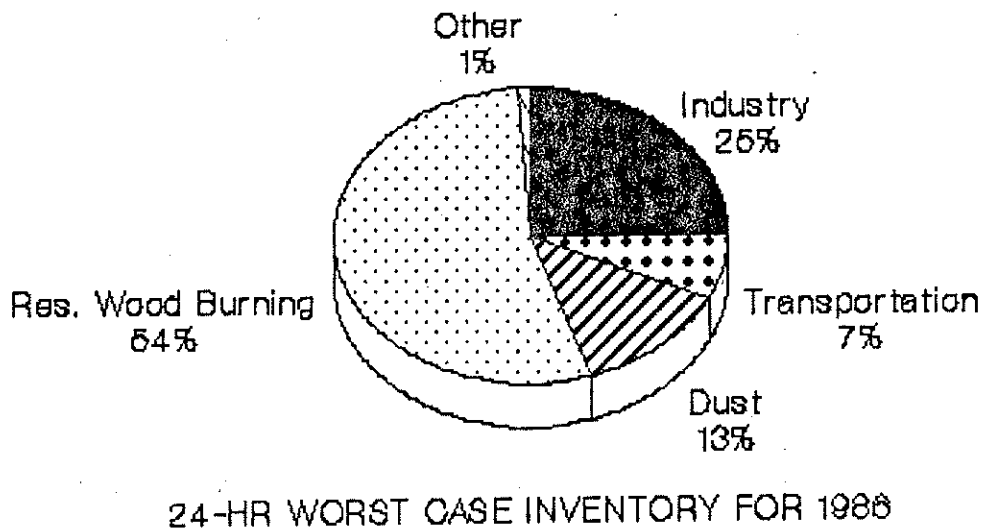
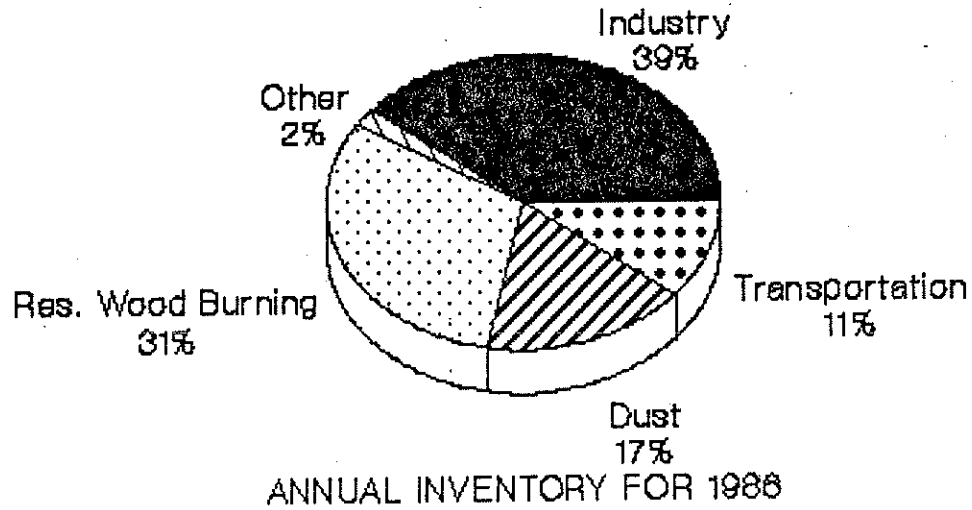
Residential Wood Burning emissions are assumed to be proportional to the coolness of the weather as reflected in the degree heating days statistic calculated by the Department using maximum and minimum temperatures recorded in Grants Pass and reported by the National Weather Service. The highest winter time PM₁₀ concentration recorded in Grants Pass through the end of 1988 was 190 ug/m³ (January 21, 1987). The heating degrees for this day (29.0) was used to determine a worst case emission rate.

Table 4.13.2-3: 24-Hour Worst Case 1986 Emission Inventory

Source	Pounds/Day PM ₁₀	Percent
Wood Products Industry	2600	25 %
Residential Wood Burning	5732	54
Fugitive Dust	1346	13
Transportation	774	7
Other Sources	99	2
Totals	10551	100 %

Appendix 5 provides a more detailed summary of the annual and worst case day emission inventory for Grants Pass in 1986.

**Figure 4.13.2-1: Grants Pass PM10
Emission Inventories**



Growth Factors

PM₁₀ emission growth factors were used to estimate future year emission inventories. The primary growth indicator that affects the major area source categories is the population growth rate. For transportation sources, the rate of growth in vehicle miles of travel (VMT) is the primary indicator.

To estimate the industrial component of emission growth, it was assumed that the affected wood products mills will be operating at the Plant Site Emission Limits (PSEL) allowed under the revised Industrial Rules discussed in Section 4.13.3. Furthermore, any major new industrial facilities would be required to secure offsets. Based on these considerations, the emissions for the Wood Products Industry in 1992 could increase for the annual and worst case day by approximately 4 percent over the 1986 level. However, this is not the case, because of the permanent shutdown of a major industrial wood products complex.

The selection of a growth factor for population for the period from 1986 to 1992 was complicated by the fact that actual population growth in the Grants Pass urbanized area during the mid to late 1980's has been lower than the rates that were officially forecast for the Comprehensive Plan. The original forecast expected that population would grow at a rate of approximately 2.4% per year to 1990 and then accelerate to approximately 5.0% per year for the period from 1990 to 1995, based on the upper end of the year 2000 forecasting range for the Urban Growth Boundary (UGB) of 36,000 to 44,800. The actual growth rate between 1984 and 1986 was approximately 1% per year.

With the need for a more realistic population forecast to carry out the planning work for the Grants Pass Carbon Monoxide (CO) section of the State Implementation Plan (Section 4.11), the City of Grants Pass officially revised the 1990 population forecast to 29,742. This had the effect of lowering the original growth rate forecast to a level of 1.7% per year. The sewage treatment Facility Plan (dated 1985) for Grants Pass is predicated on a year 2000 UGB population forecast of 35,300. Use of the 1990 CO SIP population figure and 35,300 for 2000 results in an annualized growth rate (compounded) of 1.7%.

Therefore, to project 1992 and 2000 emissions, a growth rate of 1.7% was assumed between 1990 and 2000 for both population and vehicle miles of travel.

Woodburning for woodstoves is expected to increase by 1% per year (6% total) by the year 1992 as a result of an increased amount of firewood burned. At the same time, firewood use in fireplaces is expected to decline by 2% per year. The one percent growth rate for woodstoves, which is lower than the population growth rate, is based on energy projections and fuel cost modeling performed to estimate future woodburning emission growth in the

Pacific Northwest.⁹ These projections do not account for emission reductions that will occur as a result of woodstove certification programs, as these reductions are explicitly accounted for in the Section 4.13.3.2, Evaluation of Potential Control Measures.

Projected Emissions in 1992

PM10 emissions were projected for the 1992 attainment year. The emissions projections are based on the foregoing growth factors. Table 4.13.2-4 shows both the annual and worst case day PM10 emissions for 1992. The Industry category shows lower emissions for 1992 than for 1986 due to the shutdown and subsequent dismantling of the Southern Oregon Plywood mill, which occurred in 1988.

Table 4.13.2-4: Projected 1992 Emission Inventory
(No Controls)

Source	--Annual--		-24-Hr Worst Case-	
	Tons	%	Pounds	%
Industry	376	32	2086	20
Residential Wood Burning	386	33	5938	57
Fugitive Dust	230	20	1500	14
Transportation	149	13	864	8
Other Sources	17	2	111	1
Totals	1158		10499	

Projected Emissions Beyond 1992

Analysis of the ability to maintain compliance with the NAAQS during the period 1992 to the year 2000 requires development of a third set of emission estimates. For this maintenance analysis the 1992 inventory must be adjusted to reflect the reductions which are expected to be achieved by the attainment strategy. The growth rates used for the period 1992 to 2000 are [projected to be different from those of the preceding years and their effect on emissions is] described below:

- Population growth rate of 1.7% per year applied to residential oil, gas and wood combustion emissions; solid waste incineration emissions and structural fires;

⁹ U.S. Environmental Protection Agency, Region X, "Residential Wood Combustion Study, Task 3, Fuel Wood Use Projections", EPA 910/9-82-089 (1984).

- Transportation growth rate of 1.7% per year applied to transportation sources and paved, unpaved and construction dust;

- Industrial emissions are held constant at the annual and 24 hour PSEL emission rates shown in the 1992 emission inventory;

The projected residential wood combustion emissions, following application of a 1.7% per year growth rate, were adjusted to reflect emission reduction credits associated with the woodstove certification program resulting in a 7% decline in emissions.

Projected Annual emissions for 1992 before and after implementation of the control strategy, growth factors and estimated Annual emissions for the year 2000 are summarized in Table 4.13.2-5. The 24 Hour Worst Case projected emissions are summarized in Table 4.13.2-6.

Table 4.13.2-5: Projected Annual Emission Inventory for the Year 2000

Source	1992 Before Control (Tons)	1992 After Control* (Tons)	1992- 2000 Growth	2000 (Tons)
Industry	376	169	0 %	169
Residential Wood Burning	386	351	-7 %	325
Fugitive Dust	230	230	14 %	263
Transportation	149	149	14 %	169
Other Sources	17	17	14 %	19
Totals	1158	916		945

* See Section 4.13.3.3 for discussion of emission reductions

**Table 4.13.2-6: Projected 24 Hour Emission Inventory
for the Year 2000**

Source	1992 Before Control (lbs)	1992 After Control* (lbs)	1992- 2000 Growth	2000 (lbs)
Industry	2086	939	0 %	939
Residential Wood Burning	5939	3851	- 7 %	3578
Fugitive Dust	1500	1500	14 %	1707
Transportation	864	864	14 %	984
Other Sources	111	111	14 %	126
Totals	10499	7265		7334

* See Section 4.13.3.3 for discussion of emission reductions

Comparison of these Tables to Tables 4.13.2-2 and Table 4.13.2-3 shows that the projected total Annual emissions for the year 2000 are reduced from 1986 levels by 253 tons per year and by 3217 pounds per day on the worst case day. Although on an annual basis Dust, Transportation and Other Sources increase, the effect of the Industrial Controls and woodstove certification is a net decrease in total airshed emissions. On the worst case winter day Industrial emissions are still reduced but the most significant reduction occurs in Wood Burning emissions due to the implementation of voluntary curtailment and the other wood smoke control elements.

4.13.2.3 Source Contributions by Receptor Modeling

Introduction

The Environmental Protection Agency PM₁₀ SIP Development Guidelines Section 4.4 describes procedures to be used by the states for using receptor models to estimate source contributions to PM₁₀ concentrations. These guidelines support the use of receptor models as an important element of the SIP strategy development process. In cases such as Grants Pass, where dispersion modeling cannot be applied because of the absence of meteorological data, receptor modeling (specifically, Chemical Mass Balance or CMB) has been recommended. The specific application of the CMB Receptor Model to PM₁₀ source apportionment in Oregon's Group 1 areas is described elsewhere.¹⁰

¹⁰PM₁₀ Receptor Modeling for Oregon's Group I Areas: Medford, Grants Pass and Klamath Falls. State of Oregon Department of Environmental Quality, Air Quality Division. March, 1989.

Chemical Mass Balance (CMB) is a mathematical/statistical form of receptor modeling which is based upon regression analysis of aerosol chemistry features. The CMB model does not provide an exact solution to the source apportionment problem but instead attempts to find the most likely combination of source contribution estimates (SCE's). This is done by minimizing the difference, or variance, between the measured and model-predicted concentration of aerosol features. Values for the ambient aerosol matrix are obtained through chemical analysis of PM₁₀ filters taken at the 11th & K Streets site, while the source "fingerprint" values are obtained through representative analysis of stack emissions. The CMB modeling protocol applied follows EPA guidance.¹¹ All of the CMB modeling has been conducted using EPA's Version 6.0 CMB program.¹²

Ambient Aerosol & Source Emission Analysis

Nine PM₁₀ samples collected between December 7, 1987 and February 10, 1989, were selected for analysis. These samples are composed of the highest concentrations during this two month winter period that were at least 100 ug/m³. Only one 24 hour sample has exceeded the NAAQS of 150 µg/m³ since the end of the Silver Creek wildfire episode in early September 1987. Chemical characterization of the samples includes 19 trace elements analyzed by x-ray fluorescence, 3 inorganic anions, and elemental/organic carbon, providing a data set that is compatible with the source emission profiles. Analytical uncertainties for each of the values are routinely reported and included in the CMB calculations.

PM₁₀ source profiles (listed in Table 4.13.2-7) representing all major emission groups within the airshed were used in the modeling. All of the profiles were obtained from the Pacific Northwest Source Profile Project.¹³ A list of the sources included in the analysis is presented below:

¹¹Protocol for Reconciling Differences Among Receptor and Dispersion Models. US EPA 450/4-87-008. March, 1987.

¹²Receptor Model Technical Series, Volume III (Revised): CMB User's Manual (Version 6.0) US EPA 450/4-83-014R. May, 1987.

¹³ Pacific Northwest Source Profile Library Project, Final Report Prepared by the State of Oregon Department of Environmental Quality, Air Quality Division, J. Core, Ed. September, 1989.

Table 4.13.2-7: Source Profile Names

No.	Acronym	Description
1	GPSOIL	Resuspended soil dust from Grants Pass
2	SLASH	Forestry slash broadcast burning (Also may be vegetative burning such as yard debris.)
3	RWC MED	Residential wood combustion profile for Medford
4	LD AUTO	Light duty autos (leaded gasoline)
5	HOGFUEL	Hogfuel Boiler burning plywood trim in the fuel
6	WOOD	Wood Fiber including sander dust
7	HDDIESEL	Diesel Exhaust (Fed. Test Cycle)
8	SECSO4	Secondary Sulfate estimated as ammonium sulfate
9	SECNO3	Secondary Nitrate estimated as ammonium nitrate
10	SECNH4	Secondary Ammonium ion
11	CONST	Construction Dust - Medford Aerosol Study
12	VENEER	Steam heated veneer drier emissions

Receptor Model Source Contribution Estimates

Table 4.13.2-8 is a summary of the average source contributions obtained for the nine worst case winter days that were modeled. Average PM₁₀ concentration for these samples was 120 µg/m³.

Table 4.13.2-8: Average Winter Worst Case Day Source Contributions

Source	PM ₁₀	%PM ₁₀
Wood Smoke	82.1 µg/m ³	68.2 %
Industry	10.2	8.5
Soil Dust	17.2	14.3
Transportation	0.2	0.2
Sec. Aerosol	2.5	2.1
Others	8.1	6.7
Total PM ₁₀		120 µg/m ³

Because of the similarities between source fingerprints for residential wood combustion and veneer driers the apportionment of these two sources cannot be done with CMB alone. The contribution of veneer driers was estimated by applying the 1986 estimated emission rate ratio of Veneer Drier to Hog Fuel Boilers (1,044 lb/day / 760 lb/day) to the HOGFUEL aerosol percentage (3.9 %) which was determined by CMB. Veneer Driers and Hog Fuel Boilers were summed to give the Industrial contribution. The Wood Smoke contribution was then reduced by the percent going to Veneer Driers. Average source contribution uncertainties

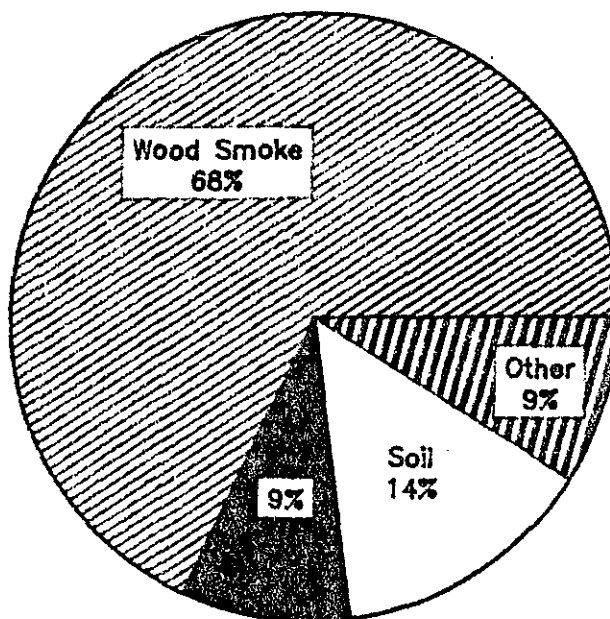
(relative percent of mass) vary from 18% for wood smoke, to 11% for hog fuel boilers and 8% for soil dust.

Receptor modeling of these samples collected on high winter days shows that residential wood smoke is the major source of PM₁₀. Of the nine days that were analyzed, the wood smoke contribution ranged from 41% to 98% of the PM₁₀ mass. The emissions ratio method of estimating the veneer drier component yields an upper bound estimated industrial source impact of 16%.

Over ninety percent of the aerosol is accounted for in this analysis. The remainder of the PM₁₀ includes water associated with the aerosol, contributions from minor sources, and the uncertainty in the apportionment method. Figure 4.13.2-2 illustrates the source contribution estimates determined by the CMB analysis.

Figure 4.13.2-2: Grants Pass PM₁₀ Source Contributions by Aerosol Chemistry

Grants Pass PM-10
24-hour Source Contributions



Industry

Winter Season

Background PM₁₀ Air Quality

Receptor modeling of local PM₁₀ cannot, however, distinguish between particulate which has been generated within the airshed and particulate which has been transported into the airshed. The control of this "locally" generated particulate requires determination of the local source contributions, which means subtraction of the background contribution. Annual and 24-Hour average background PM₁₀ being transported into the Grants Pass UGB is estimated from measurements made at a site in Sam's Valley (Dodge Road). This site is located approximately 18 miles to the northeast of Grants Pass, and the monitored levels are expected to be representative of general background conditions for southwest Oregon. Analysis of the Dodge Road site data indicates that peak day and average PM₁₀ concentrations are 44 $\mu\text{g}/\text{m}^3$ and 15 $\mu\text{g}/\text{m}^3$, respectively.

Chemical Mass Balance analysis of the sources contributing to this background particulate is needed to be able to subtract the appropriate background value in each source category. Table 4.13.2-9 shows the background source contributions for both Annual and 24-Hour average PM₁₀.

Table 4.13.2-9: Background PM₁₀ Source Contributions

Source	Annual Average	24-Hr Average Worst Case
Industry	0.7 $\mu\text{g}/\text{m}^3$	3.0 $\mu\text{g}/\text{m}^3$
Wood Smoke	7.1	31.6
Soil Dust	4.6	2.3
Transportation	---	---
Sec. Aerosol	1.4	4.8
Others	1.0	2.3
Total	14.8	44.0

Estimation of "Local" Air Quality Impacts

Estimation of the impact of emission sources within the UGB requires that the background components listed in Table 4.13.2-9 be subtracted from the comparable source contributions listed in Table 4.13.2-8. This difference is presented in Table 4.13.2-10 which lists the "local" source contribution estimates to PM₁₀ on average worst case winter days. For comparison the source contributions as determined from the 1986 emission inventory are also shown.

Table 4.13.2-10: Average Worst Case Day "Local" Source PM₁₀ Contributions

Source	Receptor Modeling		Emission Inventory	
	μg/m ³	%	μg/m ³	%
Industry	7.2	9	24	24
Wood Smoke	50.5	64	54	54
Soil Dust	14.9	19	13	13
Transportation	0.2	< 1	7	7
Sec. Aerosol	0.0	0	--	--
Others	5.8	7	2	2
Total	78.6			

The values shown in the last two columns demonstrate that qualitatively the emission inventory and receptor modeling analysis provide roughly comparable results with respect to the contribution of Wood Smoke. Both methods indicate secondary contributions from Industrial and Dust sources. The wood products industry contributions, as estimated by emission inventory, are significantly higher than that estimated by receptor modeling, most likely because dispersion of the emissions are not being considered. Transportation emissions are also higher by the inventory method than indicated by receptor modeling, probably for the same reason. In order to take into account the differences in source contribution estimates, the control strategy analysis was conducted in two ways: 1) rollback was applied to the individual source categories based on the emission inventory relative source strength; 2) rollback was applied to the individual source categories based on the receptor modeling relative source strength.

4.13.3 Emission Reduction Analysis

This section describes the emission reductions necessary to attain the 24-hour PM₁₀ standard (4.13.3.1); reviews potential control measures that could be applied in Grants Pass (4.13.3.2); and presents a technical assessment of the adequacy of the control measures to attain the standard within the time limits specified by Section 110(a) of the Clean Air Act (4.13.3.3).

4.13.3.1 Emission Reduction Necessary for Attainment

The EPA PM₁₀ SIP Development Guidelines specify that a proportioning method, which separates out the individual source contributions, should be used to estimate the control strategy requirements of the SIP. In the analysis below, the contribution of emission sources to the 1992 design values have been

apportioned based on the projected 1992 emission inventories described in Section 4.13.2.2. The sum of the 1992 source impacts, plus background, provides the 1992 24-Hour worst case day design value.

Projected Source Impacts in Future Years

Table 4.13.3-1 lists 1992 source contribution estimates for the 24-hour worst case scenario. Source contributions at the 1992 design value were apportioned using the 1986 24-hour worst case day emission inventory percentages (see Table 4.13.2-9) applied to the "local" design value of $127 \mu\text{g}/\text{m}^3$ ($171 \mu\text{g}/\text{m}^3$ design value less the background of $44 \mu\text{g}/\text{m}^3$).

Table 4.13.3-1: Projected Future Source Category Impacts (Emission Inventory)

Source	1986 Worst Day	"Local" Design ($\mu\text{g}/\text{m}^3$)	1986-92 Growth (%)	"Local" Design ($\mu\text{g}/\text{m}^3$)	1992 Worst Day
Wood Smoke	54%	69	6	73	57%
Industry*	24%	30	-20	24	19%
Fugitive Dust	13%	17	11	19	15%
Transportation	7%	9	12	10	8%
Other Sources	2%	2	12	2	1%
Subtotals		127		128 $\mu\text{g}/\text{m}^3$	
Background				44	
Total				172 $\mu\text{g}/\text{m}^3$	

* Industrial emissions decrease due to the closing of a major facility in September, 1988.

Air quality improvement needed = $22 \mu\text{g}/\text{m}^3$ ($172 - 150 \mu\text{g}/\text{m}^3$) or a 17% ($22/128$) reduction in worst case day emissions. This is equivalent to 1785 pounds per day.

As a crosscheck on the adequacy of the proposed control strategies, a separate rollback calculation was done based on the source contributions determined from the receptor modeling analysis.

Table 4.13.3-2 lists the projected 1992 source category contributions based on the receptor modeling analysis. In this case the 1992 source category contributions were apportioned using the average worst case day percentages derived from Chemical Mass Balance. Again, the percentages are applied to the "local" design value of $127 \mu\text{g}/\text{m}^3$.

**Table 4.13.3-2: Projected Future Source Category Impacts
(Receptor Modeling)**

Source	1986 Worst Day	"Local" Design ($\mu\text{g}/\text{m}^3$)	1986-92 Growth (%)	"Local" Design ($\mu\text{g}/\text{m}^3$)	1992 Worst Day
Wood Smoke	64%	81	6	86	64%
Industry	9%	11	-20	9	7%
Fugitive Dust	19%	24	11	27	20%
Transportation	<1%	1	12	1	<1%
Other Sources	7%	9	12	10	8%
Subtotals		127		133 $\mu\text{g}/\text{m}^3$	
Background				44	
Total				177 $\mu\text{g}/\text{m}^3$	

Air quality improvement needed = 27 $\mu\text{g}/\text{m}^3$ (177-150 $\mu\text{g}/\text{m}^3$)
or a 20% (27/133) reduction in worst case day concentra-
tion.

Both analyses lead to similar reduction requirements. The control strategy selected must be comprised of a mix of individual source reduction measures such that their sum is equal to, or greater than, the total reduction requirement. Adopted control strategies must be shown, through a demonstration of attainment (Section 4.13.3.3), to attain and maintain the NAAQS by reducing emissions such that the 24-Hour worst case PM_{10} concentrations are also reduced.

It should also be noted that since the 24-hour control strategy will reduce all worst case day PM_{10} levels it should result in a reduction in the annual average PM_{10} from the design value as well. Therefore, implementation of strategies to assure attainment of the 24-Hour standard will assure continued compliance with the annual NAAQS. The emission inventory trends described earlier provide confidence that this is true.

4.13.3.2 Evaluation of Potential Control Measures

A number of potential strategies could be used to achieve the required reduction in the 24-hour worst case day PM_{10} concentration. The Grants Pass City Council and the Josephine County Commissioners appointed a citizens committee in December 1987 to evaluate the particulate problem and recommend a strategy that would achieve the health standard consistent with the requirements of the Federal Clean Air Act. The Committee produced a report (Appendix 1) and presented its recommendations

to a joint meeting of the City Council and the County Commission on May 21, 1988. The Committee considered a package of control strategy alternatives, labeled Options A, B and C, which are summarized in Table 4.13.3-3.

**Table 4.13.3-3: Potential Control Measures for
Grants Pass Urban Growth Boundary**

Option A

Firewood Seasoning Education
Voluntary Curtailment During Pollution Episodes (5-10 days/year)
Clean Air Utility Rates
Upgraded Industrial Controls

Option B

Firewood Seasoning Education
Mandatory Curtailment During Pollution Episodes (5-10 days/year)
Clean Air Utility Rates

Option C

Firewood Seasoning Education
Retrofit Subsidy for All Freestanding Stoves
Voluntary Curtailment During Pollution Episodes (5-10 days/year)
Clean Air Utility Rates

Clean Air Utility Rates and Firewood Seasoning Education were common to all three options. One of the main differences between Options A and B was voluntary curtailment versus mandatory curtailment. Also, Option A included upgraded industrial controls, whereas they were not included in Options B and C.

Discussion of Options A, B and C

Option A

The first element of this option consists of a voluntary curtailment program on wood stove and fireplace use that would be activated on an estimated 5 to 10 days during the winter. The curtailment program would be set up to run locally, with assistance from the Department in providing forecasted air quality levels. Firewood seasoning education would be an informational program supported by DEQ materials and tools developed in other areas. Clean Air Utility Rates would be a program of reduced rates applied to baseline consumption levels that would be offered to the customers of utility companies serving the Grants Pass area. The reduced rate program would have to be approved by the Oregon Public Utility Commission. The combination of these measures was estimated to reduce PM₁₀ emissions from residential wood combustion by as much as 45%.

The industrial component of this option would require upgraded pollution control equipment for veneer dryers and wood-fired boilers. The upgraded equipment for the boilers would be similar to what has been required in Medford. The upgraded industrial control equipment was estimated to provide an emissions reduction of 56% (refer to the Point Source spread sheets in Appendix 5).

Option B

The sole focus of control under this option would be residential wood combustion. Implementation of this program would require the adoption of local ordinances, including enforcement provisions to carry out a mandatory curtailment program. Again, curtailment would be required approximately 5 to 10 days per winter heating season. Mandatory curtailment was estimated to reduce wood heating emissions (PM10) by approximately 65%--even if sole source heating and a few other exemptions were provided. (Note: Subsequent information developed by the Department indicates that mandatory curtailment could reduce emissions by 80 to 90%.)

Option C

This strategy would also focus on residential wood combustion. Voluntary curtailment would be the same as outlined under Option A. Under this option, existing, high emitting wood stove appliances would be replaced, or retrofitted. The local area would have the primary responsibility for developing funding to support this conversion program. The total cost of retrofits, or replacements is estimated to range between \$1 million and \$2 million, depending upon the mix of retrofits and replacements. Option C would reduce wood heating emissions by approximately 65%.

Evaluation of Options A, B and C

The three control options have different cost structures. Option A spreads the burden of control between the community (wood heating) and local industry. On a per participating household basis, the additional cost of a voluntary curtailment program would be approximately \$2 to 4 for each day of curtailment. The per household cost varies according to the degree of weatherization, the size of the structure and the type of alternative heat. Upgraded industrial pollution control equipment is estimated to have a capital cost of \$3 to 4 million.

Because of the much greater participation for a mandatory curtailment program, the overall cost of Option B for the wood heating households would be four times as much as for Option A. There would also be additional costs on local government for enforcement.

Option C costs would depend upon the mix of retrofits and stove replacements. A 100% retrofit program would cost approximately \$1.0 million, while a 100% replacement program would cost approximately \$2.0 million. The costs to individual households could be reduced through subsidies. Potential sources of subsidy funds could include: Community Development Block Grants (HUD), private foundation grants, state income tax credits, local property tax credits, industry or business contributions, city or county bond issues, state lottery funds, oil overcharge settlement funds, or increased wood cutting fees.

The Committee's deliberations on the options focused mostly on Option A. Given the relatively marginal nature of the PM₁₀ problem in Grants Pass, Option B appeared to be too harsh and unpopular. It also would be uneven in its application with a sole focus on residential wood combustion. The major drawback of Option C was the perceived difficulty in securing the necessary funding. The short time frame for implementation also appeared to be a major problem. The Committee thought that an extension for meeting the standard would be needed to implement Option C.

PM₁₀ Control Strategy Elements

The Committee recommended Option A as the basic framework for a PM₁₀ control strategy in the Grants Pass area. Potential control strategy elements are described below. Emission reduction credits associated with each element are listed and discussed. A PM₁₀ emission reduction credit is a measure of the reduction in PM₁₀ emissions that would be accomplished through adoption and implementation of the program element. Section 4.13.3.3 demonstrates how the Committee's recommendation will assure attainment of the 24-Hour PM₁₀ NAAQS.

Residential Wood Smoke Control Elements

There are two basic approaches to reducing woodsmoke from stoves and fireplaces: (1) improving the performance of the woodheating systems such as through a certified woodstove program; and (2) burning less wood through woodstove curtailment programs. Some strategies have multiple advantages. Certified woodstoves, for example, improve emission performance by reducing the amount of woodsmoke per cord of wood burned while improving energy efficiency, thus reducing the amount of wood burned. Other examples are well designed public information, energy conservation, or firewood seasoning programs that result in better combustion (lower emissions) and better energy efficiency (less fuel burned). The key elements of the residential wood smoke control program are described below.

Woodstove Certification Program

In 1983, the Oregon Legislature directed the Department to require that all new woodstoves sold in the state be certified

through laboratory testing of prototypes for emissions and efficiency to assure compliance with established woodstove emission standards. As a result, stoves sold after July, 1986 were required to emit 50% less emissions than conventional woodstoves. After July 1988 new woodstoves were required to emit 70% less emissions.

Subsequent to the adoption of Oregon's emission standards, the Environmental Protection Agency adopted a slightly more restrictive national certification program which will become effective in July, 1990. In December, 1989, the Department began rule making to modify the Oregon Woodstove Certification Rules (OAR 340 Division 21) to assure consistency with EPA's national program. The modified rule is expected to be adopted by March, 1990.

In-home studies of first generation certified woodstoves have indicated that they actually reduce emissions by about 30%. Second generation certified woodstoves have been shown to reduce emissions by about 50%. This lesser than expected performance has to a large extent been due to durability problems with critical stove components. The majority of the stoves certified by the department and sold in Oregon have been second generation stoves.

Second generation catalytic stove designs have incorporated new advancements in combustor technology which in part accounts for the stoves increased effectiveness. First generation catalytic stoves, incorporate less effective catalytic elements which are currently reaching the end of their useful life. When replaced with new generation catalysts, the first generation catalytic stoves will provide effective emissions reductions approaching that of second generation stoves. These improved first generation stoves will make up in part the stove population in 1992.

Recent in-home studies have also shown that woodstove designs which met experimental durability criteria have demonstrated emission reductions averaging 79%. Durability criteria are those design features, and methods of construction which will help ensure that the initial emission performance achieved by a stove is maintained over its usable life. Some of these units will also make up the woodstove population in 1992.

Additionally, sales of pellet stoves in non-attainment areas, as well as state wide are reported to have significantly increased and are expected to accelerate in the foreseeable future. Pellet stoves are expected to provide a 90% reduction in emissions in the home and are expected to become a significant segment of the woodstove population in non-attainment areas where they have typically been exempted from curtailment programs. Considering the above factors, the Department is using a conservative 50% emission reduction credit overall for the stove population of 1992.

Basis for Woodstove [10%] Certification Program Credit

As noted in Section 4.13.2.2 on Growth Factors, firewood use is projected to increase by 1% per year over 6 years for woodstoves and decrease by 2% per year for fireplaces. This is the basis of the growth factor used in calculating projected 1992 wood smoke emissions. Therefore, in the absence of any certification program, woodstove emissions would increase by:

$$1\% \text{ per year} \times 6 \text{ years} = + 6\%$$

With respect to the replacement of stoves, a conservative estimate of the average useful life of woodstoves is 20 years. Therefore, approximately 5% of the stove population will be replaced each year.

Building permit authorities in other areas of the state indicate that about 90% of permitted installations are certified stoves. Therefore, if ten percent of the new woodstoves installed are non-certified (i.e., there are no restrictions on the installation of used non-certified woodstoves) and the typical certified woodstove emits 50 % of that emitted from a conventional stove, then 1992 woodstove emissions can be expressed in terms of 1986 woodstove emissions as follows :

$$\begin{aligned} \text{WS92} &= [.06][\text{BL86WS}][(.90)(0.5) + (0.10)(1.0)] + (6 \text{ Yrs})(0.05/\text{Yr}) \\ &\quad (\text{BL86WS})[(.90)(0.5) + (0.10)(1.0)] + (\text{BL86WS})[1.0 - \\ &\quad (6 \text{ Yrs})(0.05/\text{Yr})] \\ &= (0.033)(\text{BL86WS}) + (0.165)(\text{BL86WS}) + (0.70)(\text{BL86WS}) \\ &= (0.898)(\text{BL86WS}) \end{aligned}$$

Where WS92 = 1992 Woodstove Emissions and

BL86WS = 1986 Baseline Woodstove Emissions

Therefore, the woodstove certification program provides a 10.2% credit $((1. - 0.898) \times 100)$ against the Baseline 1986 woodstove emissions by 1992.

A similar projection was made for determining the effect of the certification program to 2000. The year 2000 woodstove emissions were expressed in terms of a 1992 baseline (refer to calculations in Appendix 5). The certification program results in a 10.3% reduction, or approximately 1% per year after taking into consideration 1.7% annual growth.

Public Information Programs

A comprehensive, professional, and well-financed public information program is essential for public cooperation and support in reducing woodsmoke emissions. The program should describe clearly the need for the public's cooperation, the health-safety-energy-economic benefits to individuals and the community, and precisely what individuals can do to help. Key elements include: home weatherization, firewood seasoning, cleaner burning practices, proper stove installation and sizing, maintenance of woodburning systems and most importantly curtailment of woodburning during poor ventilation episodes. Although no emission reduction credits are taken for the public information program, it is critical to the success of all of the other woodsmoke reduction elements.

EPA's Guidance Document for Residential Wood Combustion Emission Control Measures recognizes public education programs as an essential element of any residential wood burning control strategy. Although EPA recognizes public education programs as an essential element of wood burning control programs, no emission reduction credits can be assigned to the program without further technical justification.¹⁴

Curtailment During Poor Ventilation Episodes

Woodburning curtailment forecasts can be made twice daily, or whenever PM₁₀ air quality levels, as measured by an integrating nephelometer, are forecast to exceed a 24 hour average NAAQS. The advisory is generally based on National Weather Service upper air and barometric pressure data, forecasts of synoptic meteorology, surface temperatures, and wind speed/direction. Nephelometer measurements of hourly light scattering and local observations of air quality conditions are also used.

Woodburning curtailment advisories are generally issued at three levels:

"Green" advisories are issued for periods during which NAAQS violations are unlikely. Woodburning is unrestricted during these periods but the public is asked to follow good woodburning practices.

"Yellow" advisories are issued for periods approaching exceedence of the NAAQS. The public is asked to curtail all unnecessary woodburning, excepting only pellet stoves, certified woodstoves, and those people that use wood as their sole source of heat.

¹⁴ US EPA, "Guidance Document for Residential Wood Combustion Emission Control Measures," EPA-450/2-89-015 (1989).

"Red" advisories are issued for periods of severely restricted ventilation during which PM₁₀ levels are expected to exceed the NAAQS. Only households in which woodburning is the sole source of heat are permitted to burn during these periods.

Compliance with the advisories can be determined through evening surveys of woodburning activity during "Green", "Yellow" and "Red" curtailment periods using infrared cameras. Data from the surveys is used to direct the public education program, evaluate progress toward achieving program goals, and in evaluating trends in PM₁₀ concentrations.

Basis for Wood Burning Curtailment Credits (Worst Case Day)

Over the past several heating seasons a number of woodburning communities in Oregon, and other western states, have instituted voluntary woodburning curtailment programs as a means of reducing wood heating emissions. Nearby Medford, Oregon has reported 25% compliance per year for the past 4 years. Klamath Falls, Oregon reported 14% compliance in its first year of voluntary curtailment and 27% in its second year. Missoula, Montana has reported 30% compliance. The goal of the Grants Pass Woodburning Advisory Program is to reduce wood use by 25% on the 1 - 10 days per year on which violations of the PM₁₀ health standard would be expected. The goal is to be achieved by the end of the second year of the program. Compliance with the advisory will be based on field surveys. A credit of 25% is justified based on the experience of other communities and Grants Pass' commitment to achieve the National Ambient Air Quality Standards.

Industrial Control Elements

In September, 1988 the Environmental Quality Commission adopted changes to the Industrial Rules (OAR 340-30-005 to 067) specific to Grants Pass and Medford. These rules will significantly reduce PM₁₀ emissions from veneer dryers and wood-fired boilers.

The new rules impose emission limits for veneer dryers based on state-of-the-art technology. For dryers using gas, or steam as the heat source, the emission limit is 0.30 pounds per thousand square feet (lb/Msf) of 3/8" veneer dried. For dryers heated directly by combustion gases from wood burning, the emission limit is 0.45 lb/Msf. These emission limits boost the control efficiency from 45% to a minimum of 70%. The upgraded control equipment for veneer dryers is expected to result in an emissions reduction of 99 tons per year, approximately 54% of 1986 emissions.

For existing large, wood-fired boilers (heat-input capacity of greater than 35 million Btu/Hr), the new Rules impose an emission limit of 0.05 grains per standard dry cubic foot

(gr/SDCF). The imposition of the reduced emission limit is expected to result in an emissions reduction of 82 tons per year. By the end of 1994, the large wood-fired boiler emission control equipment must meet an emission limit of 0.015 gr/SDCF. However, any such modification, or replacement will be legally limited to 0.030 gr/SDCF. The difference in emissions between 0.030 gr/SDCF and a lower actual emission rate can be banked for offsetting new sources.

The overall industrial PM₁₀ emissions reduction is predicted to be 55% between 1986 and 1992.

Long-Term Wood Heating Control Strategy

Wood heating curtailment is viewed as a short-range control strategy to allow rapid attainment of the short-term (24-hour) PM₁₀ air quality standard. The Department of Environmental Quality is committed to pursue permanent reductions in wood heating emissions as a long-range strategy to reduce and even eliminate the reliance on curtailment and to provide significant improvement in annual PM₁₀ air quality.

At least the following measures will be pursued to reduce permanently wood heating emissions:

- o Public education activities will include more specific information on the true cost of wood heating in relation to other alternative cleaner heating sources. The major goal of this effort is to persuade those households that are spending more money to heat with wood than with conventional fuels, such as natural gas, to convert from wood heat.
- o Further information and studies on the toxicity, health effects and other detrimental effects of woodsmoke will be pursued and heavily publicized in a continuing effort to convince more people that they should reduce wood burning.
- o In home emission control performance of certified stoves will be improved through promotion of durable design criteria and development of a stress test which will aid in identifying durable certified stoves.
- o Financial incentive programs will be pursued through the Oregon Legislature and other avenues to promote replacement of conventional wood heating appliances with less polluting systems. These programs could include tax credits, low interest loans and total buyouts for low income households. An objective would be to graduate these incentives in proportion to the emission reduction potential of the alternative heating systems, with electric and gas systems qualifying for the largest

financial incentives followed by pellet stoves, durable certified woodstoves and finally, other certified woodstoves.

4.13.3.3 Demonstration of Attainment

This section describes the application of emission reduction credits described in Section 4.13.3.2 for demonstrating attainment with the NAAQS. The methodology used is based on a proportional rollback of 1992 emission estimates.

24 Hour Worst Case Day Strategy

Based on the Emission Inventory approach, attainment of the 24 hour NAAQS in 1992 will require a 17% or 1785 pounds of reduction in worst case day emissions. The necessary reduction is achieved through the strategy elements listed below.

Table 4.13.3-4: Summary of 24 Hour Emission Reductions

<u>Strategy Element</u>	<u>Credit</u>	<u>Emission Reduction</u>
Industrial Controls	2086 lbs/d x 55%	1147 lbs/d
Woodstove Strategies		
Certification	4964 lbs/d x 10.2%	506 lbs/d
Curtailement	5134 lbs/d x 25%	1284 lbs/d
	Total Reduction	2937 lbs/d
	Required Reduction	1785
	Excess Reduction Achieved	1152 lbs/d

Especially noteworthy in the above table is the fact that the Woodstove Strategies alone provide sufficient emissions reduction (1790 lbs/d) to meet the standard. This gives a high degree of assurance that the 24 hour NAAQS for PM₁₀ will be met in areas within the UGB which are not significantly impacted by industrial sources and where no monitoring data exists. Conversely, the great reduction in emissions within the industrial area from 1986 to 1992 (64%), as a result of the plant shutdown and Industrial Controls, in combination with the Woodstove Strategies provides reasonable assurance that non-monitored areas within and around the industrial area will meet the standard.

The alternative analysis, based on Receptor Modeling, requires a 20% or 27 $\mu\text{g}/\text{m}^3$ of reduction in worst case day PM₁₀ concentrations. This reduction is achievable through the same strategy elements as shown below.

Table 4.13.3-5: Summary of 24 Hour PM₁₀ Reductions

<u>Strategy Element</u>	<u>Credit</u>	<u>PM₁₀ Reductions</u>
Industrial Controls	55%	5 $\mu\text{g}/\text{m}^3$
Woodstove Strategies		
Certification	10.2%	8
Curtailement	25%	20
	Total Reduction	33 $\mu\text{g}/\text{m}^3$
	Required Reduction	27
	Excess Reduction Achieved	6 $\mu\text{g}/\text{m}^3$

This analysis also demonstrates that the Woodstove Strategies (28 $\mu\text{g}/\text{m}^3$ reduction) alone are sufficient to meet the 24 hour NAAQS, thus providing a high degree of assurance that the standard will be met everywhere within the UGB.

4.13.3.4 Emission Offsets and Banking

There are no currently banked emissions in the industrial source permits within the Grants Pass UGB.

4.13.3.5 Demonstration of Maintenance

To demonstrate continued maintenance of the annual and 24-hour NAAQS for PM₁₀, annual and worst case day emissions were projected to the year 2000. For the worst case day the emissions for each individual source category were forecast taking into account expected growth and application of the relevant control strategy element to the uncontrolled emissions projected for 1992 (Table 4.13.2-6). Individual source impacts (in $\mu\text{g}/\text{m}^3$) were determined by applying growth predictions and the application of controls to the values in Table 4.13.3-1.

With the addition of the 44 $\mu\text{g}/\text{m}^3$ background, the projection indicates a year 2000 worst case day concentration of 135 $\mu\text{g}/\text{m}^3$, which is less than the 24-hour standard of 150 $\mu\text{g}/\text{m}^3$. The year 2000 worst case day projections are tabulated below.

Table 4.13.3-6: Grants Pass UGB Worst Case Day Year 2000 Maintenance Analysis

Source	1992 lbs/Day	1992 $\mu\text{g}/\text{m}^3$	1992- 2000 Growth	2000 lbs/Day	2000 $\mu\text{g}/\text{m}^3$
Industry	939	11	0 %	939	11
Res. Wood Comb.	3851	47	-7 %	3578	44
Fugitive Dust	1500	19	14 %	1707	22
Transportation	864	10	14 %	984	11
Other	111	3	14 %	126	3
Totals	7265	90		7334	91

To check for continued maintenance of the annual standard, the total annual emissions for 1986 and 2000 were compared. Using the same rationale (growth combined with controls) the annual emissions are projected to be approximately 18% lower in 2000 than in 1986, thus indicating continued maintenance of the annual standard (See Table 4.13.2-5).

4.13.4 Implementation of the Control Strategy

4.13.4.1 Schedule for Implementation

The schedule for implementation of the recommended set of measures is shown in Table 4.13.4-1.

Table 4.13.4-1: Control Strategy Implementation

Program Element	Implementation Date	Organization Involved
1. Nephelometer to support voluntary curtailment program	Nov. 1, 1989	EPA/DEQ
2. Volunteer, or appointed Air Quality Coordinator	Nov. 1, 1989	Local Gov.
3. Voluntary Woodheating Curtailment	1990/1991 Heating Season	DEQ/Local Gov.
4. Short Term Public Information	1988/1989 Heating Season	DEQ/Local Gov. & Media
5. Long Term Public Information	1988/1989 Heating Season	DEQ/Local Gov.
6. Updated Woodheating Survey	July 31, 1992	DEQ
7. Industrial Rules	September 30, 1989	DEQ

Discussion of Program Elements

1. Nephelometer: The Department secured Special Project funding from the Environmental Protection Agency for 1989 to install and operate a nephelometer. The funding also covered the installation and operation of meteorological equipment. Once a sufficient amount of winter time nephelometer data has been collected, the data from the nephelometer will be regressed against PM₁₀ data. The resulting equation will be used to indicate PM₁₀ levels that correspond to the nephelometer readings. This will be a key element in making woodheating curtailment calls during episodes of poor ventilation.
2. Volunteer Coordinator: The City of Grants Pass and Josephine County in December 1989 jointly appointed Bill Olson (Josephine County Health Department) to serve as the air quality coordinator for Grants Pass.
3. Voluntary Curtailment: The Department will start working with local government on setting up a voluntary curtailment program during the latter half of 1990. A "red", "yellow", "green" day type of program, similar in operation to the existing program in Medford, is anticipated. Final

operational details will be worked out by the fall of 1990 so that the announcement of curtailment calls can be made by November 1, 1990.

4. **Short-Term Public Information:** The basic focus of this measure is on future (1990-1991) media contact/Public Service Announcements with respect to voluntary curtailment of woodheating. On a current basis, the Department developed three 30-second Public Service Announcements called "Burning Tips" for the PM10 problem areas which were made available to Grants Pass radio stations for the 1988-1989 heating season. Information on voluntary curtailment will be developed for media use to coincide with voluntary curtailment program start-up in 1990.
5. **Long-Term Public Information:** This program element is focused on written materials, mostly the development and distribution of informational brochures targeted at wood burning households. Several informational brochures have been published by the Department and have been distributed in the PM10 problem areas of the State. For the 1989-1990 heating season, the Department developed informational materials around the theme "Burn Smart". The "Burn Smart" brochure includes basic information on the relationship of wood heating to air pollution and tips on energy conservation, woodstove operation and installation. The brochure also has information on proper seasoning of wood that is specific to commonly used wood species.
6. **Updated Wood Heating Survey:** The residential wood combustion component of the emissions inventories for Grants Pass depended upon statistics that were generated from the Medford Wood Heating Survey conducted in 1987. In order to improve the accuracy of the emissions inventories in the future, the Department will budget for a Grants Pass survey to be conducted by July 1992.
7. **Industrial Rules:** The Environmental Quality Commission adopted Industrial Rules covering the southern Oregon PM10 problem areas in September 1989. Based on the schedule contained in the proposed Rules, upgraded boiler and veneer dryer controls would have to be in place and demonstrate compliance with the Rules by August 1991.

4.13.4.2 Rules, Regulations and Commitments

The Oregon Revised Statutes (ORS) 468.020, 468.295 and 468.305 authorize the Oregon Environmental Quality Commission to adopt programs necessary to meet and maintain state and federal standards. The mechanisms for implementing these programs are the Oregon Administrative Rules (OAR).

Specific air pollution rules applicable to the Grants Pass area (OAR 340-30-005 to 070) are included in Section 3.1 of the Oregon State Implementation Plan.

<u>OAR</u>	<u>Subject</u>
340-30-005 (revised)	Purposes and Application (Adds Grants Pass Urban Growth Boundary Area)
340-30-015 (revised)	Wood Waste Boilers
340-30-021 (added)	Veneer Dryer Emission Limitations
340-30-040 (revised)	Charcoal Producing Plants
340-30-046 (added)	Compliance Schedules
340-30-050 (revised)	Continuous Monitoring
340-30-055 (revised)	Source Testing
340-30-065 (revised)	New Sources
340-30-067 (new)	Rebuilt Sources

Additional rules applicable statewide include:

<u>OAR</u>	<u>Subject</u>
340-20-220 to 275	New Source Review
340-20-300 to 320	Plant Site Emission Limits
340-21-100 to 190	Woodstove Certification Program

Interagency Commitments

Oregon Department of Forestry Smoke Management Plan, OAR 629-43-043

Enforceability

The Clean Air Act requires SIP control strategies to be enforceable. The Industrial Rules cited above provide the means to enforce the industrial control element of the strategy. The Woodstove Certification Program provides enforcement of the residential woodburning control element. Implementation of the voluntary woodstove curtailment strategy element will assure that attainment of the PM₁₀ NAAQS is achieved and maintained. This strategy does not need to be enforceable, as the credit of less than 30% is consistent with EPA guidance for such programs.

4.13.4.3 Emergency Action Plan Provisions

OAR 340 Division 27 describes Oregon's Emergency Action Plan. The rule is intended to prevent the excessive accumulation of air contaminants during any periods of air stagnation which, if unchecked, could result in concentrations of pollutants which could cause significant harm to the public health. The rules establish criteria for identifying and declaring air pollution episodes below the significant harm level, and were adopted pursuant to requirements of the Clean Air Act. The action levels

found in the Plan were established by the Environmental Protection Agency and subsequently adopted by the Department.

The "Significant Harm" level for PM₁₀ particulate matter is 600 µg/m³; the "Alert" level is 350 µg/m³; the "Warning" level is 420 µg/m³; and the "Emergency" level is 500 µg/m³ (all 24 hour averages). These levels were adopted by the Environmental Quality Commission in April, 1988. They must be coupled with meteorological forecasts for continuing air stagnation to trigger the Action Plan.

Authority for the Department to regulate air pollution sources during emergency episodes, including emissions from woodstoves, is provided under ORS 468. When there is an imminent and substantial endangerment to public health (the Significant Harm level) ORS 468.115 authorizes the Department, at the direction of the Governor, to enforce orders requiring any person to cease and desist actions causing the pollution. State and local police are directed to cooperate in the enforcement of such orders.

4.13.5 Public Involvement

Development of the Grants Pass PM₁₀ control strategy included several areas of public involvement including Citizen Advisory Committees, public participation at hearings on proposed industrial source rules and attendance at hearings conducted by the Josephine County Board of Commissioners.

4.13.5.1 Citizen Advisory Committee

In August 1987 the Department requested that the City of Grants Pass and the Josephine County Commission appoint a citizens committee of eight members with equal representation from the City and the County (four appointments each). The citizen appointments were completed by December 1987. The eight members designated their group the Grants Pass Clean Air Policy Advisory Committee. The main purpose of the Committee was to evaluate the particulate problem in Grants Pass and make recommendations to the City and County on a strategy to meet the PM₁₀ standards in Grants Pass.

4.13.5.2 Public Notice

Public notice of proposed rule revisions is done through mailing lists maintained by the Department, through notifications published in local newspapers and through Department press releases.

The public notice for the amendments to Oregon's Industrial Rules affecting the Medford-Ashland and Grants Pass areas was published in the Secretary of State's Bulletin on December 15, 1988. A copy of the notice is in Appendix 4.13.5-1. Copies of the notices that were published in the local newspapers are also

contained in Appendix 4.13.5-1. The public notice for the entire SIP control strategy was published _____.

4.13.5.3 Public Hearings.

Public hearings on the Industrial Rules were held in Medford on January 10, 1989 and in Grants Pass on January 12, 1989. Public hearings on the entire SIP control strategy were held _____.

4.13.5.4 Intergovernmental Review

Public hearing notices regarding adoption of this revision to the State Implementation Plan will be distributed for local and state agency review through the A-95 State Clearinghouse process forty-five days prior to adoption by the Environmental Quality Commission.

Attachment B

RULEMAKING STATEMENTS FOR PROPOSED GRANTS PASS PM₁₀ CONTROL STRATEGY AS A REVISION TO THE STATE OF OREGON CLEAN AIR ACT IMPLEMENTATION PLAN

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the intended action to amend a rule.

(1) Legal Authority

This proposal amends Oregon Administrative Rules (OAR) 340-20-047. It is proposed under authority of Oregon Revised Statutes (ORS) Chapter 468.

(2) Need for these Rules

Air quality measurements taken in Grants Pass indicate that the federal 24-hour PM₁₀ air quality standard is exceeded about 1-10 days per year during the winter months. PM₁₀ refers to particulate matter ten micrometers or smaller in diameter. PM₁₀ particles are considered a risk to human health due to the body's inability to effectively filter out particles of this size.

The Federal Clean Air Act requires that states develop and adopt State Implementation Plan (SIP) revisions to assure that areas which violate the PM₁₀ health and welfare standards are brought into attainment with those standards within prescribed time frames. The proposed control strategy document describes the State of Oregon plan to attain and maintain the annual and 24-hour PM₁₀ standards within the Grants Pass Urban Growth Boundary (UGB).

The principal means of achieving the necessary air quality improvements is through PM₁₀ emission reductions from woodstoves and fireplaces and the wood products industries. Additional reductions are expected from statewide efforts to reduce slash burning smoke.

(3) Principal Documents Relied Upon

PM₁₀ SIP Development Guideline, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park NC, June 1987, EPA-450/2-86-001.

Report of Grants Pass Clean Air Policy Advisory Committee, April 20, 1988.

Previous staff reports to the Environmental Quality Commission (EQC):

Agenda Item D, January 22, 1988, EQC Meeting, Informational Report: New Federal Ambient Air Quality Standard for Particulate Matter (PM₁₀) and Its Effects on Oregon's Air Quality Program.

Agenda Item H, November 4, 1988, EQC Meeting, Request for Authorization to Conduct Public Hearings on New Industrial Rules for PM₁₀ Emission Control in the Medford-Ashland AQMA and Grants Pass and Klamath Falls Urban Growth Areas (Amendments to OAR 340, Divisions 20 and 30).

Agenda Item E, September 8, 1989, EQC Meeting, Industrial PM₁₀ Rules for Medford-Ashland and Grants Pass: Adoption of New Industrial Rules That Were Taken to Public Hearings in January 1989.

Guidance Document for Residential Wood Combustion Emission Control Measures, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park NC, September 1989, EPA-450/2-89-015.

All documents referenced may be inspected at the Department of Environmental Quality, Air Quality Division, 811 S.W. 6th Avenue, Portland, Oregon, during normal business hours.

LAND USE CONSISTENCY STATEMENT

The proposed rule changes appear to affect land use as defined in the Department's coordination program with DLCD, but appear to be consistent with the Statewide Planning Goals.

With regard to Goal 6, (air, water, and land resources quality), the proposed changes are designed to enhance and preserve air quality in the State and are considered consistent with the goal. The proposed rule changes do not appear to conflict with the other Goals.

Public comment on any land use issue involved is welcome and may be submitted in the same fashion as indicated for other testimony on these rules.

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 appropriate conflicts brought to our attention by local, state, or federal authorities.

Attachment C

FISCAL AND ECONOMIC IMPACT STATEMENT FOR PROPOSED GRANTS PASS PM₁₀ CONTROL STRATEGY AS A REVISION TO THE STATE IMPLEMENTATION PLAN

PROPOSAL SUMMARY

The Grants Pass area exceeds the federal 24-hour PM₁₀ air quality standard about 1-10 days per year during the winter months. PM₁₀ refers to particulate matter ten micrometers or smaller in diameter. PM₁₀ particles are considered a risk to human health due to the body's inability to effectively filter out particles of this size.

The Federal Clean Air Act requires that states develop and adopt State Implementation Plan (SIP) revisions to assure that areas which violate the PM₁₀ health and welfare standards are brought into attainment with those standards within prescribed time frames. The proposed control strategy document describes the State of Oregon plan to attain and maintain the annual and 24-hour PM₁₀ standards within the Grants Pass Urban Growth Boundary (UGB).

The principal means of achieving the necessary air quality improvements is through PM₁₀ emission reductions from woodstoves and fireplaces and the wood products industries. Additional reductions are expected from statewide efforts to reduce slash burning smoke.

The implementation of the PM₁₀ control strategy involves residents, industries, local governments, and state and federal agencies. The two groups most affected by the proposed PM₁₀ control strategy for the Grants Pass area are the owners/operators of wood products industries and residents with woodstoves or fireplaces.

COSTS TO WOOD PRODUCTS INDUSTRIES

Wood products industry emissions will be reduced by additional control requirements on veneer driers and large wood-fired boilers at plywood plants, more extensive source testing and continuous emission monitoring in order to maximize performance of pollution control equipment, and more restrictive emission offset requirements to insure a net air quality benefit from any new or expanded industries. The new industrial emission control and monitoring requirements will result in estimated capital costs in the range of \$3 to 4 million; there will also be related increases in maintenance costs, but those costs are more difficult to quantify. Industrial PM₁₀ rules to implement these requirements were adopted by the Environmental Quality Commission in September 1989.

COSTS TO RESIDENTS WITH WOODSTOVES OR FIREPLACES

The residential woodsmoke reduction strategies are closely patterned after the April 1988 recommendations of the Grants Pass Clean Air Policy Advisory Committee. Woodstove and fireplace emissions will be reduced by an expanded public information program, an areawide local voluntary woodburning curtailment program, the Oregon woodstove certification program and continued improvements in firewood seasoning and woodstove operation.

The typical cost of woodburning curtailment is estimated at \$2-4 per curtailment day per woodburning home, depending primarily on the type of alternative heat, amount of weatherization, and size of home. Up to 4,200 homes in the critical PM₁₀ control area would be affected on the 1-10 days of the year that curtailment would be needed. Actual compliance with the voluntary program is estimated at 25%, based on experience in other areas.

COSTS TO STATE AND LOCAL GOVERNMENT AGENCIES

The new industrial emission control and monitoring requirements will require additional plan reviews, inspections, monitoring report reviews, and other compliance assurance activities by Department of Environmental Quality staff. This additional work will be done by shifting existing resources.

The operational details of the voluntary curtailment program are expected to be developed in the latter half of 1990 and be fully documented by the time of final SIP control strategy adoption. The program probably will operate similarly to the Medford program minus the features that are specific to a mandatory program. The daily decision on woodburning curtailment programs will be based on air quality information from the Department's existing air monitoring network, including Grants Pass B-Scat measurements, and meteorological information from the National Weather Service.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

**PM₁₀ CONTROL STRATEGY FOR GRANTS PASS AREA
NOTICE OF PUBLIC HEARING**

Hearing Date: August 2, 1990
Comments Due: August 9, 1990

WHO IS AFFECTED: Residents, local governments and industries within the Grants Pass Urban Growth Boundary.

WHAT IS PROPOSED: The Department of Environmental Quality is proposing to amend OAR 340-20-047, the State of Oregon Clean Air Act Implementation Plan.

WHAT ARE THE HIGHLIGHTS:

- 1) The Grants Pass area has a PM₁₀ air pollution problem. (PM₁₀ refers to particulate matter ten micrometers or smaller in diameter.) PM₁₀ particles are considered a risk to human health due to the body's inability to effectively filter out particles of this size.
- 2) The proposed control strategy document describes the overall plan to meet the 24-hour PM₁₀ standard by the end of 1992 and maintain the annual and 24-hour PM₁₀ health and welfare standards within the Grants Pass Urban Growth Boundary at least through the year 2000.
- 3) The principal means of achieving the necessary air quality improvements is through PM₁₀ emission reductions from woodstoves and fireplaces and the wood products industries. Additional reductions are expected from statewide efforts to reduce slash burning smoke.

HOW TO COMMENT: Copies of the complete proposed rule package may be obtained from: Air Quality Division, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, OR 97204 or the regional office nearest you. For further information contact Howard Harris at (503) 229-6086.

A public hearing will be held before a hearings officer at:

7:00 p.m.
August 2, 1990
Grants Pass City Council Chambers
101 NW A
Grants Pass, Oregon



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.

D-1

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 August 9, 1990.

**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 as part of the State Clean Air Act Implementation Plan. The Commission's deliberation should come in November 1990 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.

HWH:a
PLAN\AH10006
(6/90)

(2) In determining air purity standards, the commission shall consider the following factors:

- (a) The quality or characteristics of air contaminants or the duration of their presence in the atmosphere which may cause air pollution in the particular area of the state;
- (b) Existing physical conditions and topography;
- (c) Prevailing wind directions and velocities;
- (d) Temperatures and temperature inversion periods, humidity, and other atmospheric conditions;
- (e) Possible chemical reactions between air contaminants or between such air contaminants and air gases, moisture or sunlight;
- (f) The predominant character of development of the area of the state, such as residential, highly developed industrial area, commercial or other characteristics;
- (g) Availability of air-cleaning devices;
- (h) Economic feasibility of air-cleaning devices;
- (i) Effect on normal human health of particular air contaminants;
- (j) Effect on efficiency of industrial operation resulting from use of air-cleaning devices;
- (k) Extent of danger to property in the area reasonably to be expected from any particular air contaminants;
- (l) Interference with reasonable enjoyment of life by persons in the area which can reasonably be expected to be affected by the air contaminants;
- (m) The volume of air contaminants emitted from a particular class of air contamination source;
- (n) The economic and industrial development of the state and continuance of public enjoyment of the state's natural resources; and
- (o) Other factors which the commission may find applicable.

(3) The commission may establish air quality standards including emission standards for the entire state or an area of the state. The standards shall set forth the maximum amount of air pollution permissible in various categories of air contaminants and may differentiate between different areas of the state, different air contaminants and different air contamination sources or classes thereof. [Formerly 440.785]

466.300 When liability for violation not applicable. The several liabilities which may be imposed pursuant to ORS 443.305, 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 this chapter upon persons violating the provisions of any rule, standard or order of the commission pertaining to air pollution shall not be so construed as to include any violation which was caused by an act of God, war, strife, riot or other condition as to which any negligence or wilful misconduct on the part of such person was not the proximate cause. [Formerly 449.925]

468.305 General comprehensive plan. Subject to policy direction by the commission, the department shall prepare and develop a general comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of new air pollution in any area of the state in which air pollution is found already existing or in danger of existing. The plan shall recognize varying requirements for different areas of the state. [Formerly 449.782]

468.310 Permits. By rule the commission may require permits for air contamination sources classified by type of air contaminants, by type of air contamination source or by area of the state. The permits shall be issued as provided in ORS 466.065. [Formerly 443.727]

468.315 Activities prohibited without permit; limit on activities with permit. (1) Without first obtaining a permit pursuant to ORS 468.065, no person shall:

(a) Discharge, emit or allow to be discharged or emitted any air contaminant for which a permit is required under ORS 468.310 into the outdoor atmosphere from any air contamination source.

(b) Construct, install, establish, develop, modify, enlarge or operate any air contamination source for which a permit is required under ORS 468.310.

(2) No person shall increase in volume or strength discharges or emissions from any air contamination source for which a permit is required under ORS 468.310 in excess of the permissive discharges or emission specified under an existing permit. [Formerly 449.731]

468.320 Classification of air contamination sources; registration and reporting of sources. (1) By rule the commission may classify air contamination sources according to levels and types of emissions and other characteristics which cause or tend to cause or contribute to air pollution and may require registration or reporting or both for any such class or classes.

(2) Any person in control of an air contamination source of any class for which registration and reporting is required under subsection (1) of this section shall register

REPORT OF
GRANTS PASS
CLEAN AIR POLICY ADVISORY COMMITTEE

APRIL 1988

EXECUTIVE SUMMARY

In July 1987, the Environmental Protection Agency (EPA) revised the air quality standards (annual and daily) for particulate matter (PM). The new standards change the focus from Total Suspended Particulate to only fine particulate that is less than ten micrometers in diameter (referred to as "PM₁₀"). These smaller particles can penetrate the lower respiratory tract and cause adverse health effects.

The Grants Pass urbanized area appears to meet the new federal annual standard for fine particulate, but does not meet the new daily (24-hour) standard of 150 micrograms per cubic meter of air. Violations of the daily standard are estimated to occur five to ten days during the winter. Based on sampling conducted during two winters (1985-1986 and 1986-1987), a peak day concentration of 200 micrograms per cubic meter of air is the level that needs to be reduced to meet the daily health standard.

The peak particulate concentrations generally occur during air stagnation periods in December and January. Approximately 50% of the fine particulate on a peak day is due to residential wood smoke from stoves and fireplaces. The local wood products

industry is estimated to contribute approximately 20% of the fine particulate on a peak day.

The Grants Pass City Council and the Josephine County Commissioners appointed a citizens committee in December 1987 to evaluate the particulate problem and recommend a strategy consistent with Federal Clean Air Act standards. The Committee reviewed three major control alternatives for meeting the new daily federal health standard: 1) Option A - voluntary wood stove curtailment and upgraded industrial controls; 2) Option B - mandatory wood stove curtailment; 3) Option C - voluntary wood stove curtailment and a wood stove retrofit, or replacement program.

Based on an evaluation of the alternative control options, the Committee recommends the adoption of Option A and the following measures be included in the PM10 emissions reduction strategy:

1. Comprehensive Short Term and Long Term public information/education program;
2. Announcement of voluntary curtailment of wood stove/fireplace use on forecast days;
3. Clean air utility rates for electricity and natural gas;
4. Upgraded industrial pollution controls.
5. Nephelometer instrumentation to be installed by DEQ;
6. Local Air Quality Coordinator either volunteer, or appointed;
7. Updated Grants Pass wood heating survey.

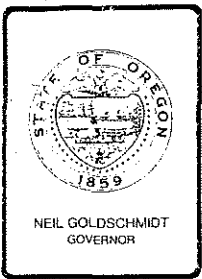
Attachment G

Previous EQC Agenda Items

Agenda Item D, January 22, 1988, EQC Meeting, Informational Report: New Federal Ambient Air Quality Standard for Particulate Matter (PM₁₀) and Its Effects on Oregon's Air Quality Program.

Agenda Item H, November 4, 1988, EQC Meeting, Request for Authorization to Conduct Public Hearings on New Industrial Rules for PM₁₀ Emission Control in the Medford-Ashland AQMA and Grants Pass and Klamath Falls Urban Growth Areas (Amendments to OAR 340, Divisions 20 and 30).

Agenda Item E, September 8, 1989, EQC Meeting, Industrial PM₁₀ Rules for Medford-Ashland and Grants Pass: To Consider Adoption of New Industrial Rules That Were Taken to Public Hearings in January 1989.



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: F
Division: Air Quality
Section: Planning & Development

SUBJECT:

Klamath Falls Particulate Matter (PM₁₀) Control Strategy

PURPOSE:

Revision of the State Implementation Plan (SIP) to include the PM₁₀ air pollution control strategy for the Klamath Falls Nonattainment Area.

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 ___

Meeting Date: June 29, 1990
Agenda Item: F
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DESCRIPTION OF REQUESTED ACTION:

The Environmental Quality Commission (Commission) is requested to authorize a public hearing on the proposed PM₁₀ control strategy for the Klamath Falls Nonattainment area within Klamath County.

The proposed control strategy document describes the State of Oregon's plan to meet federal Clean Air Act requirements to attain compliance with the annual and 24-hour PM₁₀ standards by September 1991 in the Klamath Falls Basin and maintain compliance with the PM₁₀ standards through at least the year 2000. The Klamath Falls PM₁₀ control strategy document is proposed as a revision to the State Implementation Plan (OAR 340-20-047). This action includes control strategy elements related to woodstoves and fireplaces as well as winter road sanding, slash burning and restrictions on the growth of industrial emissions. The Clean Air Act requires that all elements be federally enforceable. The Department of Environmental Quality (Department) has requested local governments to adopt and submit necessary mandatory curtailment ordinances for wood burning by the time the Environmental Quality Commission will be considering this SIP for adoption. Other elements have already been adopted through either state rules or by agreement with the state agencies.

Additional details on the proposal are outlined in the Executive Summary of the PM₁₀ control strategy document (Attachment A).

AUTHORITY/NEED FOR ACTION:

<input type="checkbox"/> Required by Statute: _____	Attachment _____
Enactment Date: _____	
<input checked="" type="checkbox"/> Statutory Authority: <u>ORS 468.305</u>	Attachment <u>E</u>
<input type="checkbox"/> Pursuant to Rule: _____	Attachment _____
<input type="checkbox"/> Pursuant to Federal Law/Rule: _____	Attachment _____
<input type="checkbox"/> Other: _____	Attachment _____
<input checked="" type="checkbox"/> Time Constraints:	

The U.S. Environmental Protection Agency (EPA) adopted new particulate National Ambient Air Quality Standards (NAAQS) for PM₁₀ effective July 31, 1987. The federal Clean Air Act requires that States develop and adopt State Implementation Plan revisions to assure that areas which exceed the NAAQS are brought into attainment within a 49-month timeframe following adoption of the new health standards (by September 1991 for PM₁₀).

Meeting Date: June 29, 1990
Agenda Item: F
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The adopted PM₁₀ control strategies were due to EPA as SIP revisions by May 1988 but none of the States were able to meet this deadline. The Sierra Club has sued EPA for failure to require States nationally to submit PM₁₀ plans according to the Clean Air Act schedule. The Department and EPA Region 10 agreed to a November, 1990 PM₁₀ SIP submittal date which will be offered in the suit settlement negotiations. This date has also been incorporated into the FY91 State/EPA Agreement. Congress is expected to complete the reauthorization of the Clean Air Act later this year. This may or may not result in extensions of the deadlines for PM₁₀ SIP submittals and attainment of PM₁₀ standards in Oregon.

DEVELOPMENTAL BACKGROUND:

<u> </u> Advisory Committee Report/Recommendation	Attachment <u> </u>
<u> </u> Hearing Officer's Report/Recommendations	Attachment <u> </u>
<u> </u> Response to Testimony/Comments	Attachment <u> </u>
<u> X</u> Prior EQC Agenda Items: Four Items.	Attachment <u> F</u>
<u> </u> Other Related Reports/Rules/Statutes:	Attachment <u> </u>
<u> X</u> Supplemental Background Information	Attachment <u> G</u>

The Department sent copies of the preliminary draft of the proposed State Implementation Plan revision to local governments and EPA for comment. Changes were made in response to comments received.

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The implementation of the PM₁₀ control strategy involves residents, industries, local governments, and state and federal agencies. Residents with woodstoves or fireplaces are the group most affected by the proposed PM₁₀ control strategy. The economic impacts of the adopted state industrial rules and local potential woodburning ordinances are outlined in Attachment C.

Woodstove and fireplace emissions will be reduced by a public information program, an areawide local mandatory woodburning curtailment program (if adopted by local governments), the Oregon woodstove certification program, financial assistance programs for replacement of existing woodstoves with cleaner burning units and weatherization of homes, a ban on installation of non-certified woodstoves, and continued improvements woodstove operation. Up to 10,000 homes in the critical PM₁₀ control area would be affected about 71 curtailment days per year. Homes with certified wood stoves would be affected about 50 days per year.

Industrial rules which tighten the emission offset requirements for new or modified sources from 15 to 5 tons per year of PM are included in the strategy to

Meeting Date: June 29, 1990
Agenda Item: F
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assure that industrial emission increases do not interfere with emission reduction achieved by the wood burning and winter road sanding control strategies. Rules to implement the offset requirements were adopted by the Environmental Quality Commission in June, 1989.

Open burning restrictions on wood burning curtailment days will be implemented through a memorandum of understanding between Klamath County and local fire districts and through directives from the State Fire Marshal's Office.

Winter road sanding emissions will be reduced by 60% by using road deicing materials in lieu of aggregate, rapid cleanup of the used aggregate and reducing aggregate application rates.

Slash burning emissions will be reduced in western Oregon by about 20 percent between 1984 and the year 2000 as part of the Oregon Visibility Protection Plan. These emission reductions will further insure that background PM₁₀ concentrations will not increase in future years.

PROGRAM CONSIDERATIONS:

The Klamath County Department of Health will make the daily decision on woodburning curtailment programs (red, yellow, green calls) based on air quality information from the Department's existing air monitoring network and meteorological information from the National Weather Service. The compliance assurance surveys and enforcement activities for the woodburning curtailment programs (if a mandatory curtailment ordinance is adopted) will be conducted by Klamath County staff. Some EPA grant funds may be available to help support these activities. The Department must rely on local governments to operate and enforce mandatory wood burning curtailment programs since the Department does not have the statutory authority to implement such programs. If local governments do not adopt local ordinances, the issue will need to be addressed by the Legislature and/or EPA.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

The major alternatives are:

1. Proceed with public hearings on the Klamath Falls PM₁₀ control strategy as a revision to the State Implementation Plan in anticipation of adoption of a mandatory curtailment ordinance by local governments prior to Commission adoption in November, 1990;

2. Delay public hearings until such time as a mandatory curtailment ordinance is adopted by local governments;
3. Delay further consideration until Congress reauthorizes the Clean Air Act and new PM₁₀ schedules possibly go into effect; or
4. Not submit a State Implementation Plan and allow EPA to impose sanctions or develop and implement a Federal Implementation Plan for the Klamath Falls Nonattainment Area.

The Clean Air Act will likely be reauthorized this fall after work is completed by a House-Senate conference committee. In terms of PM₁₀, the Senate Bill is far more specific than the House Bill and it likely will be the pattern for the final Act. The Senate Bill directs EPA to negotiate a control plan submittal date with the states not to exceed two years. The Bill requires attainment to be demonstrated as expeditiously as practicable but not later than the end of 1994.

By proceeding with public hearings on the control strategy, the Department will be in a position to bring the SIP before the Commission for adoption as soon as local governments adopt their mandatory curtailment and other ordinances, thereby minimizing future time delays and proceeding to bring about healthful air quality as expeditiously as possible.

If the State does not adopt a plan, EPA is required to prepare and implement a Federal Implementation Plan for the PM₁₀ problem area(s). EPA may also impose sanctions for failure to submit or implement an adequate State Implementation Plan. A Federal Implementation Plan would probably include many of the same elements as the proposed State Implementation Plan, but could also include more stringent control measures such as a ban on firewood permits from National Forest Lands, prohibition of new industries, and moratoriums on new water hookups or transportation projects.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission authorize a public hearing on the proposed PM₁₀ control strategy as a revision to the State Implementation Plan in anticipation of adoption of mandatory curtailment ordinances by local government prior to Commission adoption by November, 1990. The Department believes that the proposed strategy, once mandatory curtailment ordinances are adopted by Klamath

Meeting Date: June 29, 1990
Agenda Item: F
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County and the City of Klamath Falls, is a balanced and reasonable combination of emission reduction elements that will be adequate to attain and maintain the PM₁₀ health and welfare standards in the Klamath Falls Nonattainment Area. Furthermore, the Department believes it is in the best interest of the public to proceed ahead now with the PM₁₀ plan adoption process to assure that progress made to date is not lost and to bring about healthful air quality as expeditiously as possible.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed PM₁₀ control strategy for the Klamath Falls Basin is consistent with Goals 2, 3, 4, and 5 of the draft Strategic Plan.

ISSUES FOR COMMISSION TO RESOLVE:

1. Should the public hearing process begin without local mandatory curtailment ordinances being adopted ?
2. Should the proposed revisions to the State Implementation Plan be delayed until after reauthorization of the Clean Air Act?

INTENDED FOLLOWUP ACTIONS:

1. Hold a public hearing in Klamath Falls in August 1990.
2. Summarize hearing testimony, respond to issues raised, revise proposal as necessary, and recommend adoption to Commission at its November 1990 EQC Meeting providing local mandatory curtailment ordinances are adopted.

Approved:

Section:

Division:

Director:

John F. Kowalzyk

Nick Deibel

[Signature]

Report Prepared By: John Core

Phone: 229-5380

Date Prepared: June 12, 1990

JEC:a
PLAN\AH10032
6/11/90

Attachment A

**Draft State Implementation Plan
for Particulate Matter**

**Klamath Falls, Oregon
Nonattainment Area**

**A Plan for Attaining and
Maintaining the National Ambient
Air Quality Standard for PM₁₀**

**State of Oregon
Department of Environmental Quality
Air Quality Division**

June 1990

Draft of June 11, 1990

State of Oregon
Department of Environmental Quality
Air Quality Division

State Implementation Plan For
PM₁₀ in Klamath Falls

A Plan for Attaining and Maintaining
Compliance with National
Ambient Air Quality Standards
For PM₁₀

May, 1990

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Executive Summary

The US Environmental Protection Agency (EPA) adopted a new particulate National Ambient Air Quality Standard (NAAQS) for PM₁₀ on July 1, 1987. PM₁₀ particulate is less than 10 micrometers in aerodynamic diameter or about one-tenth of the diameter of a human hair. The NAAQS adopted by the US Environmental Protection Agency were established to protect public health and welfare. The Clean Air Act requires that states develop and adopt State Implementation Plan (SIP) revisions to assure that areas which exceed the PM₁₀ NAAQS are brought into attainment within the time frames prescribed by the Clean Air Act (September, 1991). This document describes the State of Oregon's plan to attain the PM₁₀ standard in Klamath Falls.

High exposure to particulate matter is of concern because of human health effects such as changes in lung functions and increased respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alteration in the body's defense system against foreign materials, damage to lung tissue, increased risk of cancer and, in extreme cases, premature death. Most sensitive to the effects of particulate matter are people with chronic obstructive pulmonary cardiovascular disease and those with influenza, asthmatics, the elderly, children and mouth-breathers.

Air quality measurements taken in Klamath Falls have indicated that the 24-hour PM₁₀ health NAAQS was exceeded on average 47 days per year during the winter months during the period of mid-1986 to mid-1989. The annual average concentration of PM₁₀ during the years 1986-1989 of 75 $\mu\text{g}/\text{m}^3$ also exceeds the annual average PM₁₀ NAAQS of 50 $\mu\text{g}/\text{m}^3$.

The 24-hour PM₁₀ NAAQS is 150 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$), not to be exceeded more than three times averaged over three calendar years. Winter 24-hour concentrations of PM₁₀ in Klamath Falls are among the highest recorded anywhere in the nation with maximum concentrations reaching as high as 792 $\mu\text{g}/\text{m}^3$ on January 25, 1988.

An inventory of PM₁₀ emissions developed for the Klamath Falls Urban Growth Boundary indicates that the major sources of particulate emissions during 1986 winter periods of worst-case 24-hour PM₁₀ concentrations are residential wood combustion (81%), industrial emissions (7 %) and soil dust (9 %). On an annual basis, these sources contribute 61 %, 10 % and 12 %, respectively. Emission inventory information representative of worst-case 24-hour conditions has been verified through receptor modeling techniques which actually measure source contributions to ambient air quality on the basis of their chemical "fingerprints".

Extensive air monitoring surveys have been completed which clearly demonstrate that the south suburban area of Klamath Falls, which comprises about 54 % of the population within the UGB, has the highest winter PM₁₀ concentrations within the airshed. Based on these surveys, ambient air monitoring conducted at Peterson School have been shown to generally represent the highest PM₁₀ levels within the Urban Growth Boundary. Development of a SIP which assures attainment and maintenance of the NAAQS at the Peterson School site should therefore be adequate to demonstrate attainment of the NAAQS anywhere within the airshed.

PM₁₀ design values are those representative 24-hour worst case and annual average concentrations from which reductions must be made to achieve the NAAQS. Analysis of all of the available PM₁₀ air quality data over the period of mid-1986 to mid-1989 (the largest available database) indicates 1986 24-hour and annual design values of 550 $\mu\text{g}/\text{m}^3$ and 75 $\mu\text{g}/\text{m}^3$, respectively. The design values adjusted for expected or potential emission changes during the 1986-1992 period are 592 $\mu\text{g}/\text{m}^3$ and 73 $\mu\text{g}/\text{m}^3$, respectively. Control strategies included in this plan have been designed to reduce projected 24-hour concentrations of PM₁₀ by 442 $\mu\text{g}/\text{m}^3$ (592 - 150 $\mu\text{g}/\text{m}^3$) and the annual average by 23 $\mu\text{g}/\text{m}^3$ (73 - 50 $\mu\text{g}/\text{m}^3$). To achieve these 24 hour and annual average air quality improvements will require a 76 % reduction in 24 hour worst case day emissions and a 40 % reduction in annual emissions within the Urban Growth Boundary.

The control strategies needed to assure attainment of the PM₁₀ National Ambient Air Quality Standards focus on control of residential wood combustion and road sanding emission. Other strategies includes stringent management of future growth in industrial emissions and restrictions on residential and forestry open burning.

Residential Wood Combustion Strategies

The principal means of achieving the needed reductions is through an effective wood burning curtailment and emission reduction programs. At least a 90 % reduction in wood smoke emissions is needed on poor ventilation days to attain the 24 hour NAAQS. This reduction will have to come from most of Klamath Falls' estimated 10,000 wood burning households which will have to forego use of their woodstoves during air stagnation episodes. Additional reductions throughout the heating season from the phase in of certified woodstoves will help achieve attainment of the annual standard. A strong public education program is an essential element of the strategy.

The strategy is implemented through the Klamath County Air Quality Compliance Development Plan and the Department's woodstove certification program. Another strategy element that will help assure maintenance of the NAAQS includes a county ordinance requiring certification that commercially sold firewood is

properly seasoned. Contingency strategies include financial assistance to low income households to upgrade their heating systems, enforcement of a wood smoke opacity limit and home weatherization programs to reduce wood heating requirements of poorly insulated homes.

Winter Road Sanding Strategies

A 60 % reduction in winter road sanding emissions through the use of liquid road deicing techniques in lieu of rock aggregate, application of less road sanding material and rapid cleanup of used road sanding aggregate will achieve fugitive dust emissions reductions needed to assure attainment of the annual standard. The road sanding strategy is implemented through a Memorandum of Understanding with the Oregon Department of Transportation Highway Division.

Other Strategies

Additional enforceable strategies include new rules designed to tightly manage industrial emission growth through reduction in the significant emission rate increase that triggers emission offset requirements. The significant emission rate was reduced from 15 to 5 tons per year. The rule was adopted to assure that industrial emission growth beyond the current Plant Site Emission Limits does not jeopardize emission reductions gained through other strategy elements.

Prohibitions on issuance of fire permits for residential, land clearing and agricultural open burning during winter woodstove curtailment periods are implemented through the State Fire Marshal's office and local Board of Fire Chiefs. Slash burning emission reductions included in the Oregon Visibility Protection Plan for Western Oregon of 50 % relative to 1978-79 emissions will be achieved by the year 2000, providing further assurance that background PM₁₀ concentrations will not increase.

In addition, forestry slash burning impacts on the nonattainment area will be minimized through voluntary agreements among forest land managers. This program will help assure that forestry open burning does not adversely affect Klamath Falls air quality on winter wood heating curtailment days.

Strategy Emission Reduction - 24 Hour Worst Case Day

Attainment of the 24 hour NAAQS in 1992 will require a 76 % reduction in worst case day emissions equalling a reduction of 18,486 pounds per day. The needed reduction is achieved through the strategy elements listed below.

**Summary of 24 Hour Emission Reductions
To Be Achieved by 1992**

<u>Strategy Element</u>	<u>Credit</u>	<u>Emission Reduction</u>
New Road Deicing Practices	60 %	1,308 Pounds/Day
Wood Burning Strategies:		
- Wood Burning Curtailment	90%	17,171 Pounds/Day
- Certification of Woodstoves	20%	336 Pounds/Day
- Fuel Wood Certification	2%	27 Pounds/Day
Woodstove Strategies, Total		<u>17,736 Pounds/Day</u>
Total reduction from all strategies.....		19,044 Pounds/Day
Required emission reduction		18,486 Pounds/Day

(Note: Because emission reductions are calculated on a declining balance basis, the product of percentage credits and total reduction (17,736 pounds/day) will not yield the individual element emission reductions shown. See Appendix 9)

No credits have been taken for the Klamath County public education programs.

Strategy Emission Reduction - Annual Average Case

Attainment of the annual average NAAQS in 1992 will require a 40 % reduction in annual emissions or a reduction of 756 tons per year. Although the entire needed emission reduction is achieved through the wood burning curtailment program, emission reductions obtained from the road deicing and other elements of the wood burning emission reduction programs are also included since they will occur as a result of implementing the 24 hour strategy. The needed reductions are achieved through the strategy elements listed below.

**Summary of Annual Average Emission Reductions
To be Achieved by 1992**

<u>Strategy Element</u>	<u>Credit</u>	<u>Emission Reduction</u>
New Road Deicing Practices	60 %	18 Tons/Year
Wood Burning Strategies:		
- Wood Burning Curtailment	74% *	756 Tons/Year
- Woodstove Certification	21%	48 Tons/Year
- Fuel Wood Certification	2%	4 Tons/Year
Woodstove Strategies, Total		<u>808 Tons/Year</u>
Total reduction from all strategies.....		826 Tons/Year *
Total required emission reduction.....		756 Tons/Year

* Note: On an annual basis, the wood burning curtailment program will result in a 18 % reduction in annual wood smoke emissions. This, however, is not reflective of annual air quality benefits of the program since the restricted ventilation during the curtailment periods compounds the benefits of the emission reductions. The effective or equivalent reduction is calculated based on a 90 % curtailment program operating on 47 days per year indicating a reduction of the annual average PM₁₀ concentration from 75 to 50.2 $\mu\text{g}/\text{m}^3$. As a result, the wood burning curtailment program alone, implemented on 47 days per year, will provide sufficient benefits to assure that the annual NAAQS is achieved. Additional strategy elements are claimed as a result of reductions achieved through the 24 hour strategy. See Section 4.12.3.3.

Air Quality Standard Maintenance

During the eight year period following attainment of the NAAQS, a net decrease in emissions is projected to occur as a result of attainment strategies and the replacement of older conventional stoves with certified cord wood and pellet stoves, offsetting increases in fugitive dust and transportation emissions. Both the 24 hour and annual NAAQS are projected to be maintained to the year 2000 at which time worst case day and the annual average PM₁₀ air quality is projected to be 134 and 48 $\mu\text{g}/\text{m}^3$, respectively.

Enforceability

The Clean Air Act requires SIP control strategies to be enforceable. Based on EPA guidance, a woodstove curtailment program requiring more than a 30 % credit must be based on enforceable measures in order for the SIP to be approved by EPA. Klamath County has developed a voluntary curtailment program with an objective of achieving a 20 % compliance rate in the 1988-89 heating season, 46-52 % compliance in the 1989-90 heating season and a 85-92 % compliance goal in the 1990-91 season. Based on infrared curtailment survey results, the actual compliance rate on days surveyed during the 1989-90 season was 45 %. Compliance on any single curtailment day varies from zero to 65 %. None of the survey have documented curtailment compliance rates approaching that required to attain the 24 hour NAAQS. As a result, the 24 hour NAAQS was exceeded on 39 days during the 1989-90 heating season.

(Note: The following text will be revised to described the Klamath County mandatory curtailment ordinance following its adoption)

A mandatory, enforceable wood burning curtailment ordinance will need to be adopted by the Klamath County Board of Commissions prior to the Environmental Quality Commission's adoption of this SIP revision in November, 1990. This requirement is based on the following:

- Public participation in the Klamath Falls voluntary curtailment program has not met the objective of the Klamath County program nor the level of curtailment compliance needed to achieve the 24 hour NAAQS. No other community in the country been able to continually demonstrate the 90 % compliance rate needed with voluntary curtailment programs;

- Other communities, most recently the Medford area, have nearly achieved the required level of curtailment compliance through mandatory curtailment programs;

- At the level of curtailment needed in Klamath Falls, EPA requires a mandatory, enforceable curtailment program.

A county ordinances requiring the commercial sale of seasoned firewood should also be adopted to help assure maintenance of the NAAQS to the year 2000.

The road deicing program is implemented through commitments provided by the Oregon Department of Transportation; residential open burning restrictions on curtailment days is implemented through the State Fire Marshall Fire Protection Statutes (ORS 478.960 (2)) and through agreements among the local fire districts. The Department's open burning rules (OAR 340-23-042(4)) are enforced by the Department. Restrictions to forestry slash burning are implemented and enforced through the Oregon Smoke Management Program (OAR 629-43-043).

Implementation of the above control strategies will assure that attainment of the PM₁₀ NAAQS is achieved by September 1, 1991 and maintained through the year 2000.

4.12.0 State Implementation Plan for Klamath Falls PM₁₀ Nonattainment Area

4.12.0.1 Introduction

On July 1, 1987, the Environmental Protection Agency promulgated new federal ambient air quality standards for particles less than or equal to 10 micrometers in aerodynamic diameter (PM₁₀) to replace the Total Suspended Particulate (TSP) standard¹. The standard became effective 30 days later on July 31, 1987. On August 7, 1987, EPA classified Klamath Falls as a Group I PM₁₀ nonattainment area (52 FR 29383). Group 1 areas are those which have a greater than 95 percent probability of exceeding the PM₁₀ NAAQS. Subsequent air monitoring has shown that air quality within the Klamath Falls Urban Growth Boundary far exceeds the PM₁₀ National Ambient Air Quality Standards (NAAQS).

Section 110 of the Federal Clean Air Act requires states to adopt and submit plans (State Implementation Plans or SIPs) to EPA within nine months after the effective date of the standard. The Clean Air Act allows EPA four months to approve or disapprove the plan. The plan must provide for attainment of the standard as expeditiously as practicable but no later than three years from the date of EPA approval of the SIP². Hence, attainment theoretically must be reached by September 1, 1991.

The Air Quality Division of the Department of Environmental Quality has developed this plan in consultation with officials of the City and County of Klamath Falls, the Oregon Department of Transportation and the US EPA. The plan was prepared in accordance with the regulations and requirements of the Federal Clean Air Act and the US EPA. The Department believes that the PM₁₀ plan can achieve attainment of the NAAQS within the time frame required by the Act.

4.12.0.2 SIP Overview

This revision to the State Implementation Plan (SIP) has five sections. The first (4.12.1) provides a description of PM₁₀ ambient air quality in Klamath Falls; Section 4.12.2 describes the PM₁₀ air quality problem within the Klamath Falls Nonattainment Area; Section 4.12.3 describes emission reductions needed to attain NAAQS; Section 4.12.4 describes implementation of the control strategies and Section 5 described public involvement.

¹A micrometer (μm) is a unit of length equal to about 1/25,000 of an inch. For comparison, the thickness of a human hair is about 100 to 200 micrometers.

² Clean Air Act Section 110 (a)(1).

4.12.0.3 Area Description

Klamath Falls is located in south central Oregon at an elevation of 4,105 feet. The area is typified by its semi-arid, high desert climate where annual rainfall is only 14.3 inches. The population of south suburban Klamath Falls within which the highest PM₁₀ concentrations are found is about 19,300 (1980 census) while the population within the Klamath Falls urban area is 36,500. About 13,600 households are located within the Urban Growth Boundary.

The Klamath basin is a relatively flat area of some several thousand square miles of old lake bed which is drained by the Klamath River. Upper Klamath Lake covers 132 square miles and has a surface elevation of 4140 ft above sea level. The Lower Klamath Lake area is a very large flat somewhat marshy region with an elevation of about 4100 ft above sea level. The region is punctuated by occasional hills and a system of elongated ridges aligned with a northwest-southeast orientation. These ridges may rise up to 2,000 ft above the basin floor. Two such ridges form a narrow opening at the out fall of Upper Klamath Lake.

The central business district of Klamath Falls is situated in this narrow opening at the southern end of Upper Klamath Lake where the elevation changes between the Upper and Lower Klamath Lake areas. Most of the Klamath Falls residential area, especially the south suburban area, is located on the lower elevation area. Thus it may be seen that the Klamath Falls area is confined by high terrain to the east and west. To the north is large expanse of Upper Klamath Lake and the flat terrain stretches for a number of miles to the south.

Figure 4.12.0-1 shows the boundaries of the Klamath Falls Urban Growth Boundary which was adopted as the nonattainment area boundary by the Environmental Quality Commission on June 2, 1989 (OAR 340-20-225 (22)). The criteria for selection of the UGB as the nonattainment area are as follows:

1. The nonattainment boundary must include the geographical area within which national ambient air quality standards are currently being exceeded. Air Sampling studies completed in November, 1985, March, 1988 and January, 1989 have consistently show that minor day-to-day variations in the pattern of PM₁₀ levels exist depending on wind direction and the time of day of the survey. All surveys indicate a consistent pattern of maximum concentrations near Peterson School extending outward toward the downtown district, south toward Kingsley Field and westerly toward Green Springs Junction. The PM₁₀ levels appear to follow local topography with concentrations decreasing with increases in elevation. They also appear to follow the emission density of homes (woodstoves) in the area.

2. The nonattainment boundary must include the area within which air standards may be exceeded in the future. EPA requires that SIP control strategies consider future population, transportation, housing and industrial growth to assure that air standards will be attained and maintained. Development of a strategy to assure maintenance of air standards therefore requires that the nonattainment area boundary be consistent with the regional planning boundary for which community growth projections are available.

3. The nonattainment area must be a legally defined boundary recognized by local governments. A legal definition is required for rule making purposes. Additionally, some component of the control strategy may need to be implemented through county land use planning ordinances tied to the Urban Growth Boundary.

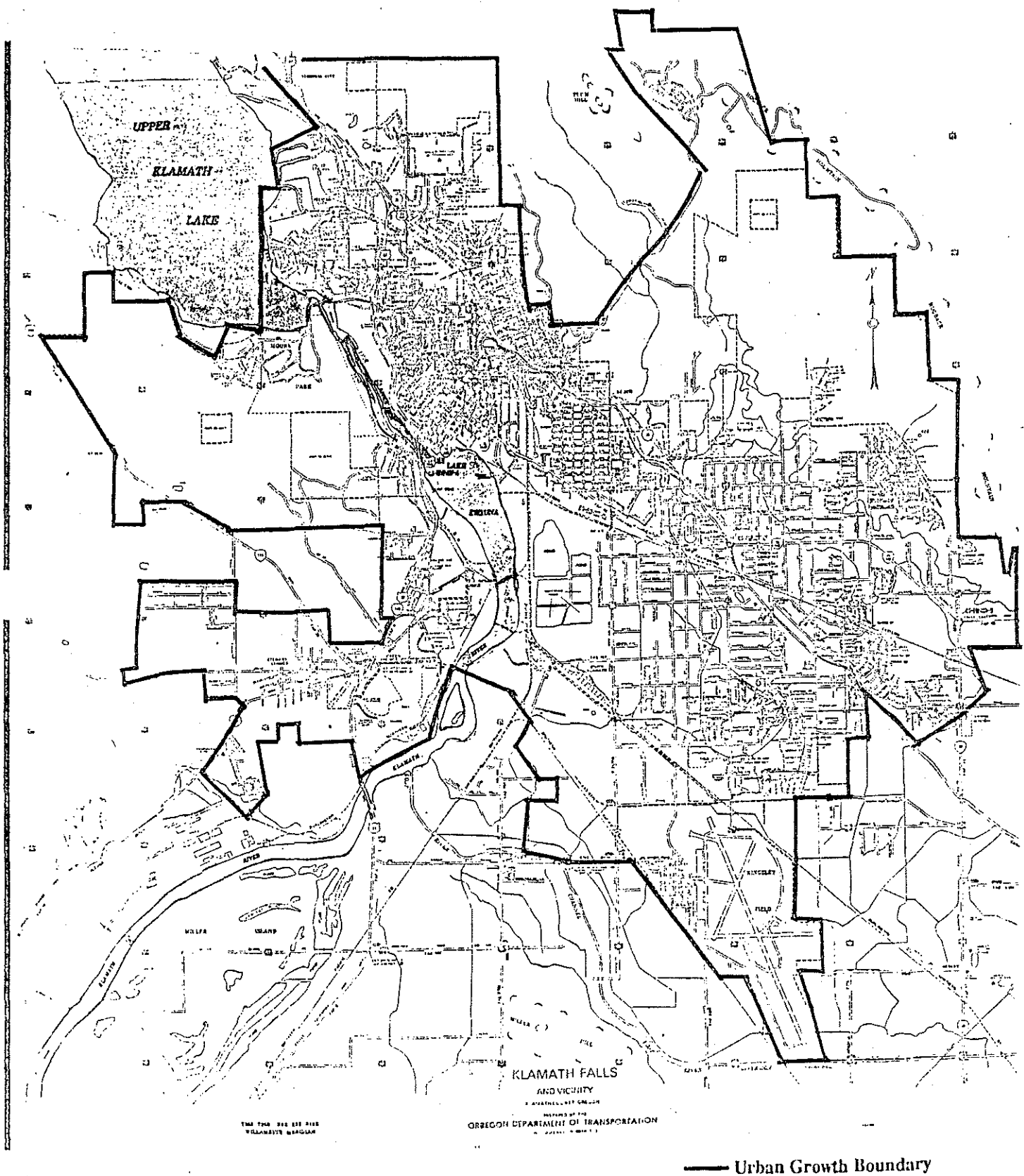
Designation of the Urban Growth Boundary as the nonattainment area is the only legally defined boundary that meets all of the above criteria (Note: a legal definition of the UGB will be needed prior to SIP adoption).

4.12.0.4 Klamath Falls Meteorology

Because of it's elevation, dry climate and low frequency of cloud cover, Klamath Falls experiences very strong and shallow night time winter radiation inversions which break up with day time solar heating. In winter time, frigid arctic air masses frequently invade the Klamath Basin. Temperatures can remain well below freezing for several weeks at a time. Upper Klamath Lake often freezes over and 6 to 10 inches or more of snow may cover the ground.

Winter nights are commonly clear and cool in the Klamath Basin. Under these conditions, strong nocturnal radiation inversions occur as a result of the snow covered surface and frozen lake, creating extreme inversions over the south suburban area of Klamath Falls. These inversions are confined and maintained by the surrounding terrain. Inversions of as much as 10 °F have been observed within 60 ft of the surface, creating an impenetrable barrier to smoke from wood stoves and fireplaces. The highest smoke concentrations of any place in the State have been recorded in the Klamath Falls residential areas under these intense, shallow inversions.

Figure 4.12.0-1: Nonattainment Area Map



4.12.0.5 Health Effects of PM₁₀ and Wood Smoke

Particulate matter measuring less than or equal to 10 micrometers is considered a risk to human health due to the body's inability to effectively filter out particles of this size. These particles deeply penetrate and become lodged in the alveolar regions of the respiratory system for days, weeks or even years where they trigger biochemical and morphological changes in the lungs³.

For example, constriction of air passages (i.e., reduced air flow) occurs rapidly upon exposure to PM₁₀. Episodic and continuous exposure aggravates chronic respiratory diseases such as asthma, bronchitis, and emphysema which in turn restrict the lung's ability to transfer oxygen into the bloodstream. Traditionally, children, the elderly, and cigarette smokers are the most susceptible to lung dysfunctions and are therefore at greatest risk from PM₁₀ exposure.⁴ Episodic exposure can also cause changes in the activity of the lung's mucous secretions and accelerates the mucociliary action to sweep the particulates out of the lungs. This results in increased symptoms of cough, phlegm, and dyspnea (difficulty in breathing). Continuous exposure can inhibit this defense mechanism by introducing new particles into the lungs and redistributing those being swept out. This slows the clearance of the bronchial system thus increasing susceptibility to acute bacterial and viral infections.

The increased stress on the pulmonary system caused by PM₁₀ exposure is usually tolerable for those with healthy respiratory systems, however, it can lead to irreversible or fatal damage in people already suffering from cardiopulmonary disease, typically children, the elderly, the ill, and cigarette smokers.⁴ Another group that falls into the high risk category are people who breathe through their mouths.⁴ This group includes a wide range of people from chronic mouth-breathers to anyone involved in outdoor exercise and heavy labor. During mouth-breathing, particulate matter is breathed more directly into the lungs since it bypasses the filtering systems of the nasal passages.

Among the sources of PM₁₀ emissions, wood smoke is of particular concern in Klamath County because it accounts for a majority of the small particulate matter measured in the nonattainment area. A description of emission sources is found in

³J. Koenig, T.V. Larson, P. Jenkins, D. Calvert, N. Maykut and W. Pierson, "Wood Smoke: Health Effects and Legislation," Health Effects of Woodsmoke, Northwest Center for Occupational Health and Safety, January 20, 1988.

⁴U.S. Environmental Protection Agency, Second Addendum to Air Quality Criteria for Particulate Matter and Sulfur Oxides (1982: Assessment of Newly Available Health Effects. EPA 600/8-86-020.

Section 4.12.2.2. These particles are less than 1 μm in diameter and remain suspended in the air for long periods of time. Because of their small size and their ability to remain airborne, they are easily inhaled and lodged in the alveolar region of the lungs. These particles can also act as carriers for toxic chemicals which are transported deep into the respiratory system. Some of these toxics are then absorbed into the bloodstream.

Wood smoke contains at least fourteen carcinogenic compounds including benzo(a)pyrene, benzo(a)anthracene, and other polycyclic organic materials.⁵ Additionally, wood smoke contains several other hazardous compounds such as aldehydes, phenols, carbon monoxide and volatile organic vapors. These compounds can cause or contribute to illness ranging from neurological dysfunctions and headaches to lung cancer.³ Many of the components of wood smoke are also found in cigarette smoke and coke oven emissions and can affect the cilia in a similar manner making it difficult for the body to expel the particulate matter. Because wood smoke concentrations are highest in residential areas, a large segment of the population is routinely exposed to wood smoke pollution in the winter months. Additionally, it is those people who are most sensitive, children, the elderly, and the ill, who spend the most time in their homes, thereby increasing their risk⁵.

4.12.1 Ambient Air Quality

Particulate ambient air quality monitoring for Total Suspended Particulate (TSP) began in Klamath Falls in November of 1969 at the Broad and Wall Street Fire Station. During the period of 1970 to 1986, annual average TSP concentrations averaged 66 $\mu\text{g}/\text{m}^3$ with maximum 24 hour TSP concentrations (which have occurred exclusively within the winter months) reaching 295 $\mu\text{g}/\text{m}^3$ in 1973. While these levels were over the TSP NAAQS, it was thought that rural fugitive dust (considered uncontrollable and not a health hazard by EPA) was the principal contributing source. To determine those areas that had a high probability of exceeding the PM_{10} NAAQS, the US Environmental Protection Agency completed an analysis of historical Klamath Falls TSP data. The results of the analysis indicated a better than 95% probability that Klamath Falls PM_{10} levels would exceed the NAAQS. Based on these findings, EPA classified Klamath Falls as a Group I area. EPA regulations requires that daily PM_{10} air quality monitoring must be conducted in all Group I areas.

⁵P.G. Jenkins, Washington Wood Smoke: Emissions, Impacts and Reduction Strategies, Washington Department of Ecology, Olympia, Washington. December, 1986.

PM₁₀ air quality monitoring began in November, 1985 following completion of an area-wide survey designed to characterize the spacial distribution of PM₁₀ concentrations⁶. Results from the study demonstrated that the Broad and Wall Street monitoring site was not representative of the highest levels of PM₁₀ in the airshed and that levels recorded at the Peterson School site in south suburban Klamath Falls better represented worst case levels within the area. The PM₁₀ concentration contours shown in Figure 4.12.1-1 were developed from the survey. The Figure also shows the location of the Peterson School site. A review of the area encompassed by the 150 µg/m³ (the 24-hour NAAQS) contour shows that it best approximates the Urban Growth Boundary.

In February of 1987, monitoring at the Broad and Wall Street site was discontinued. PM₁₀ monitoring at the Peterson School site began in February, 1986. Additional PM₁₀ data was gathered during the November 1988 to April, 1989 period at Sixth and Hope Streets as additional verification of the extent of the high levels measured in the south suburban area.

In March of 1988 and February, 1989, the Department conducted evening mobile nephelometer surveys to further verify the spacial distribution of PM₁₀ concentrations. Figure 4.12.1-1 shows a typical distribution of concentrations measured during these surveys. Although the distributions of particulate mass vary slightly from day to day depending on wind directions and mixing height, the surveys are basically consistent with the findings of the February, 1985 particulate survey that identified the Peterson School area as the location of the highest concentrations. The surveys also provide evidence that the major sources of PM₁₀ are found within the residential area of south suburban Klamath Falls where the wood stove emission density is greatest.

4.12.1.1 Air Monitoring Methods

Several sampling methods have been used to measure PM₁₀ concentrations in Klamath Falls:

Integrating Nephelometer measurements of light scattering (a surrogate for PM₁₀) have been conducted during the winter months of highest PM₁₀ concentrations at the Peterson School site. This method provides hourly light scattering averages which are highly correlated to PM₁₀ concentrations measured using the high volume samplers equipped with size selective inlets (HV-SSI).

⁶Special Study Report: Klamath Falls Particulate Survey. Report 87-7. Program Planning & Development Section, Air Quality Division, State of Oregon Department of Environmental Quality. June, 1987.

The PM₁₀ Medium-Vol. sampler collects PM₁₀ aerosol using a 12 port, 47 mm filter sequencing system that is programmed to collect 24-hour samples. The sampler pulls ambient air at a 4 CFM flow rate through a 10 μm Sierra-Anderson 254 inlet providing a PM₁₀ cut point. A dual-port system capable simultaneously collecting aerosol on both Teflon and quartz filter substrate is used to allow complete chemical analysis for Chemical Mass Balance receptor modeling purposes. Because of the excellent agreement between PM₁₀ concentrations measured by the Medium-Vol and the HV-SSI reference method, EPA has designated the Medium-Vol sampler as an acceptable equivalent method.

The PM₁₀ High Volume Size Selective Inlet (HV-SSI) is a High Volume air sampler equipped with a Sierra-Anderson SA321A, SA321B or SA1200 PM₁₀ cut-point inlet. This method has been designated by EPA as a reference method to be used to judge attainment with the NAAQS. Sampling occurs every 6th day.

The High Volume air sampler collects samples of Total Suspended Particulate (TSP). The method uses pre-weighted 8" X 10" filters through which air is drawn at 50 CFM over a 24 hour period. Because these samplers are not equipped with a size selective inlet, the upper limit of particle size captured on the filter may reach 100 μm. Prior to EPA's adoption of the PM₁₀ NAAQS, this method was the standard reference method for measurement of airborne particulate matter at the Broad & Wall Street site but has now been discontinued.

All of the data discussed herein was collected at the Peterson School site in south suburban Klamath Falls. Table 4.12.1-1 lists monitoring data collection periods by measurement method.

**Table 4.12.1-1: Data Collection Periods by Method
Peterson School**

Measurement Method	Began	Terminated
Integrating Nephelometer (Light Scattering or Bscat)	Jan. 30, 1985	Apr. 24, 1986
	Jan. 23, 1986	Apr. 15, 1986
	Oct. 23, 1986	Apr. 7, 1987
	Nov. 3, 1987	Apr. 20, 1988
	Nov. 1, 1988	Current
PM ₁₀ Medium-Vol. (MV) * (Daily Sampling)	Jan. 2, 1987	Apr. 3, 1987
	Nov. 30, 1987	Current
PM ₁₀ HV-SSI (SSI) (Every 6th Day)	Jan. 3, 1987	Current
High-Volume TSP (TSP)	Jan. 24, 1986	Oct. 6, 1987

* Both Teflon and Quartz filter substrate are used.

4.12.1.2 PM₁₀ Air Quality in Klamath Falls

Figure 4.12.1-2 illustrates the hourly and seasonal variations in PM₁₀ concentrations in Klamath Falls. As seen in the Figure, the highest 24-hour concentrations occur during the winter space heating season when PM₁₀ concentrations have reached levels as high as 792 $\mu\text{g}/\text{m}^3$. This exceeds the EPA Significant Harm level (the level at which an imminent and substantial risk to public health exists) of 600 $\mu\text{g}/\text{m}^3$. Peak 24-hour concentrations decrease dramatically during the spring months and reach a low of about 50 $\mu\text{g}/\text{m}^3$ during the summer months. Concentrations then raise again in the fall months as woodstove use increases and atmospheric dispersion decreases.

Review of PM₁₀ Concentrations

The four highest concentrations of PM₁₀ mass measured in Klamath Falls during the past 3 years are listed in Table 4.12.1-2, below.

Table 4.12.1-2: PM₁₀ Maximum Concentrations, 24 hour Averages

	$\mu\text{g}/\text{m}^3$	Date	Method
Highest Value	792	880125	Medium-Vol.
Second High	723	880203	SA321B HV-SSI
Third High	507	880122	SA321B HV-SSI
Fourth High	502	890120	Nephelometer Est.

Table 4.12.1-3 summarizes PM₁₀ monitoring data for the mid-1986 to mid-1989 period over which the design values were calculated. Appendix 1 contains a tabulation of daily PM₁₀ concentrations over the period of July 1, 1986 to June 30, 1989.

Table 4.12.1-3: Summary PM₁₀ Data
($\mu\text{g}/\text{m}^3$)

	All Data	1986*	1987	1988	1989+
No. Days Sampled	1191	343	365	303	180
Arithmetic Mean **	--	77	73	71	---
Maximum Value	792 (880125)		330	792	502
Second High	723 (880203)		298	723	482
No. Days > 150	134	40	38	29	27

* For period January 23 to December 31, 1986.

+ For period January 1 to June 30, 1989.

** Annual average values computed as prescribed in 40CFR52 Appendix K.

Hourly Variability

Hourly variations in PM₁₀ levels on worst-case winter days can be seen in the diurnal variations of light scattering measurements from the Peterson School site (Figure 4.12.1-2). Particulate concentrations begin increasing from a mid-day low, peak during the 11 PM to 1 AM period and then steadily decrease until 8-9 AM at which time the levels again reach mid-day concentrations. The early morning peak at 6 AM is believed to be associated with early morning wood stove start up by Klamath Falls residents.

Worst Case Day Characteristics

During the mid-1986 to mid-1989 period, the 24 hour NAAQS was exceeded an average of 47 days per year, exclusively during the months of late October to April. During these periods, residential wood heating reaches it's peak and atmospheric dispersion is at it's poorest. Worst case winter days typically have daily average temperatures of 10 °F (55 degree heating days), snow cover, intense, extremely shallow temperature inversions as low as 50 feet and extended periods of calm winds. These conditions occur during periods when snow producing storm systems are followed by stable high pressure systems. The spacial distribution of PM₁₀ concentrations during worst case day conditions is shown in Figure 4.12.1-1 ⁷.

⁷ J.E. Core, "Distribution of PM₁₀ Within the Klamath Falls Nonattainment Area: Mobil Nephelometer Surveys of January, 1989," State of Oregon Department of Environmental Quality, Air Quality Division. Report 89-1. February, 1989.

Impacts from Sources External to the Urban Growth Boundry

The largest industrial sources within Klamath County located outside of the UGB is the Weyerhauser plant which emits a total of 631 tons of PM₁₀ per year, largely from hog fuel boilers used to generate steam for the plant. In spite of the magnitude of these emissions and the proximity of the plant to the Urban Growth Boundry, the Department does not believe that emissions from the plant have a significant impact on the nonattainment area. This is based on findings from two field measurement programs and receptor modeling analysis.

The spatial distribution of PM₁₀ levels measured during the mobil nephelometer surveys of January, 1989 indicated that concentration fell as the distance from the plant increased. These findings were confirmed by the saturation survey conducted in the Fall of 1985. If the plant had a major impact on the nonattainment area, concentrations should have increased as the distance from the plant decreased.

Receptor modeling analysis of source impacts at the Peterson School site confirm that hog fuel boiler impacts are small. This is based on studies indicating that the Chemical Mass Balance receptor model is able to quantify hog fuel boiler impacts at levels of 2 $\mu\text{g}/\text{m}^3$ or greater impact with relative uncertainties of $\pm 20\%$.⁸

These findings are consistent with the hypothesis that emissions from Weyerhauser's hog fuel boiler are emitted, on worst case winter days, above the very shallow inversions that form within the Klamath Basin. As a result, their ground level impacts would be expected to be small.

Background Air Quality

PM₁₀ aerosols from sources external to the UGB collectively contribute to background air quality or the concentration of PM₁₀ in the air mass as it is transported into the Klamath Falls Basin. The closest background monitoring site is located in the Quartz Creek Valley (elevation 5,390 ft) at the Quartz Mountain Gold Project 50 miles east of Klamath Falls⁹.

⁸ Pacific Northwest Source Profile Library: Volume 2 Final Project Report. J. Core, Editor. Department of Environmental Quality. September, 1989.

⁹ Quartz Mountain Gold Project Environmental Impact Statement. Prepared for the Fremont National Forest by Air Sciences, Inc. Lakewood, Colorado. February, 1989.

The Quartz Mountain data was collected by a Air Sciences, Inc. of Lakewood, Colorado under contract to the Quartz Mountain mining project. The data was collected pursuant to Federal EIS requirements imposed by the US Forest Service, Bly District. The data was collected pursuant to standard EPA quality assurance requirements.

The Quartz Mountain background data during worst case winter days is representative of the Klamath Falls UGB for the following reasons:

1. The site is located in a remote area not influenced by sources within the Klamath Falls UGB yet not located at such distance that it would clearly not be representative of the regional air mass. Even if the site were located at the edge of the Growth Boundry, little change in the data would be expected because of the fact that lands immediately beyond the UGB are sparcely inhabited and largely of a wilderness nature.

2. A worst case winter day background of $7 \mu\text{g}/\text{m}^3$ is reasonable considering that the Quartz Mountain site is above the very shallow mixing height found in the nonattainment area, that snow cover eliminates windblown fugitive dust emissions and that there are no wildfires or slash burning emissions during the winter months. It is common to encounter long range visibility conditions at elevations of only a few hundred feet above the basin floor where the highest PM_{10} concentrations are found.

On an annual basis, there is little differences between the background levels at Medford's Dodge Road site ($12 \mu\text{g}/\text{m}^3$) and Quartz Mountain ($13 \mu\text{g}/\text{m}^3$), supporting the Department's belief that neither site are being unduly impacted by nearby sources; that the annual distribution of the data is not being unduly bias by high winter worst case concentrations and that both sites are representative of regional background.

PM_{10} monitoring at the Quartz Mountain site was based on GMW 2310 samplers with GMW 321-B inlets was conducted during the November, 1987 to November, 1988 period (108 observations) on a 6th day schedule. The annual arithmetic average was $12 \mu\text{g}/\text{m}^3$ while the worst case winter (November-March) observation was $7 \mu\text{g}/\text{m}^3$. The maximum observed value ($86 \mu\text{g}/\text{m}^3$) occurred on September 4th, 1988 when several forest fires were active in the area. The sources contributing to background PM_{10} concentrations are regional and global in nature.

The Quartz Mountain background air quality values used in the annual and 24 hour winter worst case control strategy calculations are $15 \mu\text{g}/\text{m}^3$ annual arithmetic average and $7 \mu\text{g}/\text{m}^3$ 24 hour average, respectively.

Aerosol Chemistry

Chemically, Klamath Falls winter-season PM₁₀ aerosol is composed of organic carbon (37%), elemental carbon or soot (6%), crustal elements (5%), other trace elements (2%) and secondary sulfate and nitrates (3%). The balance is associated oxygen, hydrogen, water and ammonium. While the winter season aerosol is chemically very similar to the composition of woodsmoke with small amounts of soil elements, the composition of the aerosol during the summer months is quite different and is largely composed of crustal elements (Al, Si, Ca and Fe). Lead concentrations are very low, averaging 0.1 µg/m³, 24-hour average. The aerosol composition cannot be used to directly infer source contributions.

4.12.2 Nonattainment Area Analysis

This section describes the Department's analysis of PM₁₀ air quality in Klamath Falls as it related to the National Ambient Air Quality Standards. Source contributions to the airshed's PM₁₀ air quality are discussed both in terms of emission strengths and source contributions to air quality as measured at the Peterson School site.

4.12.2.1 Design Values Determination

Attainment of the annual NAAQS requires that a control strategy be adopted which will reduce ambient concentrations from the 1992 design value to below the NAAQS; specifically that the expected number of exceedances of the 24-hour NAAQS not exceed 150 µg/m³ more than once per year averaged over three years.

The EPA PM₁₀ Development Guidelines specify that the preferred approach for estimating a design value is through the use of an applicable dispersion model corroborated by receptor models.¹⁰ If there is no applicable dispersion model and at least one complete year of PM₁₀ data is available, then the PM₁₀ data should be used to estimate the design value. This is the case for Klamath Falls.

¹⁰PM₁₀ SIP Development Guidelines. US Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. June, 1987. EPA-450/2-86-001.

EPA specifies that the annual design value should be calculated as arithmetic average of 3 years of PM₁₀ monitoring data and that the 24-hour design concentration should be estimated using the empirical frequency distribution for the largest available data base. Both the annual and 24-hour design concentrations must then be adjusted to compensate for emission changes that will occur as a result of emission growth and control strategy affects likely to occur by 1992, the year in which attainment must be demonstrated.

The current design values are based on PM₁₀ data collected between mid-1986 and mid-1989. The information used to calculate design values is a composite of data collected over the year using a number of different PM₁₀ measurement methods in accordance with agreements reached with EPA Region X staff in December, 1989. As a result, a hierarchy of daily measurements has been used to build a composite data set. Reference method Medium-Vol. samples were selected first. Where these measurements were not available, reference method SSI data was used. If neither were available, non-reference method Medium Vol. data was used and if none of the above data was available, non-reference SSI data adjusted to a Medium-Vol. sampler equivalent value was used. If only integrating nephelometer scattering coefficient measurements were available, they were adjusted to medium-vol. equivalent values. This approach (1) greatly expands the database available for analysis; (2) provides a design value that is consistent with the measurement method that the Department will be using to determine NAAQS attainment and (3) assures that future receptor modeling analysis of PM₁₀ source contributions are consistent with control strategy design considerations. This approach is described further in Appendix 2.

Table 4.12.2-1: Design Values Summary

24-Hour Design Value, Graphical Procedure	550 $\mu\text{g}/\text{m}^3$
Annual Design Value	75 $\mu\text{g}/\text{m}^3$

4.12.2.2 Emission Inventory

Introduction

Emission inventories provide information on the relative strength of sources within an airshed and provide a basis for control strategy evaluation. In addition, emission inventories provide a basis for tracking emission reductions and growth. PM₁₀ emissions (usually expressed in tons of particulate per year or TPY) are calculated from emission factors and source activity records. Emission factors are the weight of pollutant emitted per unit weight of material processed such as grams of PM₁₀ emitted per pound of cord wood burned; pounds of road dust emitted per vehicle mile driven or pounds of particulate emitted per unit area.

of plywood veneer processed. Emission factors used in this analysis are principally from the Environmental Protection Agency's compilation of emission factors AP-42.¹¹

Source activity information on the amount of cord wood burned by residents, vehicle miles driven or veneer production volumes are obtained from a variety of sources including industrial air contaminant discharge permits, public mail surveys and data gathered from other government agencies.

Estimation of seasonal or worst-case day PM₁₀ emissions requires development of a source operating schedule which describes the percent of annual emission that occur during specific seasons, months or 24-hour periods.

Base Year Emission Inventory

PM₁₀ emissions for the 1986 base year within the Urban Growth Boundary (UGB) were estimated for industrial sources, residential heating (gas, oil and wood), commercial space heating, residential open burning, agricultural field burning, paved and unpaved roads, construction and agricultural dust as well as transportation sources (cars, trucks, railroads and aircraft). The basis of the emission estimates for the most significant sources are described below:

Industrial Sources: 189 TPY PM₁₀. These emissions are principally from the wood products industry wood-fired boilers and material handling. Twelve point sources, principally wood products, are included in the inventory. The largest source emits 100 tons per year of PM₁₀. The 1986 annual emissions are those that actually occurred during the year.

¹¹Compilation of Emission Factors, U.S. Environmental Protection Agency AP-42 Fourth Edition and subsequent supplements. US EPA Office of Air Quality Planning and Standards. Research Triangle Park, N.C. 27711.

Figure 4.12.1-1: Klamath Falls PM₁₀ Distribution

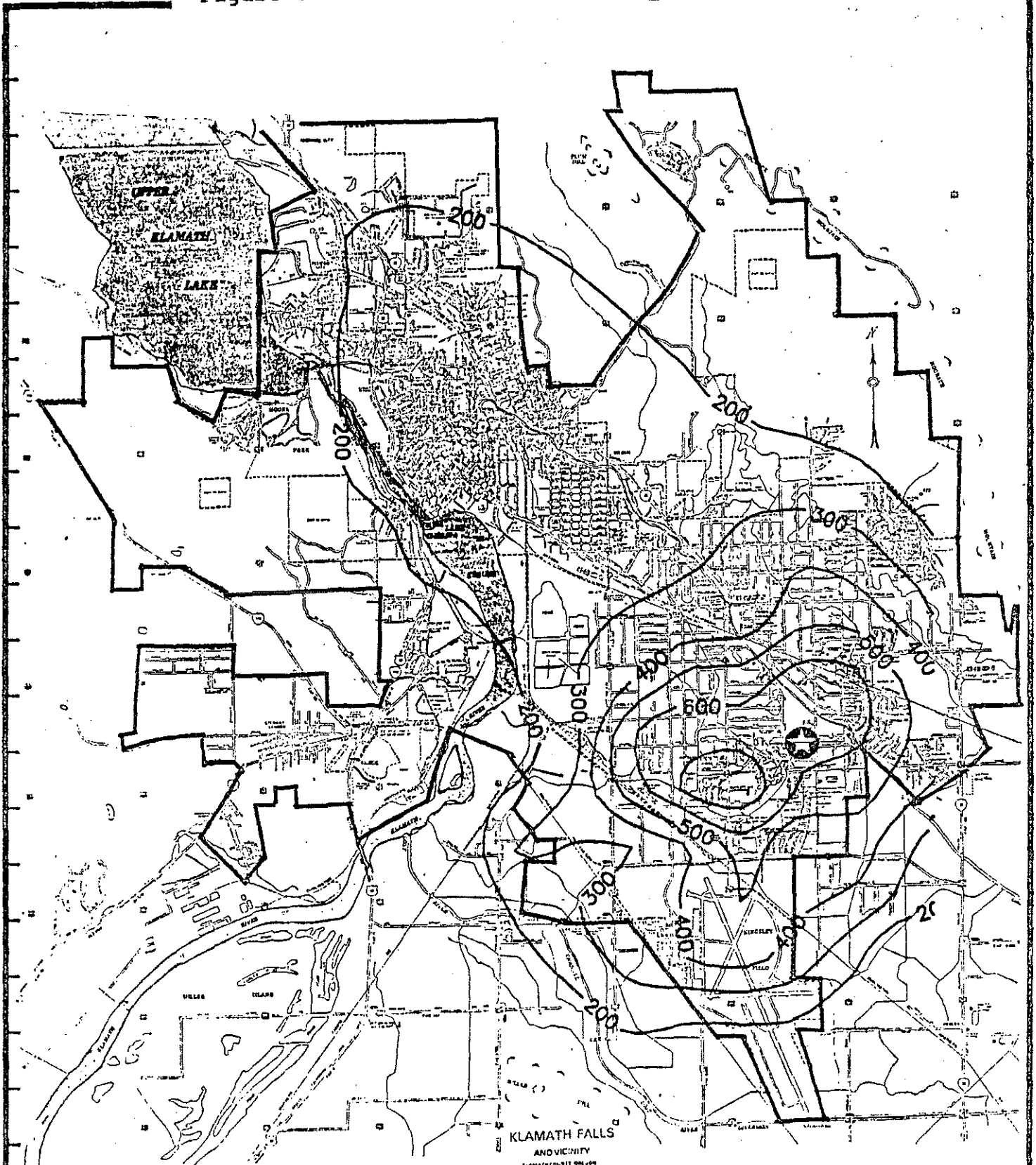


Figure 3

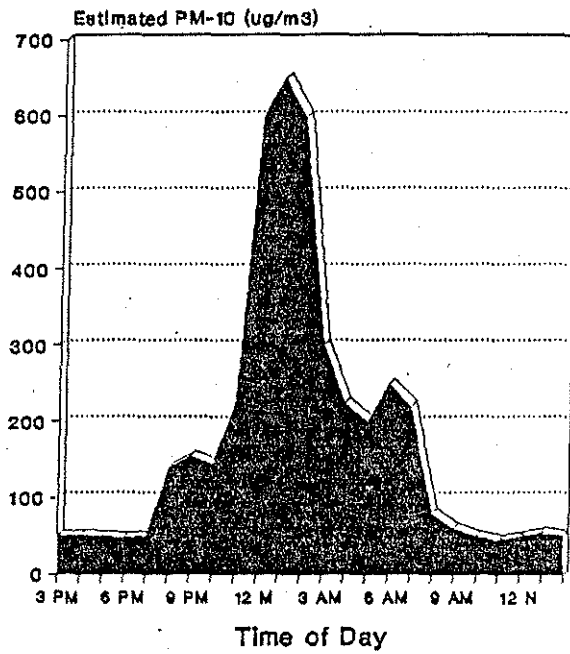
Klamath Falls Nephelometer Survey
January 25, 1989 at 7 AM
($\mu\text{g}/\text{m}^3$ PM₁₀, 5 Minute Averages)

— Urban Growth Boundary

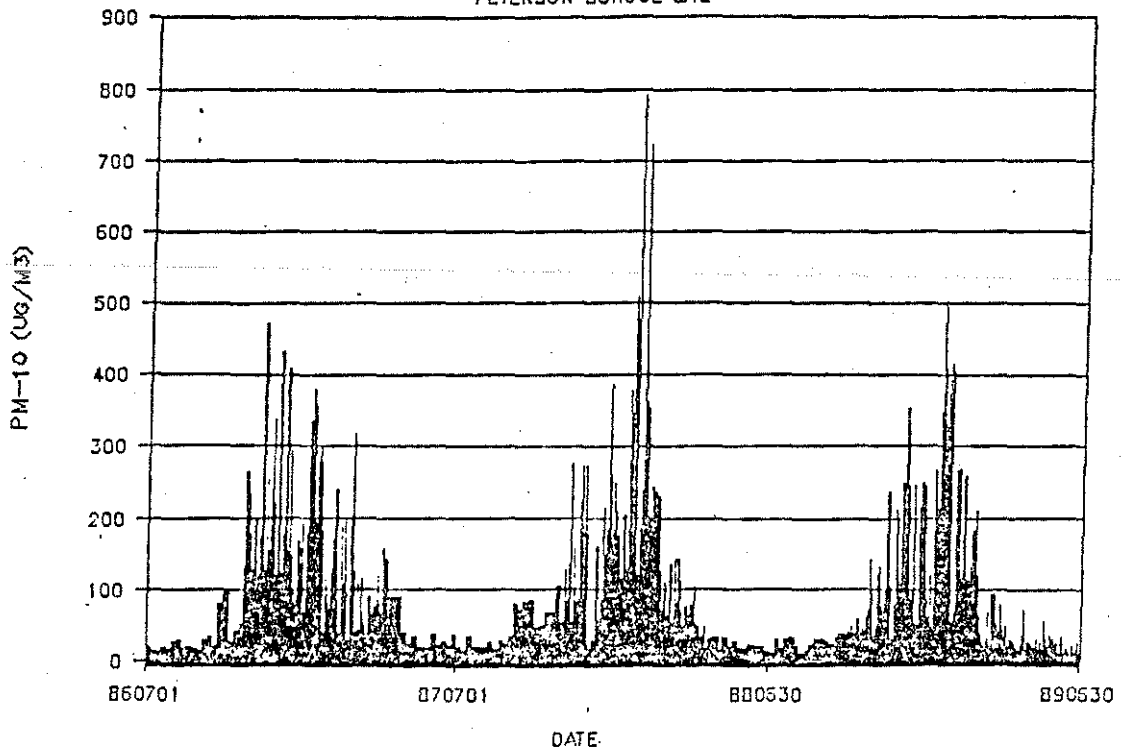
★ Peterson School

Figure 4.12.1-2: Diurnal & Seasonal Variations in PM₁₀ Levels

PM-10 Diurnal Variations
Winter Season at Peterson School



KLAMATH FALLS PM-10 LEVELS
PETERSON SCHOOL SITE



Residential Wood Heating: 1,202 TPY PM₁₀. Information obtained from the Department's 1987 wood heating survey¹² and the County of Klamath Falls indicates that 13,600¹³ single family housing units are located within the UGB and that 73% of the housing units use wood burning devices. Approximately 75% of the devices are woodstoves while the remainder are fireplaces. The survey indicates that, on average, residents burn 4.1 cords/year of firewood in their woodstoves and 2.7 cords/year in fireplaces. At 39.9 pounds of PM₁₀ emitted per ton of wood burned in a woodstove, 1,076 tons of PM₁₀ are emitted per year. Fireplace emissions at 26.6 pounds per ton of wood burned total 126 TPY for a total 1202 tons per year.

Based on the survey, about 12% of the woodstoves are DEQ-certified models. Forty six percent of those surveyed indicated that wood was the main source of heat in their home. Wood is the only source of heat in 4-5% of Klamath Falls homes.

Backyard and Agricultural Burning: 172 TPY PM₁₀. Approximately 3,380 tons of backyard debris is burned each year generating 26 TPY of PM₁₀. This estimate assumes that 183 pounds of combustible material (principally yard debris) is burned per person each year during the months of March through November. Each ton of debris burned is assumed to emit 15.3 pounds of PM₁₀ particulate. Although (for purposes of the emission inventory) no backyard burning is assumed to occur during the months of December through February, local observations have confirmed that some burning is occurring on woodstove curtailment days. Agricultural burning also occurs within the UGB and, in early November, 1989 was occurring during wood heating curtailment periods. Agricultural Extension Service estimates that about 30% of the 8,000 acres of cereal grain fields within the UGB are burned annually. Assuming 3.8 tons of straw per acre, approximately 146 TPY of PM₁₀ would be generated by this source during the late summer and early fall. Other agricultural burning is known to occur outside of the UGB, but no reliable information is available to estimate emissions.

¹²Oregon Wood Heating Survey for 1987: Klamath Falls Area. State of Oregon Department of Environmental Quality, Air Quality Division. February, 1987.

¹³ Klamath County Planning Department Correspondence of May 4, 1990.

Fugitive Dust Emissions: 230 TPY PM₁₀. The principal sources of dust within the UGB on an annual basis are paved and unpaved road dust (112 and 53 TPY, respectively) and emissions from winter road sanding (27 TPY). Paved and unpaved road dust estimates are based on a 1985 estimate of 414,800 vehicles miles per day and an assumed PM₁₀/TSP ratio of 24 %. There are 127 miles of dirt road and 68 miles of gravel road within the UGB.

Transportation Sources: 131 TPY PM₁₀. Highway vehicles (autos and trucks) emit 97 TPY PM₁₀ in tailpipe and tire wear particulate; off highway vehicles 12 TPY and railroad diesel engines, 19 TPY. Aircraft emissions are 3 TPY.

Table 4.12.2-2 and Figure 4.12.2-1 summarize annual PM₁₀ emissions within the UGB.

Table 4.12.2-2: 1986 UGB Annual Emission Inventory

Source	Tons/Year PM ₁₀	Percent
Industry	189	10 %
Residential Wood Burning	1200	62 %
Commercial Space Heating	3	0 %
Solid Waste Disposal	174	9 %
Fugitive Dust	230	12 %
Transportation	131	7 %
Other Sources	9	0 %
Totals	1936	100 %

24-Hour Worst Case Day Inventory

Development of an inventory representative of emissions during 24 hour periods when PM₁₀ ambient air concentrations reach their highest levels is important to understanding the sources that cause winter season episodes. The relative proportion of emissions during these periods is expected to be quite different than those reflected in the annual emission inventory because some sources (such as agricultural burning) are not active while others (such as residential wood heating) are much stronger.

The 24-hour worst case inventory for the UGB is based on the following information and assumptions:

Industrial and Transportation Source. The 1986 worst case day industrial emissions are based on 1986 annual emissions increased by the ratio of the 1992 daily Plant

Site Emission Limit (PSEL) (pounds/hour PSEL over 24 hours) to the 1992 annual PSEL emissions.

Residential Wood Burning emissions are assumed to be proportional to the coolness of the weather as reflected in the degree heating days statistic tabulated by the National Weather Service. During the period of October, 1986 to October, 1987, the coldest day (January 9, 1986) had 47 degree heating days. Since the total degree heating days for this period was 6,109, this represents 0.76 % of the annual total or 9.2 tons of PM₁₀ emission.

Winter Road Sanding emissions peak during periods when several inches of snow covers the area. During these periods, as much as 70 cubic yards per day of aggregate are spread on roads within the UGB. Because snow covers the roadways and landscape, essentially all of the fugitive dust emissions are assumed to originate from road sanding. Chemical analysis of PM₁₀ samples collected on days exceeding the 24-hour NAAQS indicated that 9 % of the PM₁₀ mass was soil dust. Road sanding emission were therefore estimated to be of similar magnitude in the inventory or about 2,000 lbs/day during the 27 days per year when road sanding occurs. The worst case day emission estimates provide the basis for the annual emission estimate for road sanding.

As noted, road sanding emissions were based on chemical mass balance analysis of PM₁₀ samples, not on the basis of emission factors. This was done for several reasons:

- (1) the CMB model can very accurately apportion soil dust impacts on actual worst case days. Even with the best possible emission factors, estimates of fugitive emissions are highly uncertain;
- (2) Paved road dust emission factors are not appropriate since road surfaces are covered with packed snow;
- (3) Initial calculations of emissions assuming unpaved road dust emission factors and the silt content of the aggregate used in road sanding resulted in unrealistic emission estimates far greater than the sum of all other air shed sources.

New information on winter road sanding emissions will be used to confirm the CMB derived estimate as it becomes available.

Table 4.12.2-3: 24-Hour Worst Case Emission Inventory
1986 Base Year Period.

Source	Tons PM ₁₀	Percent
Industry	0.75	6.6 %
Residential Wood Burning	9.2	80.7 %
Commercial Space Heating	0.03	0.2 %
Fugitive Dust	1.0	8.8 %
Transportation	0.4	3.4 %
Other Sources	0.03	0.3 %
Totals	11.4	100 %

Appendix 3 provides a detailed annual and worst case 24-hour emission inventory listing.

Growth Factors

PM₁₀ emission growth factors are used to estimate future year emission inventories and source category impacts. Key indicators used to estimate emissions in 1992 include population growth, increases in transportation (vehicle miles traveled) and Plant Site Emission Limits (PSELs) for industrial sources.

Transportation Growth, estimated at 1.5 % per year is used to estimate increases in vehicular and road dust emissions.¹⁴

Population Growth data indicates that the number of people living within the Klamath Falls Urban Growth Boundary will increase by 1.1 % per year from 37,000 to 39,500 by the year 1992.¹⁵ Population growth is used to proportionally increase residential open burning emission and woodstove use. The population growth rate used herein is consistent with those used by the Klamath County Planning Department.

Woodburning Emission Growth from wood stoves is expected to increase by 1 % per year (6 % total) by the year 1992 as a result of an increased amount of firewood burned and fireplace emissions are expected to decrease by 2 % per year. The one percent growth rate is based on energy projections and fuel cost modeling performed to estimate future woodburning emission growth in the

¹⁴State of Oregon Department of Transportation Highway Division Planning Section estimate. February 22, 1989.

¹⁵ Klamath Basin Wastewater Facilities Plan Update for the North Suburban Area of the City of Klamath Falls, Klamath County, Oregon. June, 1987.

Pacific Northwest. ¹⁶ These projections do not account for emission reductions that will occur as a result of woodstove certification programs as these reductions are explicitly accounted for in the Section 4.12.3.2, Evaluation of Potential Control Measures.

Industrial Emission Growth has been projected to increase to the maximum permitted within their current Plant Site Emission Limits (PSELS). The 24-hour worst case growth factor is calculated as the increase from the 1986 actual hourly emissions to their hourly maximum PSEL emission rate over a 24 hour period.

Projected Emissions, 1986 to 1992

The 1986 annual and 24-hour emission and design value estimates must be adjusted to account for emission growth or decreases that may occur within the airshed during the six year period of 1986-1992. Estimates are based on the emission growth factors described above. The information presented in Table 4.12.2-4 provides a basis for the future year source impact estimates (Section 4.12.3.1) which, in turn, provided the basis for the control strategy analysis.

Table 4.12.2-4: 1992 Estimated Emissions

Source Category	-Annual- 1992		-24-Hr Worst Case- 1992	
	Tons	%	Tons	%
Industry	265	13 %	1.1	9 %
Residential Wood Burning	1028	55 %	9.5	78 %
Fugitive Dust	211	10 %	1.1	9 %
Solid Waste Disposal	185	10 %	0.0	0 %
Transportation	141	8 %	0.4	3 %
Other	59	4 %	0.1	1 %
Totals	1888	100 %	12.2	100 %

Projected Emissions Beyond 1992

Analysis of the ability of the attainment strategies to maintain the NAAQS during the period 1992 to the year 2000 requires development of a third set of emission estimates. The growth rates assumed for the maintenance analysis are based on the 1992 inventory adjusted to reflect the attainment strategy emission reductions:

¹⁶ U.S. Environmental Protection Agency, Region X "Residential Wood Combustion Study, Task 3, Fuel Wood Use Projections", EPA 910/9-82-089 (1984).

- Population growth rate of 1.1% per year to residential oil, gas and wood combustion emissions; solid waste incineration emissions and structural fires;
- Transportation growth rate of 1.5 % per year to transportation sources and paved, unpaved and construction dust as well as street sanding emissions;
- Industrial emissions are held constant at the annual and 24 hour PSEL emission rates shown in the 1992 emission inventory;

The projected residential wood combustion emissions, following application of a 1.1 % per year growth rate, were adjusted to reflect emission reduction credits associated with the woodstove certification program. Information from the Klamath County Building Department indicates that approximately 100% of the new woodstoves being installed in new construction homes are certified and 20 % of these are pellet stoves.¹⁷ Additional information from manufacturers suggests that certified pellet stoves sales should expand to a larger share of the market in future years. This may be, in part, supported by the fact that pellet stove owners have not been asked to curtail burning during cord wood stove curtailment periods.¹⁸ Therefore, during the period 1992 to 1996, it is assumed that 80 % of newly installed stoves are cord wood and 20 % are pellet stoves. During the period 1996 to 2000, it is assumed that 50 % are cord wood and 50% are pellet stoves.

Actual and projected annual emissions during 1992 to the year 2000 are tabulated in Table 4.12.2-5. Projected 24 Hour Worst Case emissions are summarized in Table 4.12.2-6. Figure 4.12.2-2 shows changes in emission inventories during the period 1986 to the year 2000. The year 2000 annual and 24 hour projected emissions were reduced from 1986 levels by 888 tons per year and 17,400 pounds per day, respectively, through the implementation of mandatory curtailment; the woodstove certification program, fuel wood certification and road deicing programs.

¹⁷ Correspondence from Klamath County Building Department of February 14, 1990.

¹⁸ Personal communications with the Chairman, Association of Pellet Fuel Industries, Sparks, Nevada. February 22, 1990.

**Table 4.12.2-5: 1992 to Year 2000 Annual Emissions
Tons Per Year**

Source Category	1992	1994	1996	1998	2000
Industry	264	264	264	264	264
Residential Wood Burning	220	212	201	189	177
Fugitive Dust	192	197	204	209	215
Solid Waste Disposal	185	166	166	167	167
Transportation	141	144	147	151	155
Other	59	62	65	67	71
Totals	1062	1045	1046	1047	1049

**Table 4.12.2-6: 1992 to Year 2000 24 Hour Worst Case Emissions
Pounds Per Day**

Source Category	1992	1994	1996	1998	2000
Industry	2246	2246	2246	2246	2246
Residential Wood Burning	1344	1290	1174	1103	1045
Fugitive Dust	875	898	925	953	981
Solid Waste Disposal	0	0	0	0	0
Transportation	832	853	875	898	921
Other	130	133	136	139	142
Totals	5425	5418	5350	5330	5322

4.12.2.3 Source Contributions to PM₁₀

Development of strategies designed to attain and maintain the PM₁₀ NAAQS requires an accurate knowledge of contributions that sources make to the measured PM₁₀ aerosol mass. Two approaches are commonly used to estimate source contributions (1) atmospheric dispersion modeling and (2) receptor model analysis based on the properties of the aerosol measured at the receptor.

The Environmental Protection Agency PM₁₀ SIP Development Guidelines Section 4.4 describes procedures to be used by the states for using receptor models to estimate source contributions to PM₁₀ concentrations. These guidelines support the use of receptor models as an important element of the SIP strategy development process. Receptor modeling (specifically Chemical Mass Balance or CMB) is especially appropriate in Klamath Falls where severe air stagnation and complex terrain conditions likely make dispersion modeling inappropriate. The specific application of the

CMB Receptor Model to PM₁₀ source apportionment in Oregon's Group 1 areas is described elsewhere.¹⁹

Chemical Mass Balance (CMB) is a form of receptor modeling based upon regression analysis of aerosol features such as trace element concentrations. The model attempts to find the most likely combination of source contribution estimates (SCE's) by minimizing the difference between the measured and model-predicted concentration of aerosol features. Values for the ambient aerosol matrix are obtained through chemical analysis of PM₁₀ filters taken at the Peterson School sites while the source "fingerprint" values are obtained through analysis of stack emissions. The CMB modeling protocol applied follows EPA guidance.²⁰ All of the CMB modelling has been conducted using EPA's Version 7.0 CMB program.²¹

Ambient Aerosol & Source Emission Analysis

Thirty eight PM₁₀ samples from the Peterson School site have been chemically analyzed for CMB analysis. Fourteen of the samples exceeded 150 $\mu\text{g}/\text{m}^3$, all of which were collected during the winter months. The highest sample analyzed was 417 $\mu\text{g}/\text{m}^3$ on January 19, 1989. Chemical characterization of the samples includes 19 trace elements analyzed by x-ray fluorescence, 3 anions and elemental/organic carbon, providing a data set that is compatible with the source emission profiles. Analytical uncertainties for each values are routinely reported and included in the CMB calculations.

PM₁₀ source profiles representing all major emission groups within the airshed were used in the modeling. All of the profiles were obtained from the Pacific Northwest Source Profile Project.²² A list of the sources included in the analysis is presented below:

¹⁹ PM₁₀ Receptor Modeling for Oregon's Group I Areas: Medford, Grants Pass and Klamath Falls. State of Oregon Department of Environmental Quality, Air Quality Division. February, 1990.

²⁰ Protocol for Reconciling Differences Among Receptor and Dispersion Models. US EPA 450/4-87-008. March, 1987.

²¹ Receptor Model Technical Series, Volume III (Revised): CMB User's Manual (Version 6.0) US EPA 450/4-83-014R. May, 1987.

²² Pacific Northwest Source Profile Library Project, Final Report Prepared by the State of Oregon Department of Environmental Quality, Air Quality Division. J. Core, Ed. September, 1989.

Table 4.12.2-7: Source Profiles

No.	Acronym	Description
1	KFSOIL	Resuspended soil dust from Klamath Falls
2	SLASH	Forestry slash broadcast burning (Also may be vegetative burning such as yard debris)
3	RWC MED	Residential wood combustion profile for Medford
4	LD AUTO	Light duty autos (leaded gasoline)
5	HOGFUEL	Hogfuel boiler burning plywood trim in the fuel
6	WOOD	Wood fiber including sander dust
7	HDDIESEL	Diesel exhaust (Fed. Test Cycle)
8	SECSO4	Secondary sulfate estimated as ammonium sulfate
9	SECNO3	Secondary nitrate estimated as ammonium nitrate
10	SECNH4	Secondary Ammonium ion
11	SALT	Road salt applied during the winter months
12	CONST	Construction dust - Medford Aerosol Study
13	VENEER	Steam heated veneer drier emissions

Receptor Model Source Contribution Estimates

24 Hour Exceedance Days

Table 4.12.2-8 is a summary of the source contribution obtained for the 14 samples that exceeded the 24 hour NAAQS. All samples were collected during the winter months. Figure 4.12.2-3 illustrates the results in graphical form.

Table 4.12.2-8: Average Winter Exceedance Day PM₁₀ Source Contribution Estimates

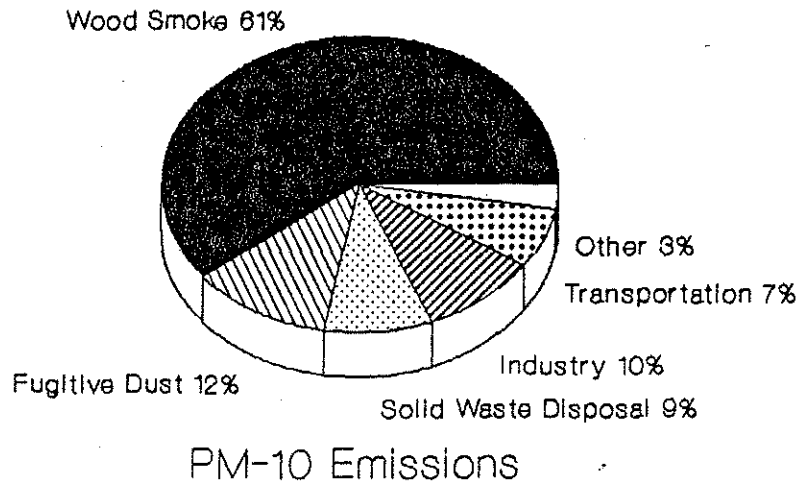
Source	PM ₁₀ (µg/m ³)	% PM ₁₀
Soil Dust	27.4	10.9 %
Wood Smoke	219.0	82.0 %
Transportation	0.2	0.1 %
Sec. Aerosol	10.7	3.2 %
Others	11.7	4.3 %
	269 µg/m ³	100 %

Other sources noted in Table 4.12.2-8 include water associated with the aerosol; minor contributions and uncertainties in the apportionment. Studies recently conducted in Los Angeles suggest that as much as 7 % of the PM₁₀ mass is water.²³

²³S. Witz, R. Eden, C. Liu and M. Wadley, "Water Content of Collected Aerosols in the Los Angeles Basin," Presented at the Pacific Conference on Chemistry and Spectroscopy, Irvine, CA. October, 1987.

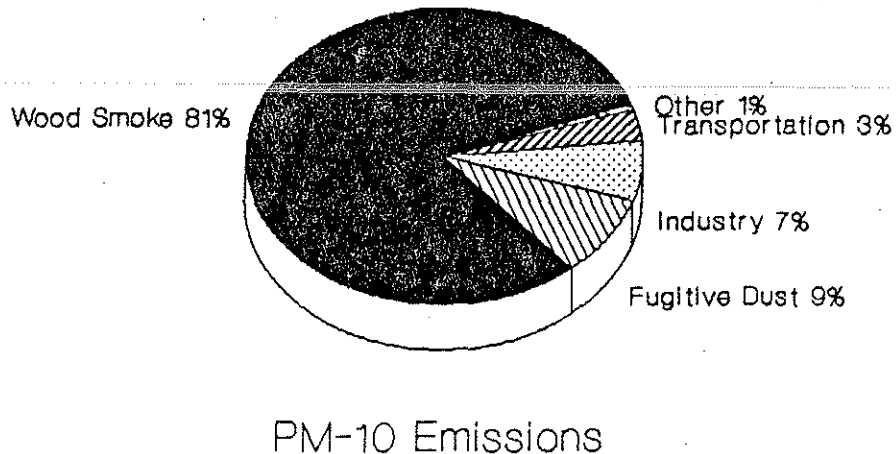
Figure 4.12.2-1: Klamath Falls PM₁₀ Emission Inventories

Klamath Falls Nonattainment Area Annual Emission Inventory



Calendar Year 1986

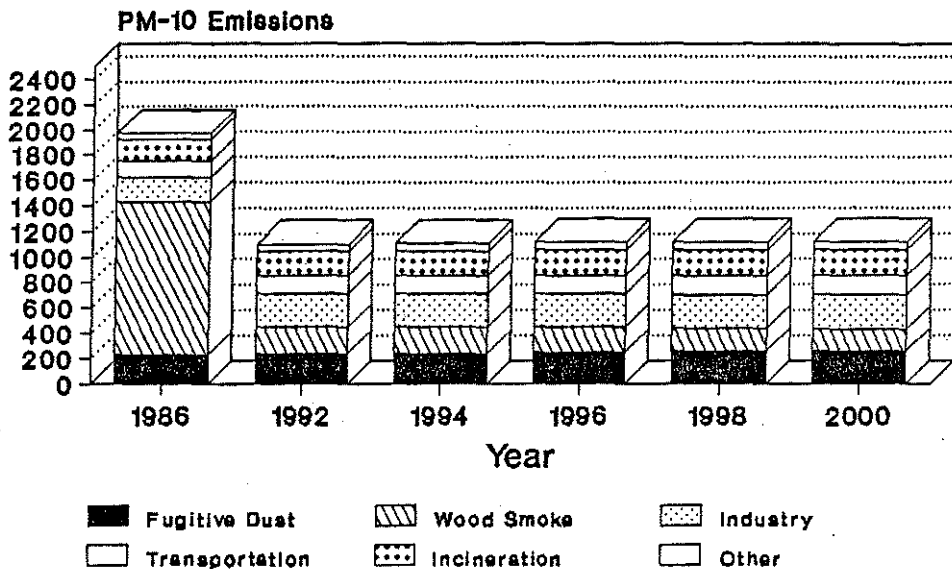
Klamath Falls Nonattainment Area Worst Case Day Emission Inventory



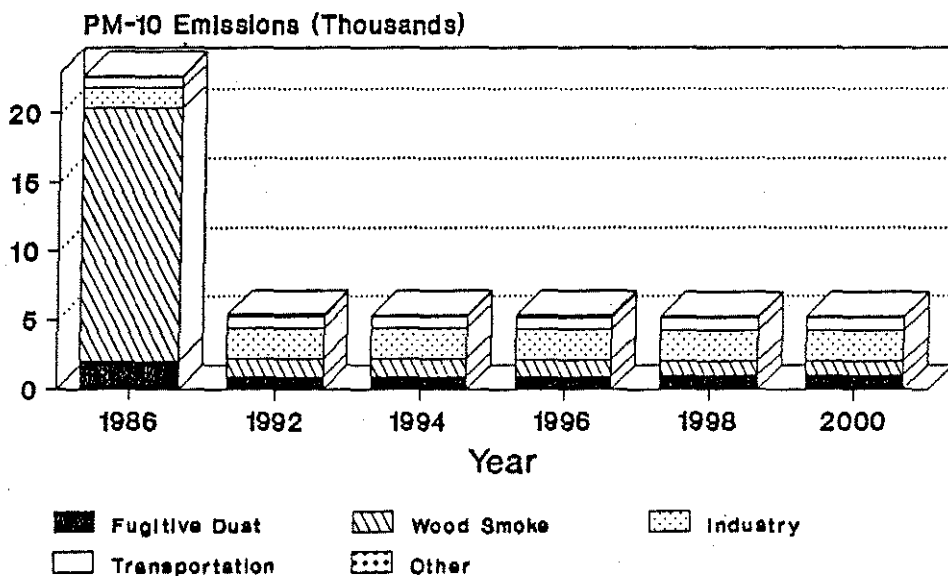
Based on 1986 Emissions

Figure 4.12.2-2: 1986 to 2000 Emission Projections

Klamath Falls Annual PM-10 Emissions 1986 to Year 2000



24 Hr Emissions Pounds Per Day



No contribution from hogged fuel boilers was detected on these exceedance days. US EPA Chemical Mass Balance guidance specifies that the apportionment should account for at least 80 % of the measured aerosol mass. Ninety-six percent of the mass has been apportioned in the above table. Average source contribution uncertainties (relative percent of mass) are 18 % for wood smoke, 11 % for hog fuel boilers and 8 % for soil dust.

Annual Average Contributions

The annual average source contribution estimates noted in Table 4.12.2-9 were estimated from CMB analysis of PM₁₀ samples with mass loadings that approximate monthly average mass loadings. No data was available for September or November. The average mass loading of the analyzed filters is 77 µg/m³ as compared to an actual annual arithmetic mean of 75 µg/m³. Since the source contributions shown are based on a limited number of samples, the annual averages shown are only approximations of the true annual source contributions.

Table 4.12.2-9: Annual Average PM₁₀ SCE's

Source	PM ₁₀ (µg/m ³)	% PM ₁₀
Soil Dust	12.9	17.0 %
Wood Smoke	55.4	72.9 %
Industry	0.9	1.1 %
Burning *	1.4	1.8 %
Transportation	0.1	0.1 %
Sec. Aerosol	1.5	1.9 %
Others	3.8	5.0 %
	76 µg/m ³	100 %

* Burning includes slash and field burning, land clearing and residential open burning.

Multiple Linear Regression Analysis

A second receptor modeling method of apportioning source contributions is multiple linear regression wherein the source contributions are estimated from variability in the aerosol chemistry. The MLR analysis was completed to determine the degree to which PM₁₀ mass concentrations could be predicted from the aerosol chemistry and as a second independent check on the CMB source apportionment. Based on 49 observations, 90 % (R-Sq = 0.95) of the PM₁₀ mass variability can be accounted for on the basis of the aluminum (a tracer for soil dust), sulfate (a secondary aerosol) and organic and elemental carbon (from wood burning). The relative standard errors for the coefficients are 53%, 45%, 5% and 40%, respectively. The results indicating that the PM₁₀ mass can

reasonably be estimated from organic carbon measurements. The regression equation is:

$$PM_{10} (\mu g/m^3) = 7.3(Al) + 6.4(SO_4) + 1.9(OC) + 1.0(EC) + 26$$

Source apportionment based on MLR analysis indicate that on typical winter days exceeding the 24-hour NAAQS 5.3 % of the mass is soil dust, 7.7 % is sulfate and 67 % is wood smoke. These findings support the emission inventory and receptor modeling conclusions that soil dust and woodburning are significant contributors to Klamath Falls PM_{10} levels during winter 24-hour worst case episodes. Since industrial emissions cannot be identified by any single aerosol component, industry contributions cannot be reliably estimated using this approach.

Analysis of Impacts by Source Categories

Receptor modeling of samples collected on days exceeding the NAAQS clearly show that residential wood smoke is the predominant source; that wood smoke varies from 69 % to nearly all of the PM_{10} mass and that these impacts are consistent with the aerosol chemistry observed within the airshed. These findings are also generally consistent with diurnal and seasonal variations in Klamath Falls PM_{10} concentrations (Figure 4.12.1-2).

Comparisons between emission inventory and receptor modeling results has been used to provide a qualitative assessment of the relative significance of source categories. The source contribution estimates by these two methods for the winter 24-hour worst case and annual average periods are shown in Tables 4.12.2-11 and -12. They illustrate the generally close agreement between the source categories. The wood products industry contributions as estimated by emission inventory are higher than that estimated by receptor modeling because dispersion of the emissions is not considered. Transportation emissions are also somewhat higher than indicated by receptor modeling.

Background PM_{10} Air Quality

Annual average background PM_{10} air quality being transported into the Klamath Basin is estimated to be similar to background levels at the Medford Dodge Road monitoring site, about $15 \mu g/m^3$ (see Section 4.12.1.2). This is similar to annual average background of $12 \mu g/m^3$ measured at the Quartz Mountain PM_{10} site southeast of Klamath Falls. The 24-hour average exceedance day background of $7 \mu g/m^3$ apportionment is based on the percentage contributions found at the Peterson School site with very low PM_{10} concentrations ($11 \mu g/m^3$) likely to reflect background sources.

Table 4.12.2-10: Background PM₁₀ Source Contributions

Source	Annual Ave. PM ₁₀ (µg/m ³)		24-Hr Ave. Exceedance Day	
Soil Dust	4.6	30.6 %	4.3	62 %
Industry	0.7	4.5 %	0.0	0 %
Wood Smoke	7.2	48.0 %	1.9	27 %
Sec. Aerosol	1.4	9.3 %	0.6	8 %
Others	1.0	6.6 %	0.2	3 %
	15 µg/m ³		7 µg/m ³	

Estimation of "Local" Air Quality Impacts

Estimation of the impact of emission sources within the UGB requires that background components listed in Table 4.12.2-10 be subtracted from the source contributions listed in Table 4.12.2-8 and 9. The difference between these two sets of estimates is the contribution of "local" sources identified in the emission inventories. Table 4.12.2-11 and 12 lists the "local" source contribution estimates (SCEs) to PM₁₀ mass average winter days which exceed the NAAQS and annual PM₁₀ mass loading, respectively.

Table 4.12.2-11: Average Exceedance Day "Local" PM₁₀ SCE's

Source	PM ₁₀ (µg/m ³)	% PM ₁₀	Emission Inventory
Soil Dust	23.1	8.8 %	9 %
Industry	0.0	0.0 %	7 %
Wood Smoke	217.1	82.8 %	81 %
Sec. Aerosol	10.1	3.8 %	----
Others	11.5	4.3 %	3 %
	262 µg/m ³	100 %	100 %

Table 4.12.2-12: Annual Average "Local" PM₁₀ SCE's

Source	PM ₁₀ (µg/m ³)	% PM ₁₀	Emission Inventory
Soil Dust	8.3	13.6 %	10 %
Industry	0.9	1.4 %	10 %
Wood Smoke	48.2	79.0 %	71 % **
Burning *	1.4	2.2 %	-----
Sec. Aerosol	0.1	0.1 %	-----
Transportation	0.1	0.1 %	7 %
Others	2.0	3.2 %	2 %
	61 µg/m ³	100 %	100 %

Table 4.12.2-12 Notes:

* Includes smoke from open burning occurring outside of the winter space heating season.

** Includes residential wood burning and solid waste disposal open burning.

The above analysis demonstrates that the 1986 emission inventory and receptor modeling analysis results are reasonably comparable. The validated emission inventories support the use of the 1992 emission inventory projection as the basis for the emission rollback calculations used in the attainment demonstration.

4.12.3 Emission Reduction Analysis

This section describes the emission reductions necessary to attain the NAAQS (4.12.3.1), a review of potential control measures that may be applied in Klamath Falls (4.12.3.2) and an assessment of the adequacy of the control measures to attain the NAAQS within the time limits specified by Section 110 (a) of the Clean Air Act (4.12.3.3).

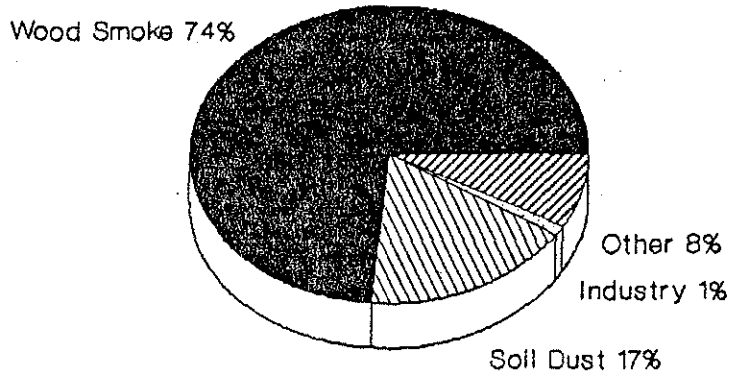
4.12.3.1 Emission Reduction Necessary for Attainment

The EPA PM₁₀ SIP Development Guidelines specify that a proportioning method should be used to estimate the control strategy requirements of the SIP. In the analysis below, the contribution of emission sources to the 1992 design values have been apportioned based on the 1992 annual and 24-hour worst case emission inventory estimates. Emission growth rates between 1986 and 1992 were first applied to each emission inventory source category. The sum of the 1992 source impacts plus background provide the 1992 24-hour worst case design value. A similar approach is taken to estimate 1992 annual emission reduction requirements.

Projected 24-Hour Source Impacts in Future Years

Table 4.12.3-1 lists 1992 source contribution estimates for the 24-hour worst case scenario. Source contributions at the 1992 design level were apportioned using the 1986 24-hour worst case day emission inventory percentages applied to the "local" PM₁₀ air quality level of 543 $\mu\text{g}/\text{m}^3$ (550 $\mu\text{g}/\text{m}^3$ design value less the 7 $\mu\text{g}/\text{m}^3$ background).

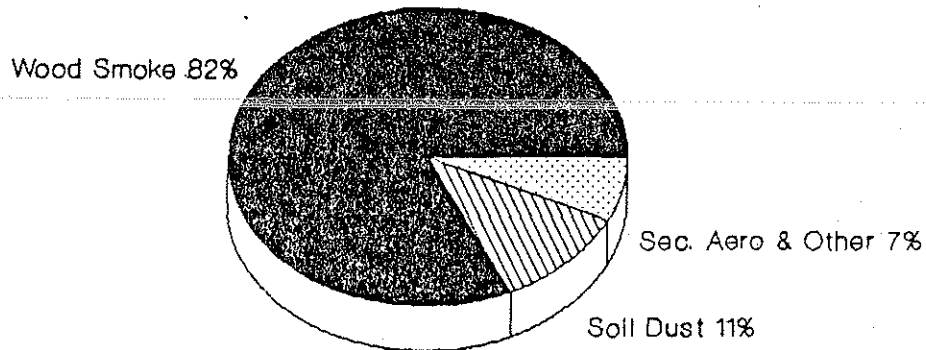
Klamath Falls Annual Source Impacts Chemical Mass Balance Estimates



Peterson School

Dec. 1987 - Jan. 1989

Klamath Falls PM-10 Typical Winter Worst Case Day



Peterson School

(Samples Greater Than 150 U_g/m³)

Table 4.12.3-1: Projected Future Source Category Impacts
(24-Hr Worst Case)

Source	1986 Worst Day EI	"Local" Design ($\mu\text{g}/\text{m}^3$)	1986-92 Growth (%)	1992 $\mu\text{g}/\text{m}^3$	1992 % "Local" PM ₁₀
Wood Stoves	72 %	392	6.0 %	416	70.2 %
Fireplaces	9 %	46	-12.0 %	40	6.8 %
Industry	7 %	36	49.6 %	54	9.1 %
Fugitive Dust	9 %	48	9.0 %	52	8.8 %
Transportation	3 %	18	8.3 %	20	3.3 %
Other Sources	1 %	3	6.6 %	3	0.5 %
Subtotals		543		585 $\mu\text{g}/\text{m}^3$	
Background				7 $\mu\text{g}/\text{m}^3$	
Total				592 $\mu\text{g}/\text{m}^3$	

Air quality improvement needed = $442 \mu\text{g}/\text{m}^3$ ($592 - 150 \mu\text{g}/\text{m}^3$)
or a 75.5 % ($442/593$) reduction in worst case day emissions
equivalent to 18,486 pounds per day.

The control strategy must be comprised of a mix of individual source reduction measures such that the sum of the reductions equal or exceed the total reduction requirement. Adopted control strategies must be shown through a demonstration of attainment (Section 4.12.3.3) to attain and maintain the NAAQS by reducing emissions such that an overall reduction in PM₁₀ 24 hour worst case concentrations is at least $442 \mu\text{g}/\text{m}^3$.

Projected Annual Source Impacts in 1992

Table 4.12.3-2 lists 1992 source contribution estimates for the annual scenario. Source contributions at the 1992 annual design level were apportioned using the 1992 annual emission inventory percentages applied to the "local" PM₁₀ air quality level of $60 \mu\text{g}/\text{m}^3$ ($75 \mu\text{g}/\text{m}^3$ design value less the $15 \mu\text{g}/\text{m}^3$ background).

Table 4.12.3-2: Projected Annual Source Category Impacts

Source	1986 Annual EI	"Local" Design ($\mu\text{g}/\text{m}^3$)	1986-92 Annual Growth	1992 Annual $\mu\text{g}/\text{m}^3$	1992 % "Local" PM ₁₀
Wood Stoves	55 %	33	-15 %	28	48 %
Fireplaces	6 %	4	-11 %	4	7 %
Industry	10 %	6	41 %	8	14 %
Fugitive Dust	10 %	6	4 %	6	10 %
Transportation	7 %	4	8 %	4	7 %
Open Burning	9 %	5	7 %	6	10 %
Other Sources	3 %	2	9 %	2	3 %
<hr/>					
Sub Totals		60		58 $\mu\text{g}/\text{m}^3$	
Background				15 $\mu\text{g}/\text{m}^3$	
Total				73 $\mu\text{g}/\text{m}^3$	

Air quality improvement needed = 23 $\mu\text{g}/\text{m}^3$ (73-50 $\mu\text{g}/\text{m}^3$) or a 40 % (23/66) reduction in 1992 annual emissions. This is equivalent to a reduction of 756 tons per year.

4.12.3.2 Evaluation of Potential Control Measures

The PM₁₀ control strategy for the Klamath Falls UGB focus on residential wood burning and winter road sanding fugitive emission dust control measures. Public education programs and on-going restrictions on open burning, forest slash burning emissions reductions and management of industrial point source emission growth are supplemental elements of the attainment strategy.

PM₁₀ Control Strategy Elements

The following control strategy elements have been set in place to assure attainment of the annual and 24-hour PM₁₀ NAAQS. Emission reduction credits associated with each element are listed and discussed. A PM₁₀ emission reduction credit is a measure of the reduction in PM₁₀ emissions that would be accomplished through adoption and implementation of the program element. The strategy elements and credits are further described in Section 4.12.3.3.

Table 4.12.3-3 PM₁₀ Control Strategies Elements

Element	Strategy	Emission Reduction Credits by 1992 24-Hr. Annual	
Attainment Strategies (Required)			
1	Woodstove Certification Program	20 %	20 %
2	Woodstove Curtailment Programs	90 %	74 % *
3	Fuel Wood Certification Program	2 %	2 %
4	New Road Deicing Controls	60 %	60 %
5	Public Education Programs	No Credit Taken	
6	Industrial Significant Emission Rate Offset Restrictions	No Credit Taken	
7	Forestry Slash Burning Emission Reductions & Restrictions	No Credit Taken	

* Equivalent Emission Reduction Credit - See Text

Residential Wood Smoke Control Elements

There are two basic approaches to reducing woodsmoke from stoves and fireplaces: (1) improving the performance of the wood heating systems such as through a certified woodstove program; and (2) burning less wood through woodstove curtailment programs. Some strategies have multiple advantages. Certified woodstoves, for example, improve emission performance by reducing the amount of woodsmoke per cord of wood burned while improving energy efficiency, thus reducing the amount of wood burned. Other examples are well designed public information, energy conservation, or firewood seasoning programs that result in better combustion (lower emissions) and better energy efficiency (less fuel burned). The key elements of the residential wood smoke control program are described below.

The Woodstove Certification Program

In 1983, the Oregon Legislature directed the Department to require that all new woodstoves sold in the state be laboratory tested for emissions and efficiency to assure compliance with established woodstove emission standards. As a result, stoves sold after July, 1986 were required to emit 50% less emissions than conventional woodstoves. After July 1988 new woodstoves were required to emit 70% less emissions.

Subsequent to the adoption of Oregon's emission standards, the Environmental Protection Agency adopted a slightly more restrictive national certification program which will become effective in July, 1990. In March, 1990, the Department completed rulemaking to modify the Oregon Woodstove Certification Rules

(OAR 340 Division 21) to assure consistency with EPA's national program.

In-home studies of first generation certified woodstoves have indicated that they actually reduce emissions by about 30%. Second generation certified woodstoves have been shown to reduce emissions by about 50%. Their lesser than expected performance has to a large extent been due to durability problems with critical stove components. The majority of the stoves certified by the Department and sold in Oregon have been second generation stoves.

Second generation catalytic stove designs have incorporated new advancements in combustor technology which in part accounts for the stoves increased effectiveness. First generation catalytic stoves incorporated less effective catalytic elements which are currently reaching the end of their useful life. When replaced with new generation catalysts, the first generation catalytic stoves will provide effective emissions reductions approaching that of second generation stoves. These improved first generation stoves will make up in part the stove population in 1992.

Recent in-home studies have also shown that woodstove designs which met experimental durability criteria have demonstrated emission reductions averaging 79%. Durability criteria are those design features, and methods of construction which will help ensure that the initial emission performance achieved by a stove is maintained over it's usable life. Some of these units will also make up the woodstove population in 1992.

Additionally, sales of pellet stoves in non-attainment areas, as well as statewide, are reported to have significantly increased and are expected to accelerate in the foreseeable future. Pellet stoves provide a 90% reduction in emissions and are expected to become a significant segment of the woodstove population in non-attainment areas where they have typically been exempted from curtailment programs. Therefore, the Department is using a 50% emission reduction credit overall for the stove population of 1992.

RESIDENTIAL WOODBURNING

WOODSTOVES:

Residential woodstove emissions constitute 89.5% (1075 tons) of the 1986 RWC base line emission inventory. Growth of residential woodstove use was estimated by comparing a study of projected firewood use, conducted by Del Green Associates, and actual wood heating surveys conducted by the department from 1981 through 1987. The Del Green projections can be used to estimate wood use growth from 1986 to 1992 at a 1% per year increase. This projection is conservative compared to the actual firewood use trends projected from the 1981 and 1987 woodheating surveys.

FIREPLACES:

Fireplace emissions in Klamath Falls represent 10.5% (126 tons) of the 1986 base line RWC emission inventory. The emission impact from fireplaces has been separated from woodstove use in calculating the emission reduction benefit derived from the woodstove certification program. The Del Green projections for wood use trends in fireplaces estimates a 2% per year decrease in fireplace use from 1986 through 1992. This estimate is also conservative when compared to the actual firewood use trends for fireplaces from the 1981 and 1987 woodheating surveys.

PELLET STOVES

Residential pellet stoves are included as part of the 1986 baseline woodstove EI, and are expected to grow at a significantly accelerated rate in the near future. A conservative estimate of pellet stove growth is to assume a growth rate equivalent to cord wood stoves.

The following calculations are included in Appendix 8.

RESIDENTIAL WOODSTOVES

Basis for a 19.7 % Woodstove Certification Program Credit

As noted above, firewood use in residential woodstoves is projected to increase by 1 % per year over the 6 year period from 1986 to 1992. This is the basis of the growth factor used in calculating projected 1992 wood smoke emissions. Therefore, in the absence of any certification program, emission would increase by:

$$1 \% \text{ per year } \times 6 \text{ years } = + 6 \%$$

Building permit authorities in Klamath County indicate that essentially all permitted installations are certified stoves and that about 20 % of these are pellet stoves. A 5 % per year replacement rate for removal of conventional stoves and installation of certified stoves is also assumed.

(1) For new certified cord wood stoves emitting 50 % of conventional stoves, emissions would be expected to decrease over the period 1986-1992 by :

(a) Assuming 80% are new or replacement cord wood stoves:

$$80\% \times \{ [6\% \times (100\% - 50\%)] \times \text{BL86} + [5\%/Yr. \times 6 \text{ Yrs} \times (100 - 50\%)] \times \text{BL86} \} = 14.4\%(\text{BL86})[\text{tons}]$$

Where BL86 = Baseline emissions in 1986

(2) For new certified pellet stoves emitting 10 % of conventional stove, emissions would be expected to decrease over the period 1986-1992 by :

(a) Assuming 20 % are new or replacement pellet stoves:

$$20\% \times \{ [6\% \times (100\% - 10\%)] \times \text{BL86} + [5\%/Yr. \times 6 \text{ Yrs} \times (100 - 10\%)] \times \text{BL86} \} = 6.48\%(\text{BL86}) [\text{tons}]$$

(3) The total emission reduction as a function of the 1992 uncontrolled woodstove emissions is:

$$\frac{\{14.4(\text{BL86}) + 6.48(\text{BL86})\} / \text{BL92} = 20.88(\text{BL86})}{1.06(\text{BL86})} = 19.7\%$$

Where: $\text{BL92} = 1.06 \times \text{BL86}$

Therefore, the woodstove certification program alone provides a 19.7 % credit by 1992.

RESIDENTIAL FIREPLACE EMISSION PROJECTION

Emissions from residential fireplaces are expected to decrease 2% per year from 1986 to 1992.

NET BENEFIT OF CERTIFICATION PROGRAM AND FIREPLACE TRENDS

Woodstove and Pellet Stove Replacement:

Assuming 80% of replacement stoves to be certified cord-wood stoves, and 20% pellet stoves; the net emission reduction from the 1986 base line will be 31.2 tons per year. This yearly reduction is applied consistently (not compounded) each year from 1986 to 1992.

$$[80\% \times (5\%/yr \times .5)] + [20\% \times (5\%/yr \times .9)] = 2.9\%/yr \text{ reduction.}$$

$$1986 \text{ woodstove baseline } [1076] \times .029 = 31.2 \text{ tons/yr.}$$

New Woodstoves and New Pellet Stoves:

Assuming 80% of new certified stoves to be cord-wood stoves, and 20% to be pellet stoves; the net emission increase due to growth will be 4.5 tons/yr. This yearly increase is applied consistently (not compounded) from 1986 to 1992.

$$[80\% \times (1\%/yr \times .5)] + [20\% \times (1\%/yr \times .1)] = 0.42\%/yr \text{ increase.}$$
$$1986 \text{ woodstove baseline } [1076] \times .0042 = 4.5 \text{ tons/yr.}$$

Residential Fireplace Trend:

Residential Fireplace use is projected to decrease by 2% each year. This means a constant reduction of 2.5 tons per year, (not compounded) from the 1986 fireplace emission baseline.
 [126 t/yr x .02] = 2.5 tons/yr.

Source Category	ANNUAL EMISSIONS BY YEAR (Tons)						
	1986	1987	1988	1989	1990	1991	1992
Existing Stoves	1076	1045	1014	982	951	920	889
New Stoves	0	5	9	14	18	23	27
Old & New Fireplaces	126	124	121	119	116	113	112
TOTAL	1202	1174	1144	1115	1085	1056	1028

The net reduction due to the woodstove certification program, and fireplace usage trends (from the projected 1992 uncontrolled RWC emissions of 1252 tons) becomes 18.0% :

$$1 - \frac{[1992 \text{ controlled}] \ 1028 \text{ tons}}{[1992 \text{ uncontrolled}] \ 1252 \text{ tons}} = 18.0\% \text{ reduction}$$

Maintenance Credits Beyond 1992

The credits claimed for the certification program beyond 1992 follow the same approach but are based on the fact that pellet stoves are likely to be an increasing proportion of the new stoves being installed. During the period 1992-1996, an 80% - 20% cord-wood/pellet stove mix is assumed increasing to a 50% - 50% mix during the period 1996 to year 2000. Growth in new stoves is expected to increase to 1.1% per year, reflecting the projected population growth rate.

The stove replacement is expected to remain 5% per year, and fireplace use trends will continue at a 2.0% per year reduction. The calculated net benefits adjusted for emission growth provide a 98 ton reduction during the 1992-96 period, and an additional 113 ton reduction during the period of 1996 to 2000.

Maintenance Period 1992 through 1996

Replacement: Woodstoves and Pellet Stoves

$$[80\% \times (5\%/yr \times .5)] + [20\% \times (5\%/yr \times .9)] = 2.9\%/yr$$

$$BL1992 [916 \text{ tons}] \times .0029/yr = 26.6 \text{ ton/yr reduction.}$$

New: Woodstoves and Pellet Stoves:

$$[80\% \times (1.1\%/yr \times .5)] + [20\% \times (1.1\% \times .1)] = 0.46\%/yr$$

$$BL1992 [916 \text{ tons}] \times .0046/yr = 4.2 \text{ tons/yr increase.}$$

Fireplace: continue at -2%/yr. from the 1992BL. [112] x .02/yr] = 2.24 tons/yr decrease.

	1992	1993	1994	1995	1996
Existing Stoves	889	862	836	809	783
New Stoves	27	31	35	40	44
Fireplaces	112	110	108	105	103
TOTAL	1028	1003	979	954	930

Net Emission Benefit for 1992 - 1996:

$$[1028 - 930] = 98.0 \text{ ton reduction}$$

Maintenance Period 1996 through 2000

Replacement: Woodstoves and Pellet Stoves

$$[50\% \times (5\%/yr \times .5)] + [50\% \times (5\%/yr \times .9)] = 3.5\%/yr$$

$$BL1996 [827\text{tons}] \times .035/yr = 28.9 \text{ ton/yr reduction.}$$

New: Woodstoves and Pellet Stoves:

$$[50\% \times (1.1\%/yr \times .5)] + [50\% \times (1.1\% \times .1)] = 0.33\%/yr$$

$$BL1996 [827 \text{ tons}] \times .0033/yr = 2.73 \text{ ton/yr increase.}$$

Fireplace: continues at -2%/yr. from the 1996BL. {[103] x .02/yr} = 2.06 tons/yr decrease.

	1996	1997	1998	1999	2000
Existing Stoves	783	754	725	696	667
New Stoves	44	47	50	52	55
Fireplaces	103	101	99	97	95
TOTAL	930	902	874	845	817

Net Emission Benefit for 1996 - 2000:

[930 - 817] = 113.0 ton reduction.

The Klamath County Air Quality Program

Resolution 89-116, adopted August 31, 1988 by the Klamath County Board of Commissions established Klamath County's Air Quality Program under the direction of the County Health Department. The program was established to implement the Klamath County Air Quality Compliance Development Plan for the Klamath Falls City and Urban Growth Boundary which was adopted as Resolution 89-148 on April 19, 1989. The program is funded by Klamath County at a level of \$64,000 per year (FY 89) and employs one full time Air Quality Coordinator. Additional special project funds are provided by the Department to support major capital outlay and other one-time program needs. The Klamath County Program is found in Appendix 4. Key elements of the County program are described below.

1. Public Information Programs.

A comprehensive, professional, and well-financed public information program is essential for public cooperation and support in reducing woodsmoke emissions. The program clearly describes the need for the public's cooperation, the health-safety-energy-economic benefits to individuals and the community, and precisely what individuals can do to help. Key elements include: home weatherization, firewood seasoning, cleaner burning practices, proper stove installation and sizing, maintenance of woodburning systems and most importantly curtailment of woodburning during poor ventilation episodes. Although no emission reduction credits are taken for the public information program, it is critical to the success of all of the other woodsmoke reduction elements.

The Klamath Falls Air Quality Compliance Development Plan education program fulfills all of these criteria. Key element of this aggressive program include:

- Television and radio public service announcements;
- Billboards, posters, brochures and road side signs;
- Neighborhood and house-to-house meetings promoting clean air and proper wood heating practices;
- Newspaper articles on clean air issues, Air Pollution Index (API) trends and wood burning curtailment calls;
- Advertising in newspapers and on radio;
- Wood smoke health effects studies and symposiums;
- Public classes and forums on proper burning methods;
- A voluntary firewood moisture certification program for fuel wood dealers;
- Coordination with advisory committees, woodstove dealers environmental and governmental groups;
- Operation of the Klamath County Burning Advisory telephone system which, during the 1988-89 heating season, answered 23,118 public call. An additional 1,120 calls were handled by the Klamath County Air Quality staff.

EPA's Guidance Document for Residential Wood Combustion Emission Control Measures recognizes public education programs as an essential element of any residential wood burning control strategy. The highest level education program described by EPA is based on a comprehensive, aggressive program that includes all of the elements found in the Klamath County program described above. Although EPA recognizes public education programs as an essential element of wood burning control programs, no emission reduction credits can be assigned to the program without further technical justification.²⁴

2. Home Weatherization and Stove Replacement Program

In May, 1990, the City and County of Klamath Falls received an award of \$548,000 from the State of Oregon Community Block Grant funds for a home weatherization and wood stove replacement program similar to the Medford CLEAR Project. Wood stoves in

²⁴ US EPA, "Guidance Document for Residential Wood Combustion Emission Control Measures," EPA-450/2-89-015 (1989).

approximately 140 low income, sole source homes will be replaced by natural gas or electrical furnaces or pellet stoves and weatherized with grant funds. Award of the funds will decrease the number of households exempt from mandatory curtailment to 2.5 % and require that a 92 % compliance rate be achieved by the remaining households. Additional funding would eliminate exemptions to the curtailment program.

3. Curtailment During Poor Ventilation Episodes.

A Voluntary Woodburning Curtailment Program has been operated by Klamath County since 1988 during the months of November through March of each year. The program strategy in 1988 was designed to limit the use of woodstoves and fireplaces during periods likely to exceed the 24-hour NAAQS.

Woodburning curtailment forecasts are made twice daily at 7 AM and 4 PM during the wood heating season by the County Health Department. The forecasts are made daily between November 1st and April 1st. A "Yellow" forecast is issued if the 6 AM to 6 PM levels are forecast to be greater than 4.0 but less than 7.0 Bscat (equivalent to 81-150 $\mu\text{g}/\text{m}^3$ PM_{10})²⁵. A "Red" forecast is issued if the 6AM-6PM forecast is for Bscat levels greater than 7.0 or 150 $\mu\text{g}/\text{m}^3$. The curtailment calls are based on criteria provided by the Department and are based on a forecast algorithm using National Weather Service upper air and barometric pressure data, forecasts of synoptic meteorology; surface temperatures and wind speed/direction. Nephelometer measurements of hourly light scattering and local observations of air quality conditions are also used. A detailed discussion of the curtailment methodology is found in Appendix 7.

Wood burning curtailment advisories are issued at three levels:

"Green" advisories are issued for periods during which NAAQS violations are unlikely. Woodburning is unrestricted during these periods but the public is asked to follow good woodburning practices. "Green" advisories are issued when PM_{10} levels are expected to be less than 80 $\mu\text{g}/\text{m}^3$, 12 hour average from 6 AM to 6 PM.

"Yellow" advisories are issued for periods approaching exceedance of the NAAQS. Under a "Yellow" curtailment, the public is asked to curtail all unnecessary woodburning, excepting only pellet stoves, certified woodstoves and those that use wood as their sole source of heat.

²⁵ Bscat measured by integrating nephelometer in units of 10^{-4} M^{-1}

"Red" advisories are issued for periods of severely restricted ventilation during which PM₁₀ levels are expected to exceed the NAAQS. Only households in which woodburning is the sole source of heat are permitted to burn during these periods.

Based on the past three years of air monitoring data, about 47 curtailment days are expected to occur during the space heating season.

Compliance with the advisories is determined through evening surveys of woodburning activity during "Green", "Yellow" and "Red" curtailment periods using infrared cameras. Surveys are conducted in four residential areas of Klamath Falls, totalling 735 homes.²⁶ Data from the surveys is used to direct the public education program, evaluate progress toward achieving program goals and in evaluating trends in PM₁₀ concentrations.

The goal of the Klamath Falls Woodburning Advisory Program has been to reduce wood use by 85% to 90% on the 40-50 days per year on which violations of the PM₁₀ health standard would be expected. Compliance with the advisory during the 1988-89 season was 27 % (as compared to a goal of 20 %), thereby achieving about fifteen percent of the compliance level needed to attain the PM₁₀ air quality standard.²⁷ Actual compliance with the 1989-90 curtailment advisories averaged 45% on the days surveyed has ranged on a daily basis from 0 to 63%. The goals for the 1989-90 and 1990-91 heating seasons are, 46% to 52%, and 85% to 92% compliance, respectively.

The Klamath Falls compliance rate during the first year of the program was expected to be similar to that reported for other voluntary curtailment programs such as the ones operated in Medford, Oregon (25 % compliance per year for the last 4 years), and Missoula, Montana (30 %).

The Medford area implemented a mandatory curtailment program for the 1989-90 heating season and is showing a marked increase in compliance, about 85% during the first months of the program.

Note: The following bracketed text will be deleted following adoption of a mandatory curtailment ordinance by the Klamath County Board of Commissioners.

²⁶Klamath Falls Wood Stove Curtailment Program Evaluation Methodology. Department of Environmental Quality. February, 1989.

²⁷Klamath County Woodstove Curtailment Program Evaluation for the 1988-89 Heating Season. Department of Environmental Quality, Air Quality Division. April, 1989.

[The Clean Air Act requires that control strategies be enforceable. EPA has advised the Department that curtailment program must be mandatory, if they require an emission reduction of greater than 30%. Although the Klamath Falls voluntary curtailment program is not meeting the 90 % compliance level needed, it has achieved compliance rates greater than other voluntary programs around the country. The Klamath Falls area will need a mandatory curtailment program provision.]

[Therefore, the Department will work with the Klamath County Board of Commissioners to support their adoption of a mandatory curtailment program ordinance by the time the SIP is adopted by the Environmental Quality Commission in November 1990.]

[This timetable is consistent with the Klamath County Commission's periodic review of the Voluntary Curtailment Program. The mandatory ordinance would have to include provisions for implementation and effectiveness monitoring as well as periodic review of the program.]

RESERVED FOR DISCUSSION OF MANDATORY CURTAILMENT PROGRAM

Long-Term Wood Heating Control Strategy

Wood heating curtailment is viewed as a short-range control strategy to allow rapid attainment of the short-term (24-hour) PM₁₀ air quality standard. The Department of Environmental Quality is committed to pursue permanent reductions in wood heating emissions as a long-range strategy to reduce and even eliminate the reliance on curtailment and to provide significant improvement in annual PM₁₀ air quality.

At least the following measures will be pursued to reduce permanently wood heating emissions:

- o Public education activities will include more specific information on the true cost of wood heating in relation to other alternative cleaner heating sources. The major goal of this effort is to persuade those households that are spending more money to heat with wood than with conventional fuels, such as natural gas, to convert from wood heat.
- o Further information and studies on the toxicity, health effects and other detrimental effects of woodsmoke will be pursued and heavily publicized in a continuing effort to convince more people that they should reduce wood burning.
- o In home emission control performance of certified stoves will be improved through promotion of durable design criteria and development of a stress test which will aid in identifying durable certified stoves.

- o Financial incentive programs will be pursued through the Oregon Legislature and other avenues to promote replacement of conventional wood heating appliances with less polluting systems. These programs could include tax credits, low interest loans and total buyouts for low income households. An objective would be to graduate these incentives in proportion to the emission reduction potential of the alternative heating systems, with electric and gas systems qualifying for the largest financial incentives followed by pellet stoves, durable certified woodstoves and finally, other certified woodstoves.

Basis for Wood Burning Curtailment Credits (Worst Case Day)

The highest reported compliance rates have been for mandatory curtailment programs in Washoe County, Nevada (90%), Juneau, Alaska (80-90%), Yakima, Washington (80%), and Missoula, Montana (70%). In the Medford area a 80% to 85% compliance rate was achieved in the first year of mandatory curtailment. The 90% emission reduction credit for Klamath Falls attainment is based on the above compliance rates, Klamath County's commitment to achieve the National Ambient Air Quality Standards, adoption of a mandatory wood burning curtailment ordinance, and achievements in the Medford area mandatory curtailment program.

Basis for Wood Burning Curtailment Credits (Annual Emissions)

Annual emission credits taken for reductions made on the 47 curtailment days that occur, on average, each year have been estimated by two methods:

Reductions Based on Degree Heating Days were calculated by summing the product of the number of degree heating days that occurred on the 47 coldest days (most of which exceeded the 24 hour NAAQS) during the winter months, generally curtailment days (December, 1987 to March, 1989) and the total number of degree heating days per year to obtain the fraction of annual degree days that occurred on the 47 coldest days of the winter. This fraction (0.31) was then applied to the 1992 annual woodburning emission estimate of 1274 tons per year to obtain the total tons of emissions on curtailment days (398 tons). If emissions are reduced by 90 % on curtailment days, than emissions should be reduced by 358 tons (90 % of 398 tons) which represents 28 % of the 1992 annual emissions. The curtailment program will therefore provide, at minimum, a 28 % credit on an annual basis. However if the fact that reductions occur during poor ventilation conditions is considered, much greater benefits are apparent:

Annual Air Quality Improvements of Curtailment are believed to be much greater than the above emission reduction credit would estimate because the emission reductions are occurring during the worst atmospheric ventilation periods of the year. To estimate the true annual air quality benefits of curtailment, actual PM₁₀ concentrations on winter days with PM₁₀ levels greater than 150 µg/m³ (mid-1986 to mid-1989) were used to estimate daily PM₁₀ concentrations that would occur on curtailment days given the following: (1) a background PM₁₀ level of 7 µg/m³; (2) 83 % of non-background PM₁₀ is wood smoke and (3) the curtailment program will reduce woodsmoke concentrations by 90 %. These PM₁₀ estimates were then used to recalculate the three year, annual average. Given these assumptions, the design value annual average of 75 µg/m³ was reduced to 50.2 µg/m³. Since the emission inventory rollback model estimates that a 756 ton per year emission reduction is needed to attain the annual NAAQS and given that the curtailment program alone will attain the annual NAAQS, the curtailment program will provide an equivalent emission reduction credit of 74 % (756 TPY/1028 TPY). This is the basis for the 74% "comparable" emission reduction credit noted in Table 4.12.3-3.

Basis for Fuel Wood Certification Credit of 2% Per Year

EPA provides for a 5 % credit for an enforced fuel wood certification program to assure that firewood is properly seasoned prior to sale. Since only one half of the firewood burned in Klamath Falls is purchased, a 2 % credit is claimed in the attainment and maintenance analysis. (NOTE: This discussion will be expanded to include a description of the Klamath County certification program following adoption of a county ordinance)

Fugitive Dust Control Element

A 60 % reduction in emissions from winter road sanding is required to attain the 24-hour NAAQS on worst-case winter days. Sanding materials used in the Klamath Falls area are obtained from a gravel pit located near Merrill, Oregon where volcanic cinders, pea gavels, silts and clays have been deposited. Nearly all of the aggregate used within the UGB is applied by the Oregon Department of Transportation Highway Division, mostly on US 97, South Sixth Street, Alameda Bypass and the South Side Bypass. The City, County and State all maintain sections of Washburn Way and other streets in South suburban Klamath Falls. The City maintains streets within the Central Business District. Approximately 2,000 cubic yards of aggregate are applied each year by the Highway Division. The County and City use very little sanding material.

Three control options were evaluated: (1) processing of aggregate from the Merrill pit to remove silts and clays thereby reducing the amount of material to be entrained by traffic; (2) substitution of the Merrill aggregate with crushed gravel from hard rock sources located in the area or (3) use of a deicing slurry in lieu of road sanding and improved road sanding practices to minimize use of the aggregate consistent with public safety standards.

Basis for 60 % Credit for the Winter Road Sanding Control Program

The specifics of the winter road sanding control strategy are contained in correspondence from the Oregon State Highway Division (Appendix 5). The 60 % credit is based on the Highway Division's commitment to reduce winter road sanding by 60 % through (a) replacement of aggregate with a deicing slurry; (b) reduction in the amount of aggregate used by maintenance crews and (c) rapid cleanup using street washing or sweeping of road sanding materials used on major thoroughfares. Streets included in the program are South Sixth Street, Alameda Bypass, Washburn Way, South Side Bypass and portions of US 97. During worst case winter days, a 1,300 pound per day emission reduction will occur. On an annual basis, road sanding emissions will be reduced by 18 tons per year.

Since all of the heavily traveled roads in the Klamath Falls UGB are paved, reductions in resuspended road dust from paved streets may also be considered should additional emission reductions be required. Other methods of control include the addition of asphalt shoulders and curbs to major paved streets thereby eliminating trackout from the edge of the pavement into the traffic lanes. The paving of unpaved roads and control of mud trackout from construction sites are additional strategies that may be useful.

Other Strategies

The following additional elements have been developed to help assure the success of the attainment strategy. Restrictions to open burning and the prescribed burning are not included in the attainment strategy as insufficient information is available to estimate impacts of these sources on current PM₁₀ air quality.

Restrictions on Open Burning.

In correspondence dated November 27, 1989 (Appendix 6), the Department requested that the State Fire Marshal direct the local fire districts not to issue open burning permits during periods when "Yellow" or "Red" wood burning advisories are issued by the Klamath County Health Department. A cooperative agreement between the Klamath County Board of Fire Chiefs and the Klamath County Health Department restricting open burning has also been adopted. The Department has further requested that land clearing and agricultural burning permits not be issued within approximately 30

miles of the Urban Growth Boundary during poor air quality days. Those wishing to open burn are advised of air quality conditions through telephone recordings. These restrictions will help assure that open burning during worst case air quality conditions will no longer occur. An additional emission reduction of 6 tons per year could be obtained by banning residential open burning within the UGB during the months of November through March. (NOTE: THIS DISCUSSION WILL BE EXPANDED IF KLAMATH COUNTY ADOPTS AN ORDINANCE RESTRICTING OPEN BURNING).

Forestry Slash Burning

The Visibility Protection Program incorporated as Section 5.2 of the Oregon State Implementation Plan was adopted October 24, 1986. The visibility program long term control strategy includes as a goal a 50 % reduction in western Oregon PM₁₀ prescribed burning emissions relative to the 1978-79 baseline emissions. These emission reductions are to be achieved in a reasonably linear manner over by the year 2000. Reductions are to be achieved through increases in wood waste utilization, rescheduling burning to spring-like fuel moisture conditions, application of mass ignition burning techniques, reductions in acres burned and accelerated mop-up of smoldering units. Although the emission reductions will occur west of the Cascades, the strategy will reduce impacts from forestry burning that may be transported into the Urban Growth Boundary from units burned on the Rogue River and Umpqua National Forests and BLM's Medford District.

In addition, forest land owners surrounding Klamath basin are developing a voluntary smoke management program to minimize slash smoke intrusions into the nonattainment area. The voluntary program will be developed by March, 1990 and implemented immediately thereafter. Since forestry burning on lands east of the Cascades are not currently regulated on a day-to-day basis under the Oregon Department of Forestry's Smoke Management Program, failure of the voluntary effort to protect the nonattainment area will require revision of the Smoke Management Program rules to set aside the Klamath basin as a mandatory, designated area under program.

Industrial Emission Growth Management

In June, 1989, the Department amended OAR 340-20-225 Significant Emission Rate provisions for industrial sources. The significant emission rate for new or expanding industrial emission was revised from 15 to 5 tons per year to assure that even relatively small increases in industrial emissions would be offset by compensating emission reductions of an equal or greater amount. The tightened offset requirement assures that future industrial emission growth will not offset emission reductions achieved through elements of the attainment strategy.

4.12.3.3 Demonstration of Attainment

This section describes the application of emission reduction credits described in Section 4.12.3.2. in demonstrating attainment of the NAAQS. The calculations are based on proportional rollback of 1992 emission estimates. Appendix 8 contains the detailed calculations that support the following text.

**Summary of 24 Hour Emission Reductions
To Be Achieved by 1992**

<u>Strategy Element</u>	<u>Credit</u>	<u>Emission Reduction</u>
New Road Deicing Practices	60 %	1,308 Pounds/Day
Wood Burning Strategies:		
- Wood Burning Curtailment	90%	17,171 Pounds/Day
- Certification of Woodstoves	20%	336 Pounds/Day
- Fuel Wood Certification	2%	27 Pounds/Day
		<hr/>
Woodstove Strategies, Total		17,736 Pounds/Day
Total reduction from all strategies.....		19,044 Pounds/Day
Required emission reduction		18,486 Pounds/Day

No credits have been taken for the Klamath County public education programs.

Strategy Emission Reduction - Annual Average Case

Attainment of the annual average NAAQS in 1992 will require a 40 % reduction in annual emissions or a reduction of 756 tons per year. Although the entire needed emission reduction is achieved through the wood burning curtailment program, emission reductions obtained from the road deicing and other elements of the wood burning emission reduction programs are also included since they will occur as a result of implementing the 24 hour strategy. The needed reductions are achieved through the strategy elements listed below.

**Summary of Annual Average Emission Reductions
To be Achieved by 1992**

<u>Strategy Element</u>	<u>Credit</u>	<u>Emission Reduction</u>
New Road Deicing Practices	60 %	18 Tons/Year
Wood Burning Strategies:		
- Wood Burning Curtailment	74%	756 Tons/Year
- Woodstove Certification	21%	40 Tons/Year
- Fuel Wood Certification	2%	3 Tons/Year
Woodstove Strategies, Total		<u>845 Tons/Year</u>
Total reduction from all strategies.....		863 Tons/Year *
Total required emission reduction.....		756 Tons/Year

* Note: On an annual basis, the wood burning curtailment program will result in a 28 % reduction in annual wood smoke emissions. This, however, is not reflective of annual air quality benefits of the program since the restricted ventilation during the curtailment periods compounds the benefits of the emission reductions. The effective or equivalent reduction is calculated based on a 90 % curtailment program operating on 47 days per year indicating a reduction of the annual average PM₁₀ concentration from 75 to 50.2 µg/m³. As a result, the wood burning curtailment program alone, implemented on 47 days per year, will provide sufficient benefits to assure that the annual NAAQS is achieved. Additional strategy elements are claimed as a result of reductions achieved through the 24 hour strategy. See Section 4.12.3.3.

4.12.3.4 Emission Offsets and Banking

Although the control strategy does not formally incorporate provisions for growth in industrial emissions through an emission offset and banking provisions, there is considerable growth margin for increases in industrial emissions within the current plant permits. The difference between the 1986 actual and the 1992 projected industrial emission projections is 77 tons per year in annual and 745 pounds per day in PM₁₀ emissions.

OAR 340-20-225 (22) requires that new or modified industrial sources that emit more than 5 tons per year of PM₁₀ emissions must obtain emission reductions from other sources to offset their emissions. The emission offsets may be obtained by reducing emissions within the facility to be modified, from other industrial sources or from external sources, including woodstove emissions from sole source, low income households. The Department estimates that an additional 100 tons per year could be obtained by reducing existing wood-fired boiler emissions by 70-85% to 0.03 grains per standard cubic foot and veneer driers by 42-70 % to

0.3-0.45 pounds per thousand square feet of veneer (3/8" basis). In addition, at least 175 tons per year of PM₁₀ emission offset is available by replacing conventional woodstoves in sole source, low income households with natural gas or electrical heating systems.²⁸

The emissions margins and sources of offsets will help assure continued maintenance of the NAAQS beyond 1992.

4.12.3.5 Demonstration of Maintenance

Emission reductions achieved through the adoption of a county ordinance banning the installation of non-certified woodstoves will assure that emission growth associated with fugitive dust and transportation sources will not cause the NAAQS to be exceeded by the year 2000. Appendix 8 lists emission projections for the eight year period following attainment in 1992.

4.12.3.6 Emergency Action Plan Provisions

OAR 340 Division 27 describes Oregon's Emergency Action Plan. The rule is intended to prevent the excessive accumulation of air contaminants during periods of air stagnation which, if unchecked, could result in concentrations of pollutants which could cause significant harm to the public health. The rules establish criteria for identifying and declaring air pollution episodes below the significant harm level and were adopted pursuant to requirements of the Clean Air Act. The action levels found in the Plan were established by the Environmental Protection Agency and subsequently adopted by the Department.

The significant harm level for PM₁₀ particulate matter of 600 $\mu\text{g}/\text{m}^3$, 24 hour average (adopted by the Environmental Quality Commission April, 1988) was exceeded twice in Klamath Falls; on January 25, 1988 (792 $\mu\text{g}/\text{m}^3$) and on February 3, 1988 (723 $\mu\text{g}/\text{m}^3$). At the time of these events, the significant harm level was 1,000 $\mu\text{g}/\text{m}^3$ of Total Suspended Particulate, a level which was not exceeded.

The PM₁₀ "Alert" level is 350 $\mu\text{g}/\text{m}^3$; the "Warning" level is 420 $\mu\text{g}/\text{m}^3$ and the "Emergency" level is 500 $\mu\text{g}/\text{m}^3$, 24 hour average. These levels must be coupled with meteorological forecasts for continuing air stagnation to trigger the Action Plan.

Authority for the Department to regulate air pollution sources during emergency episodes is provided under ORS 468, including emissions from woodstoves. When there is an imminent and

²⁸ Response to testimony received at the Klamath Falls public hearing on proposed changes to industrial rules. Attachment E to staff report prepared for the June 2, 1989 Environmental Quality Commission, Agenda Item H.

substantial endangerment to public health (the significant harm level), ORS 468.115 authorizes the Department, at the direction of the Governor, to enforce orders requiring any person to cease and desist actions causing the pollution. State and local police are directed to cooperate in the enforcement of such orders.

4.12.4 Implementation of the Control Strategy

All of the elements of the attainment strategy will be adopted prior to Environmental Quality Commission adoption in November, 1990. Specific elements of the strategy were implemented as noted below.

4.12.4.1 Schedule for Implementation

The Oregon Woodstove Certification Program became effective June 30, 1986; the Klamath County Air Quality and voluntary wood burning curtailment programs were implemented on August 31, 1988 and the road sanding control strategy commitments were received from the Oregon Department of Transportation on December 11, 1989 and will be implemented during the winter of 1989-1990. Open burning restrictions implemented through the Oregon State Fire Marshal's office and local Board of Fire Chiefs began in November, 1989. The Department's Significant Emission Rate rules became effective on the date of adoption, June 2, 1989. Implementation of a mandatory wood burning curtailment program will occur prior to the 1991-92 heating season following adoption of a County ordinance prior to November, 1990.

4.12.4.2 Rules, Regulations and Commitments

The following rules and commitments have been adopted to assure the enforceability of the control strategies.

State of Oregon Rules

Woodstove Certification Program	OAR 340 Division 21
Klamath Falls Significant Emission Rate Rule	OAR 340-20-225

Klamath County Ordinances

Klamath County Air Quality Program	Resolution 89-116
Klamath County Air Quality Compliance Development Plan for the Klamath Falls City and Urban Growth Boundary	Resolution 89-148

Regulations Yet to be Adopted

Klamath County Mandatory Curtailment Ordinance	By Oct. 1990
Klamath County Open Burning Ordinance	By Oct. 1990
Klamath County Fuel Wood Certification Ordinance	By Oct. 1990

Interagency Commitments

Winter Road Sanding Program, Oregon Department of Transportation Highway Division Memorandum of Understanding.

Oregon Dept. of Forestry Smoke Management Plan OAR 629-43-043
State Fire Marshall's Office Open Burning Statute ORS 478.960

4.12.5 Public Involvement

Development of the Klamath Falls PM₁₀ control strategy included several areas of public involvement including a continuing Citizen Advisory Committees, public participation at hearing on proposed industrial source rules and attendance at hearings conducted by the Klamath County Board of Commissioners.

Proposed industrial rules to reduce the significant emission rate for new or modified industrial sources within the Klamath Falls Urban Growth Boundary were approved by the Environmental Quality Commission on November 4, 1988. A public hearing on the proposal to reduce the significant emission offset from 15 to 5 tons per year PM₁₀ was held in Klamath Falls on February 15, 1988. The rule was adopted at the Environmental Quality Commission's April, 1989 meeting.

4.12.5.1 Citizen Advisory Committee

The Klamath County Board of Commissions appointed members to the Klamath County Air Quality Task Force in November of 1987 to assist the County and the Department in the development of control programs for the Klamath Falls Nonattainment Area. The 14 member committee was advised of the requirements of the Clean Air Act and State Implementation Plan. The Task Force considered alternative control strategies and provided recommendation to the Board in November, 1988. On January 26th and February 3rd, 1988, the Board of Commissioners held public hearings on a proposed county mandatory curtailment ordinance designed to achieve the degree of woodsmoke emission reduction required. Following the hearings, the ordinance was dropped from further consideration and a second 15 member Task Force (New Citizens Air Quality Committee) was appointed to consider other options, including development of a voluntary curtailment program. In May of 1988, the Committee submitted an outline for a voluntary curtailment program to the Department and the Klamath County Board of Commissioners and, in April, 1989, the Board adopted the Klamath County Voluntary Woodburning Compliance Program. The Program is enclosed as Appendix 4.

4.12.5.2 Public Notice

Public notice of proposed rule revisions is done through mailing lists maintained by the Department, through notifications published in local newspapers and through Department press releases.

4.12.5.3 Public Hearings

As noted above, public hearings on the Klamath County Plan were held on January 26 and February 3, 1988. A hearing on revisions to the industrial rules on significant offset emission rates was held February 15, 1988 and public hearings on proposed woodstove legislation were held before the Senate Agriculture and Natural Resources Committee on several occasions in February and March, 1989.

4.12.5.4 Intergovernmental Review

Public hearing notices regarding adoption of this revision to the State Implementation Plan will be distributed for local and state agency review through the A-95 State Clearinghouse process forty-five days prior to adoption by the Environmental Quality Commission.

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Attachment B

RULEMAKING STATEMENTS FOR PROPOSED KLAMATH FALLS PM₁₀ CONTROL STRATEGY AS A REVISION TO THE STATE OF OREGON CLEAN AIR ACT IMPLEMENTATION PLAN

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the intended action to amend a rule.

(1) Legal Authority

This proposal amends Oregon Administrative Rules (OAR) 340-20-047. It is proposed under authority of Oregon Revised Statutes (ORS) Chapter 468.

(2) Need for these Rules

The Klamath Falls Basin has a serious PM₁₀ air pollution problem. PM₁₀ refers to particulate matter ten micrometers or smaller in diameter. PM₁₀ particles are considered a risk to human health due to the body's inability to effectively filter out particles of this size.

The federal Clean Air Act requires that States develop and adopt State Implementation Plan (SIP) revisions to assure that areas which violate the PM₁₀ health and welfare standards are brought into attainment with those standards within prescribed time frames. The proposed control strategy document describes the State of Oregon plan to attain and maintain the annual and 24-hour PM₁₀ standards in the Klamath Falls Nonattainment Area.

The principal means of achieving the necessary air quality improvements is through PM₁₀ emission reductions from woodstoves, fireplaces and winter road sanding. Emission offset requirements for wood products industry emission increases are also included as are reductions expected from statewide efforts to reduce slash burning smoke.

(3) Principal Documents Relied Upon

PM₁₀ SIP Development Guideline, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park NC, June 1987, EPA-450/2-86-001.

Previous staff reports to the Environmental Quality Commission (EQC):

Agenda Item D, January 22, 1988, EQC Meeting, Informational Report: New Federal Ambient Air Quality Standard for Particulate Matter (PM₁₀) and Its Effects on Oregon's Air Quality Program.

Agenda Item H, June 2, 1989 EQC Meeting, Reconsideration of Proposed Adoption of New Industrial Rules for PM₁₀ Emission Growth within the Klamath Falls Urban Growth Boundary (OAR 340 Division 20) which lowers the Emission Offset Requirement for New or Modified Sources from 15 to 5 Tons per Year.

Guidance Document for Residential Wood Combustion Emission Control Measures, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park NC, September 1989, EPA-450/2-89-015.

All documents referenced may be inspected at the Department of Environmental Quality, Air Quality Division, 811 S.W. 6th Avenue, Portland, Oregon, during normal business hours.

LAND USE CONSISTENCY STATEMENT

The proposed rule changes appear to affect land use as defined in the Department's coordination program with DLCD, but appear to be consistent with the Statewide Planning Goals.

With regard to Goal 6, (air, water, and land resources quality), the proposed changes are designed to enhance and preserve air quality in the State and are considered consistent with the goal. The proposed rule changes do not appear to conflict with the other Goals.

Public comment on any land use issue involved is welcome and may be submitted in the same fashion as indicated for other testimony on these rules.

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 appropriate conflicts brought to our attention by local, state, or federal authorities.

Attachment C

FISCAL AND ECONOMIC IMPACT STATEMENT FOR PROPOSED KLAMATH FALLS PM₁₀ CONTROL STRATEGY AS A REVISION TO THE STATE IMPLEMENTATION PLAN

PROPOSAL SUMMARY

The Klamath Falls area has a serious PM₁₀ air pollution problem. PM₁₀ refers to particulate matter ten micrometers or smaller in diameter. PM₁₀ particles are considered a risk to human health due to the body's inability to effectively filter out particles of this size.

The federal Clean Air Act requires that States develop and adopt State Implementation Plan (SIP) revisions to assure that areas which violate the PM₁₀ health and welfare standards are brought into attainment with those standards within prescribed time frames. The proposed control strategy document describes the State of Oregon plan to attain and maintain the annual and 24-hour PM₁₀ standards within the Klamath Falls Urban Growth Boundary.

The principal means of achieving the necessary air quality improvements is through PM₁₀ emission reductions from woodstoves and fireplaces and winter road sanding emissions. Additional reductions are expected from statewide efforts to reduce slash burning smoke and restrictions on open burning on wood burning curtailment days. Restrictions requiring offsets of future industrial emission growth will help assure future maintenance of air quality standards.

The implementation of the PM₁₀ control strategy involves residents, industries, local governments, and state and federal agencies. The group most affected by the proposed PM₁₀ control strategy for the Klamath Falls Nonattainment are residents with woodstoves or fireplaces, public works agencies responsible for winter road sanding and wood products industries subject to the emission offset requirements of the strategy.

COSTS TO WOOD PRODUCTS INDUSTRIES

Industrial rules which lower the emission offset requirements for new or modified sources from 15 to 5 tons per year of PM₁₀ are included in the strategy to assure that industrial emission increases do not interfere with emission reduction achieved by the wood burning and winter road sanding control strategies. Based on recent or proposed pollution control equipment for wood products industries in the Medford area, the estimated increased capital costs associated with the Klamath Falls industrial emission offset program could range from \$5,000 to \$15,000 per ton of annual particulate emissions. The increased operation and maintenance costs could range from \$500 to \$1,000 per ton of particulate

collected. The maximum cost impact of the offset rule for new or expanded sources with potential particulate emissions of 15 or more tons per year could be increased capital costs of \$50,000 to \$150,000 and increased annual operations and maintenance costs of \$5,000 to \$10,000. Rules to implement the offset requirements were adopted by the Environmental Quality Commission in June, 1989.

COSTS TO RESIDENTS WITH WOODSTOVES OR FIREPLACES

Woodstove and fireplace emissions will be reduced by a public information program, an areawide local mandatory woodburning curtailment program, the Oregon woodstove certification program, financial assistance programs for replacement of existing woodstoves with cleaner burning units and weatherization of homes, a ban on installation of non-certified woodstoves and adoption of a fuelwood certification ordinance.

The typical cost of woodburning curtailment is estimated at about \$2-\$5 per curtailment day per woodburning home, depending primarily on the type of alternative heat, amount of weatherization and size of home. Economic, sole-source and certified-stove exemptions are available to qualifying households. Up to 10,000 homes in the critical PM₁₀ control area would be affected about 50 red days and 20 yellow days per year (two year average, 1988-1990). All wood burning (except pellet stoves) is curtailed on red days whereas only noncertified wood stoves are curtailed on yellow days.

The woodstove replacement-home weatherization program administered by Klamath County provides assistance by replacing existing woodstoves with cleaner burning units in low-income households who use woodstoves as their only source of heat. Approximately \$550,000 in funding has been secured thus far through Community Development Block Grants.

COSTS TO STATE AND LOCAL GOVERNMENT AGENCIES

The daily decision on woodburning curtailment programs will be based on air quality information from the Department's existing air monitoring network and meteorological information from the National Weather Service. The daily woodburning decision (red, yellow, green calls) will be made by the Klamath County Health Department which also conducts public information programs. Enforcement activities associated with the woodburning curtailment programs will also be conducted by Klamath County staff. Some EPA grant funds may be available to help support these activities.

Klamath County has budgeted \$85,000 for the next year for a full-time air quality coordinator, one full-time clerical assistant, and a full-time compliance coordinator during the heating season. These funds also support the public education, curtailment forecasting and other elements of the air quality program. In addition, the County will also shift existing resources as

necessary to handle the workload associated with the air quality programs. Additional funding may be provided by the Department to assist Klamath County's program.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PM₁₀ CONTROL STRATEGY FOR THE KLAMATH FALLS NONATTAINMENT AREA
NOTICE OF PUBLIC HEARING

Hearing Date: August 7, 1990
Comments Due: August 10, 1990

- WHO IS AFFECTED:** Residents, local governments and industries within the Klamath Falls Urban Growth Boundary.
- WHAT IS PROPOSED:** The Department of Environmental Quality is proposing to amend OAR 340-20-047, the State of Oregon Clean Air Act Implementation Plan.
- WHAT ARE THE HIGHLIGHTS:**
- 1) The Klamath Falls Basin has a serious PM₁₀ air pollution problem. (PM₁₀ refers to particulate matter ten micrometers or smaller in diameter.) PM₁₀ particles are considered a risk to human health due to the body's inability to effectively filter out particles of this size.
 - 2) The proposed control strategy document describes the overall plan to attain and maintain the annual and 24-hour PM₁₀ health and welfare standards in the Klamath Falls Nonattainment Area.
 - 3) The principal means of achieving the necessary air quality improvements is through PM₁₀ emission reductions from woodstoves, fireplaces and winter road sanding. Additional reductions are expected from statewide efforts to reduce slash burning smoke. Restrictions requiring emission offsets for wood products industry emission growth are also included.
 - 4) The proposed control strategies will assure attainment of air quality health standards by September, 1992 and maintenance of the standards through the year 2000. Environmental Quality Commission adoption of the strategy is contingent upon local government adoption of mandatory curtailment ordinances and enforcement programs prior to November, 1990.
- HOW TO COMMENT:** Copies of the complete proposed rule package may be obtained from: Air Quality Division, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, OR 97204 or the regional office nearest you. For further information contact John Core at (503) 229-5380.



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.

A public hearing will be held before a hearings officer at:

7:00 p.m.
August 7, 1990
Commissioner's Hearing Room
Klamath County Courthouse Annex
305 Main Street
Klamath Falls, Oregon

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 August 10, 1990.

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 as part of the State Clean Air Act Implementation Plan. The Commission's deliberation should come in November 1990 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.

JEC:a
PLAN\AH10034

468.300

PUBLIC HEALTH AND SAFETY

(2) In determining air purity standards, the commission shall consider the following factors:

(a) The quality or characteristics of air contaminants or the duration of their presence in the atmosphere which may cause air pollution in the particular area of the state;

(b) Existing physical conditions and topography;

(c) Prevailing wind directions and velocities;

(d) Temperatures and temperature inversion periods, humidity, and other atmospheric conditions;

(e) Possible chemical reactions between air contaminants or between such air contaminants and air gases, moisture or sunlight;

(f) The predominant character of development of the area of the state, such as residential, highly developed industrial area, commercial or other characteristics;

(g) Availability of air-cleaning devices;

(h) Economic feasibility of air-cleaning devices;

(i) Effect on normal human health of particular air contaminants;

(j) Effect on efficiency of industrial operation resulting from use of air-cleaning devices;

(k) Extent of danger to property in the area reasonably to be expected from any particular air contaminants;

(l) Interference with reasonable enjoyment of life by persons in the area which can reasonably be expected to be affected by the air contaminants;

(m) The volume of air contaminants emitted from a particular class of air contamination source;

(n) The economic and industrial development of the state and continuance of public enjoyment of the state's natural resources; and

(o) Other factors which the commission may find applicable.

(3) The commission may establish air quality standards including emission standards for the entire state or an area of the state. The standards shall set forth the maximum amount of air pollution permissible in various categories of air contaminants and may differentiate between different areas of the state, different air contaminants and different air contamination sources or classes thereof. [Formerly 449.795]

468.300 When liability for violation not applicable. The several liabilities which may be imposed pursuant to ORS 448.305, 464.010

to 464.040, 451.205 to 451.255, 454.405, 454.425, 451.505 to 454.535, 451.605 to 454.745 and this chapter upon persons violating the provisions of any rule, standard or order of the commission pertaining to air pollution shall not be so construed as to include any violation which was caused by an act of God, war, strife, riot or other condition as to which any negligence or wilful misconduct on the part of such person was not the proximate cause. [Formerly 449.825]

468.305 General comprehensive plan. Subject to policy direction by the commission, the department shall prepare and develop a general comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of new air pollution in any area of the state in which air pollution is found already existing or in danger of existing. The plan shall recognize varying requirements for different areas of the state. [Formerly 449.782]

468.310 Permits. By rule the commission may require permits for air contamination sources classified by type of air contaminants, by type of air contamination source or by area of the state. The permits shall be issued as provided in ORS 468.055. [Formerly 449.727]

468.315 Activities prohibited without permit; limit on activities with permit. (1) Without first obtaining a permit pursuant to ORS 468.065, no person shall:

(a) Discharge, emit or allow to be discharged or emitted any air contaminant for which a permit is required under ORS 468.310 into the outdoor atmosphere from any air contamination source.

(b) Construct, install, establish, develop, modify, enlarge or operate any air contamination source for which a permit is required under ORS 468.310.

(2) No person shall increase in volume or strength discharges or emissions from any air contamination source for which a permit is required under ORS 468.310 in excess of the permissive discharges or emission specified under an existing permit. [Formerly 449.731]

468.320 Classification of air contamination sources; registration and reporting of sources. (1) By rule the commission may classify air contamination sources according to levels and types of emissions and other characteristics which cause or tend to cause or contribute to air pollution and may require registration or reporting or both for any such class or classes.

(2) Any person in control of an air contamination source of any class for which registration and reporting is required under subsection (1) of this section shall register

PRIOR EQC AGENDA ITEMS

Agenda Item D, January 22, 1988, EQC Meeting, Informational Report: New Federal Ambient Air Quality Standard for Particulate Matter (PM₁₀) and Its Effects on Oregon's Air Quality Program.

Agenda Item I, April 14, 1989 EQC Meeting, Proposed Adoption of New Industrial Rules for PM₁₀ Emission Growth within the Klamath Falls Urban Growth Boundary (OAR 340 Division 20) which lowers the Emission Offset Requirement for New or Modified Sources from 15 to 5 Tons per Year.

Agenda Item H, June 2, 1989 EQC Meeting, Reconsideration of Proposed Adoption of New Industrial Rules for PM₁₀ Emission Growth within the Klamath Falls Urban Growth Boundary (OAR 340 Division 20) which lowers the Emission Offset Requirement for New or Modified Sources from 15 to 5 Tons per Year.

June 1, 1989, EQC Work Session, Issues Related to the Proposed Adoption of New Industrial Rules for PM₁₀ Emission Control within the Klamath Falls Urban Growth Boundary.

SUPPLEMENTAL BACKGROUND INFORMATION

Preliminary Review of State Implementation Plan Revisions

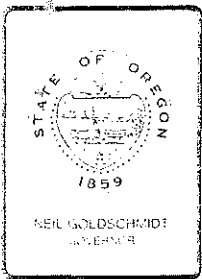
In April, 1988, the Klamath County Board of Commissioners adopted the Klamath County Air Quality Compliance Development Plan. The Plan sets forth Klamath County's three year program which includes an extensive public information effort and a three year voluntary wood burning curtailment program.

Following the third year of the program, the Board of Commissioners had planned to determine if a mandatory curtailment ordinance would be adopted. This schedule is not consistent with the current requirements of the Clean Air Act and SIP submission schedule agreed to by the Department and EPA as part of the Sierra Club suit.

The Department, in letters dated May 11, 1990, requested that Klamath County and the City of Klamath Falls advise the Department of their intent and schedule for adoption of a mandatory curtailment ordinance by November, 1990. Replies to these letters has not yet been received.

The Department does not have the statutory authority to implement woodburning curtailment programs if local governments are fail to doing so. Therefore, should local governments choose not to adopt a mandatory curtailment ordinances by November, 1990, a major element of the control strategy will not be in place and the remaining elements of the control strategy will be inadequate to attain air quality standards. EPA has advised the Department that it cannot consider approval of the program without a strong mandatory woodburning curtailment ordinances in place.

A preliminary draft of the proposed revision to the State Implementation Plan was reviewed by local governments and EPA Region 10 in anticipation of a mandatory curtailment ordinance. Their comments have been addressed in the revised proposal.



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: G
Division: Air Quality
Section: Planning & Development

SUBJECT:

Medford-Ashland Particulate Matter (PM₁₀) Control Strategy

PURPOSE:

Revision of the State Implementation Plan (SIP) to include the PM₁₀ air pollution control strategy for the Medford-Ashland Air Quality Maintenance Area (AQMA).

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 ___

DESCRIPTION OF REQUESTED ACTION:

The Environmental Quality Commission is requested to authorize a public hearing on the proposed PM₁₀ control strategy for the Medford-Ashland area within Jackson County.

The proposed control strategy document describes the State of Oregon's plan to meet federal Clean Air Act requirements to attain compliance with the annual and 24-hour PM₁₀ standards by September 1991 in the Medford-Ashland AQMA and maintain compliance with the PM₁₀ standards through at least the year 2000. The Medford-Ashland PM₁₀ control strategy document is proposed as a revision to the State Implementation Plan (OAR 340-20-047). This action will make control strategy elements related to industry, woodstoves and fireplaces, open burning, road dust, and slash burning, which have already been adopted through either state rules or local ordinances, federally enforceable as required by the Clean Air Act.

Additional details on the proposal are outlined in the Executive Summary of the PM₁₀ control strategy document (Attachment A).

AUTHORITY/NEED FOR ACTION:

___ Required by Statute: _____	Attachment ___
Enactment Date: _____	
<u>X</u> Statutory Authority: <u>ORS 468.305</u>	Attachment <u>E</u>
___ Pursuant to Rule: _____	Attachment ___
___ Pursuant to Federal Law/Rule: _____	Attachment ___
___ Other: _____	Attachment ___

X Time Constraints:

The U.S. Environmental Protection Agency (EPA) adopted new particulate National Ambient Air Quality Standards (NAAQS) for PM₁₀ effective July 31, 1987. The federal Clean Air Act requires that states develop and adopt State Implementation Plan revisions to assure that areas which exceed the NAAQS are brought into attainment within a 49-month timeframe following adoption of the new health standards (by September 1991 for PM₁₀).

The adopted PM₁₀ control strategies were due to EPA as SIP revisions by May 1988 but none of the States were able to meet this deadline. The Sierra Club has sued EPA for failure to require States nationally to submit PM₁₀ plans according to the Clean Air Act schedule. The Department of Environmental Quality (Department) and EPA Region 10 agreed

to a November 1990 PM₁₀ SIP submittal date which will be offered in the suit settlement negotiations. This date has been incorporated into the FY91 State/EPA Agreement as well. Congress is expected to complete the reauthorization of the Clean Air Act later this year. This may or may not result in extensions of the deadlines for PM₁₀ SIP submittals and attainment of PM₁₀ standards in Oregon.

DEVELOPMENTAL BACKGROUND:

X Advisory Committee Report/Recommendation Attachment F

The residential woodsmoke reduction strategies are closely patterned after the December 1987 recommendations of the Jackson County Woodburning Task Force.

 Hearing Officer's Report/Recommendations Attachment
 Response to Testimony/Comments Attachment
X Prior EQC Agenda Items: Five items. Attachment G
 Other Related Reports/Rules/Statutes: Attachment
X Supplemental Background Information Attachment H

The Department sent copies of the preliminary draft of the proposed State Implementation Plan revision to local governments, EPA and the (southern Oregon) Coalition to Improve Air Quality (Coalition) for comment. Changes were made in the revised draft to address the local government and EPA comments and many of the Coalition comments. The Department and the Coalition continue to disagree on some issues which are summarized in Attachment H, notably the relative contribution of woodstoves and industry to the PM₁₀ problem.

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

Implementation of the PM₁₀ control strategy involves residents, industries, local governments, and state and federal agencies. The two groups most affected by the proposed PM₁₀ control strategy for the Medford-Ashland area are the owners/operators of wood products industries and residents with woodstoves and fireplaces. The economic impacts from the state industrial rules and local woodburning ordinances which have already been adopted are outlined in Attachment C.

Wood products industry emissions will be reduced by additional control requirements on veneer driers and large wood-fired boilers at plywood plants, more extensive source testing and continuous emission monitoring in order to maximize performance of pollution control equipment, and more

restrictive emission offset requirements to insure a net air quality benefit from any new or expanded industries. Industrial PM₁₀ rules to implement these requirements were adopted by the Commission in September 1989.

Woodstove and fireplace emissions will be reduced by implementation of an expanded public information program, an areawide local mandatory woodburning curtailment program, the Oregon woodstove certification program, financial assistance programs for replacement of existing woodstoves with cleaner burning units and weatherization of homes, a ban on installation of non-certified woodstoves, and continued improvements in firewood seasoning and woodstove operation. Up to 12,000 homes in the critical PM₁₀ control area would be affected an average of 22 red days (certified and non-certified cordwood stoves curtailed) and 14 yellow days (non-certified cordwood stoves curtailed) per year.

PROGRAM CONSIDERATIONS:

The new industrial emission control and monitoring requirements will require some additional plan reviews, tax credit reviews, inspections, monitoring report reviews, monitoring equipment audits, and other compliance assurance activities by Department staff. This additional work will be done by shifting existing resources, resulting in less attention to lower priority sources and an increased backlog in some permit or inspection activities. The Department intends to address this backlog problem in decision packages in the next legislative session.

The Department must rely on local governments to operate and enforce mandatory woodburning curtailment programs since the Department does not have the statutory authority to implement such programs. Initiative petitions are being circulated to repeal one or more of the local woodburning curtailment ordinances. If this occurs, the PM₁₀ control strategy will be inadequate to attain the PM₁₀ health standards; this deficiency would then need to be addressed principally by the Legislature and/or EPA since the Commission and Department do not have statutory authority to regulate home heating emissions.

The daily decision on woodburning curtailment programs is based on air quality information from the Department's existing air monitoring network and meteorological information from the National Weather Service. The daily woodburning decision (red, yellow, green call) is now made by the Jackson County Health Department. Under recently adopted local ordinances, the compliance assurance surveys

and enforcement activities for the woodburning curtailment programs will be conducted by the local government staff of Jackson County and the cities of Medford and Central Point. Some EPA grant funds may be available to help support these activities.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

The major alternatives are:

1. Proceed with completion and adoption of the Medford-Ashland PM₁₀ control strategy as a revision to the State Implementation Plan;
2. Delay submittal of the State Implementation Plan until Congress reauthorizes the Clean Air Act and new PM₁₀ schedules possibly go into effect; or
3. Not submit a State Implementation Plan and allow EPA to impose sanctions or develop and implement a Federal Implementation Plan for the Medford-Ashland area.
4. Continue to pursue resolution of the source impacts disagreement with the Coalition to Improve Air Quality.

The Clean Air Act will likely be reauthorized this fall after work is completed by a conference committee which will be reconciling differences in Senate and House Bills which were recently passed. In terms of PM₁₀, the Senate Bill is far more specific than the House Bill and it likely will be the pattern for the final Act. The Senate Bill directs EPA to negotiate a control plan submittal date with the states not to exceed two years. The Bill requires attainment to be demonstrated as expeditiously as practicable but not later than the end of 1994. With respect to the status of Oregon's current PM₁₀ SIP development, most work has been completed. The Department has negotiated a reasonable plan submittal and attainment date with EPA which has been incorporated into the FY91 State/EPA Agreement. This agreement was adopted by the Commission at its May 25, 1990, meeting. Therefore, it is not certain that EPA would be inclined to allow Oregon much if any additional time to submit PM₁₀ plans and reach attainment once the Clean Air Act is reauthorized. More importantly, delaying adoption of the PM₁₀ plan could result in delaying achievement of healthful air quality for the public.

Meeting Date: June 29, 1990
Agenda Item: G
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If the State does not adopt a plan, EPA may take federal action under the authority of the current Clean Air Act. This authority is expected to continue under the reauthorized Act.

The Department is confident that woodstoves are the predominant cause of the Medford-Ashland area PM₁₀ problem based on the latest analysis techniques which have been reviewed and approved by EPA. This is further confirmed by the PM₁₀ air quality improvements that occurred this past heating season when mandatory curtailment ordinances became effective.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission authorize a public hearing on the proposed PM₁₀ control strategy as a revision to the State Implementation Plan. The Department believes that the proposed strategy is a balanced and reasonable combination of emission reduction elements that will be adequate to attain and maintain the PM₁₀ health and welfare standards in the Medford-Ashland area. Furthermore, the Department believes it is in the best interest of the public to proceed ahead now with the PM₁₀ plan adoption process as a revision to the State Implementation Plan as this will provide federal backup enforcement authority to insure that the industrial rules and residential ordinances are implemented as adopted and guard against potential backsliding. Most importantly, it will bring about healthful air quality as soon as possible.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed PM₁₀ control strategy for the Medford-Ashland area is consistent with Goals 2, 3, 4, and 5 of the Strategic Plan.

ISSUES FOR COMMISSION TO RESOLVE:

1. Should the proposed revisions to the State Implementation Plan be delayed until the Department and the Coalition to Improve Air Quality fully agree on the technical support analysis?
2. Should the proposed revisions to the State Implementation Plan be delayed until after reauthorization of the Clean Air Act?

Meeting Date: June 29, 1990
Agenda Item: G
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INTENDED FOLLOWUP ACTIONS:

1. Hold public hearing in Medford in August 1990.
2. Summarize hearing testimony, respond to issues raised, revise proposal as necessary, and recommend adoption to Commission at the November 1990 EQC Meeting.

Approved:

Section:

Division:

Director:

John F. Kawalecyk
Nick F. Fitch
Lee Hansen

Report Prepared By: Merlyn Hough

Phone: 229-6446

Date Prepared: June 12, 1990

MLH:a
PLAN\AH8075
6/12/90

**Draft State Implementation Plan
for Particulate Matter**

**Medford-Ashland, Oregon
Nonattainment Area**

**A Plan for Attaining and
Maintaining the National Ambient
Air Quality Standard for PM₁₀**

**State of Oregon
Department of Environmental Quality
Air Quality Division**

June 1990

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Executive Summary

The U.S. Environmental Protection Agency (EPA) adopted new particulate National Ambient Air Quality Standards (NAAQS) for PM₁₀ on July 1, 1987. PM₁₀ particulate is less than 10 micrometers in aerodynamic diameter or about one-tenth of the diameter of a human hair. The Clean Air Act requires that States develop and adopt State Implementation Plan (SIP) revisions to assure that areas which exceed the PM₁₀ standards are brought into attainment within the time frames prescribed by the Clean Air Act (September 1991). This document describes the State of Oregon plan to attain the PM₁₀ standards in the Medford-Ashland Air Quality Maintenance Area (AQMA).

High exposure to particulate matter is of concern because of human health effects such as changes in lung functions and increased respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alternation in the body's defense system against foreign materials, damage to lung tissue, increased risk of cancer and, in extreme cases, premature death. Most sensitive to the effects of particulate matter are people with chronic obstructive pulmonary cardiovascular disease and those with influenza, asthmatics, the elderly, children and mouth-breathers.

Air quality measurements taken in Medford have determined that the 24-hour PM₁₀ health standard was exceeded an average of about 20 days per year during the winter months in 1984-86. In addition, the annual average concentration of PM₁₀ exceeded the annual PM₁₀ health standard.

The PM₁₀ standards adopted by the EPA, and subsequently adopted by the Oregon Environmental Quality Commission, were established to protect public health and welfare. The 24-hour PM₁₀ standard is 150 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$). The maximum 24-hour concentration of PM₁₀ measured in Medford was over 300 $\mu\text{g}/\text{m}^3$. The 24-hour standard cannot be exceeded more than an average of one day per year. The annual average PM₁₀ concentration in Medford is about 58 to 68 $\mu\text{g}/\text{m}^3$ in the peak areas compared to the average annual PM₁₀ standard of 50 $\mu\text{g}/\text{m}^3$.

An inventory of PM₁₀ emissions developed for the Medford-Ashland Air Quality Maintenance Area (AQMA) indicates that the major sources of particulate emissions are residential wood combustion, industry, and soil and road dust. Annual average and worst day PM₁₀ emissions during the baseline period (1985-86) are compared in the following table.

Control strategies included in this plan have been designed to reduce 24-hour concentrations of PM₁₀ by at least 159 $\mu\text{g}/\text{m}^3$ (309-150 $\mu\text{g}/\text{m}^3$) and the annual average by at least 18 $\mu\text{g}/\text{m}^3$ (68-50 $\mu\text{g}/\text{m}^3$) by 1992.

Control measures adopted in this plan must be legally enforceable, demonstrated to be adequate to achieve the needed air quality improvements, and designed to attain the standards within the time frames provided by the Clean Air Act.

The principal means of achieving these air quality improvements within the 3-year period allowed by the Clean Air Act is through PM₁₀ emission reductions from woodstoves and fireplaces (RWC), the wood products industries, open burning of debris, and road dust. Additional reductions are expected from statewide efforts to reduce slash burning smoke.

Residential Wood Combustion Strategies

The residential woodsmoke reduction strategies are closely patterned after the December 1987 recommendations of the Jackson County Wood burning Task Force. Woodstove and fireplace emissions will be reduced by an expanded public information program, an areawide mandatory wood burning curtailment program (75% compliance rate needed to meet standards at the Courthouse, but 85% compliance rate needed to meet standards at Oak/Taft), the Oregon woodstove certification program, financial assistance programs for replacement of existing woodstoves with cleaner burning units and weatherization of homes, a ban on installation of non-certified woodstoves, and continued improvements in firewood seasoning and woodstove operation.

Wood Products Industry Strategies

Wood products industry emissions will be reduced by additional control requirements on veneer driers and large wood-fired boilers at plywood plants, more extensive source testing and continuous emission monitoring in order to maximize performance of pollution control equipment, and more restrictive emission offset requirements to insure a net air quality benefit from any new or expanded industries.

Open Burning Strategies

Open burning emissions will be reduced during the critical November to February period by local ordinances banning open burning during these months. Annual open burning emissions will be reduced by a year around ban within Medford and more restrictive ventilation criteria and shorter burn seasons in unincorporated areas of Jackson County and in Central Point.

Site: Jackson County Courthouse

<u>Source Category</u>	<u>24-Hour PM₁₀ Impact ($\mu\text{g}/\text{m}^3$)</u>		<u>Change</u>
	<u>Worst Day</u>	<u>Worst Day</u>	
	<u>1985-86</u>	<u>1992</u>	
Residential woodsmoke	195.0	26.4	-86%
Wood products industry	29.2	20.3	-30%
Soil and road dust	27.6	27.6	NC
<u>Other</u>	<u>10.6</u>	<u>11.6</u>	+9%
Local sources	262.4	85.9	-67%
<u>Background</u>	<u>44.0</u>	<u>44.0</u>	NC
Total	306.4	129.9	-58%

<u>Source Category</u>	<u>Design Day</u>		<u>Change</u>
	<u>1985-86</u>	<u>1992</u>	
	Residential woodsmoke	156.2	
Wood products industry	22.6	14.6	-35%
Soil and road dust	32.1	32.1	NC
<u>Other</u>	<u>11.6</u>	<u>12.6</u>	+9%
Local sources	222.5	82.4	-63%
<u>Background</u>	<u>44.0</u>	<u>44.0</u>	NC
Total	266.5	126.4	-53%

The Courthouse monitoring site is of special interest since it is the site of the longest historical particulate monitoring in the AQMA and it is located in the general area of highest particulate levels. However, the Oak and Taft monitoring site in Medford has recorded and projects slightly higher PM₁₀ levels which are summarized in the following table.

Site: Medford Oak and Taft

<u>Source Category</u>	<u>24-Hour PM₁₀ Impact ($\mu\text{g}/\text{m}^3$)</u>		<u>Change</u>
	<u>Worst Day</u>	<u>Worst Day</u>	
	<u>1985-86</u>	<u>1992</u>	
Residential woodsmoke	182.2	24.5	-87%
Wood products industry	77.8	55.1	-26%
Soil and road dust	28.7	28.7	NC
<u>Other</u>	<u>9.5</u>	<u>10.3</u>	+9%
Local sources	298.2	118.6	-60%
<u>Background</u>	<u>44.0</u>	<u>44.0</u>	NC
Total	342.2	162.6	-52%

The Oak and Taft monitoring site in Medford recorded slightly higher annual PM₁₀ levels than the Courthouse. The Oak and Taft PM₁₀ levels are summarized in the following table.

Site: Medford Oak and Taft

<u>Source Category</u>	<u>Annual PM₁₀ Impact (μg/m³)</u>		<u>Change</u>
	<u>1985-86</u>	<u>1992</u>	
Residential woodsmoke	28.2	16.2	-43%
Wood products industry	17.9	11.3	-37%
Soil and road dust	6.6	6.6	NC
<u>Other</u>	<u>2.3</u>	<u>2.5</u>	+9%
Local sources	55.0	36.6	-33%
<u>Background</u>	<u>13.1</u>	<u>13.1</u>	NC
Total	68.1	49.7	-27%

The annual average PM₁₀ levels at both the Courthouse and Oak and Taft sites are projected to be in compliance with the annual PM₁₀ health standard of 50 μg/m³ after implementation of the control strategy in 1992.

The dispersion modeling projected potential PM₁₀ problems in two other one-kilometer grids north of the Oak & Taft grid but the 1985 Medford particulate gradient study and the 1989 mobile nephelometer surveys indicated that PM₁₀ levels at the DeHague & Howard and McAndrews & Court sites were not as high as at the Oak & Taft site. The Department will conduct additional monitoring in the two potential problem grids by 1991 to determine the actual PM₁₀ concentrations as the control strategy is implemented. If the ambient data confirms a nonattainment problem that the control strategy will not bring into attainment by 1992, then the control strategy will be modified as necessary to assure that attainment will be reached.

Air Quality Standard Maintenance

Subsequent to attainment and by the year 2000, a net decrease in emissions is projected to occur as a result of continuation of the attainment strategies, offsetting increases in fugitive dust and transportation emissions. Both the 24-hour and annual standards are projected to be maintained to the year 2000 at which time worst case day PM₁₀ and the annual average PM₁₀ are projected to be 146 and 48 μg/m³, respectively, at Oak and Taft.

Enforceability

The Clean Air Act requires SIP control strategies to be enforceable. The necessary state rules and local ordinances have

4.14.0 State Implementation Plan for the Medford-Ashland AQMA PM₁₀ Nonattainment Area

4.14.0.1 Introduction

On July 1, 1987, the U.S. Environmental Protection Agency (EPA) promulgated new federal ambient air quality standards for particles less than or equal to 10 micrometers in aerodynamic diameter (PM₁₀) to replace the Total Suspended Particulate (TSP) standard¹. The standard became effective 30 days later on July 31, 1987. On August 7, 1987, EPA classified the Medford-Ashland Air Quality Maintenance Area as a Group I PM₁₀ nonattainment area (52 FR 29383). Group I areas are those which have a greater than 95 percent probability of exceeding the PM₁₀ National Ambient Air Quality Standards (NAAQS). Air monitoring has shown that air quality within the Medford-Ashland AQMA exceeds the PM₁₀ standards (NAAQS).

Section 110 of the Federal Clean Air Act requires States to adopt and submit plans (State Implementation Plans or SIPs) to EPA within nine months after the effective date of the standard. The Clean Air Act allows EPA four months to approve or disapprove the plan. The plan must provide for attainment of the standard as expeditiously as practicable but no later than three years from the date of EPA approval of the SIP². Hence, attainment theoretically must be reached by September 1, 1991.

The Air Quality Division of the Department of Environmental Quality (subsequently referred to as the Department) has developed this plan in consultation with officials of Jackson County, the cities within the Medford-Ashland AQMA, the Oregon Departments of Transportation and Forestry, and EPA. The plan was prepared in accordance with the regulations and requirements of the Federal Clean Air Act and the EPA. The Department believes that the PM₁₀ plan can achieve attainment of the NAAQS within the time frame required by the Act and maintain attainment at least through the year 2000.

4.14.0.2 SIP Overview

This revision to the State Implementation Plan (SIP) has five sections. Section 4.14.1 provides a description of PM₁₀ ambient air quality in Medford-Ashland AQMA; Section 4.14.2 describes the PM₁₀ air quality problem within the Medford-Ashland AQMA; Section

¹A micrometer (μm) is a unit of length equal to about 1/25,000 of an inch. For comparison, the thickness of a human hair is about 100 to 200 micrometers.

² Clean Air Act Section 110 (a) (1).

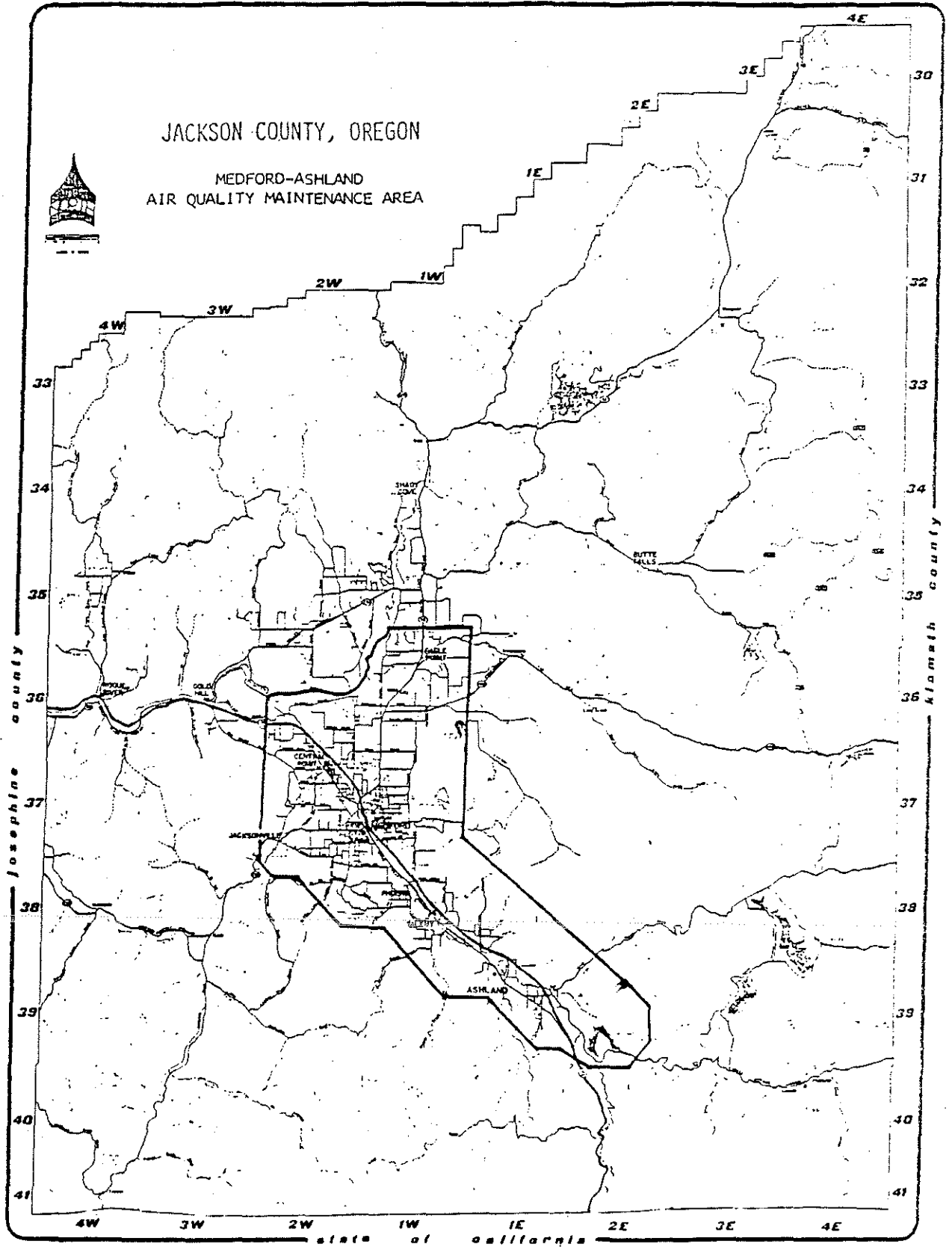


Figure 4.14.0-1: Map of Medford-Ashland AQMA

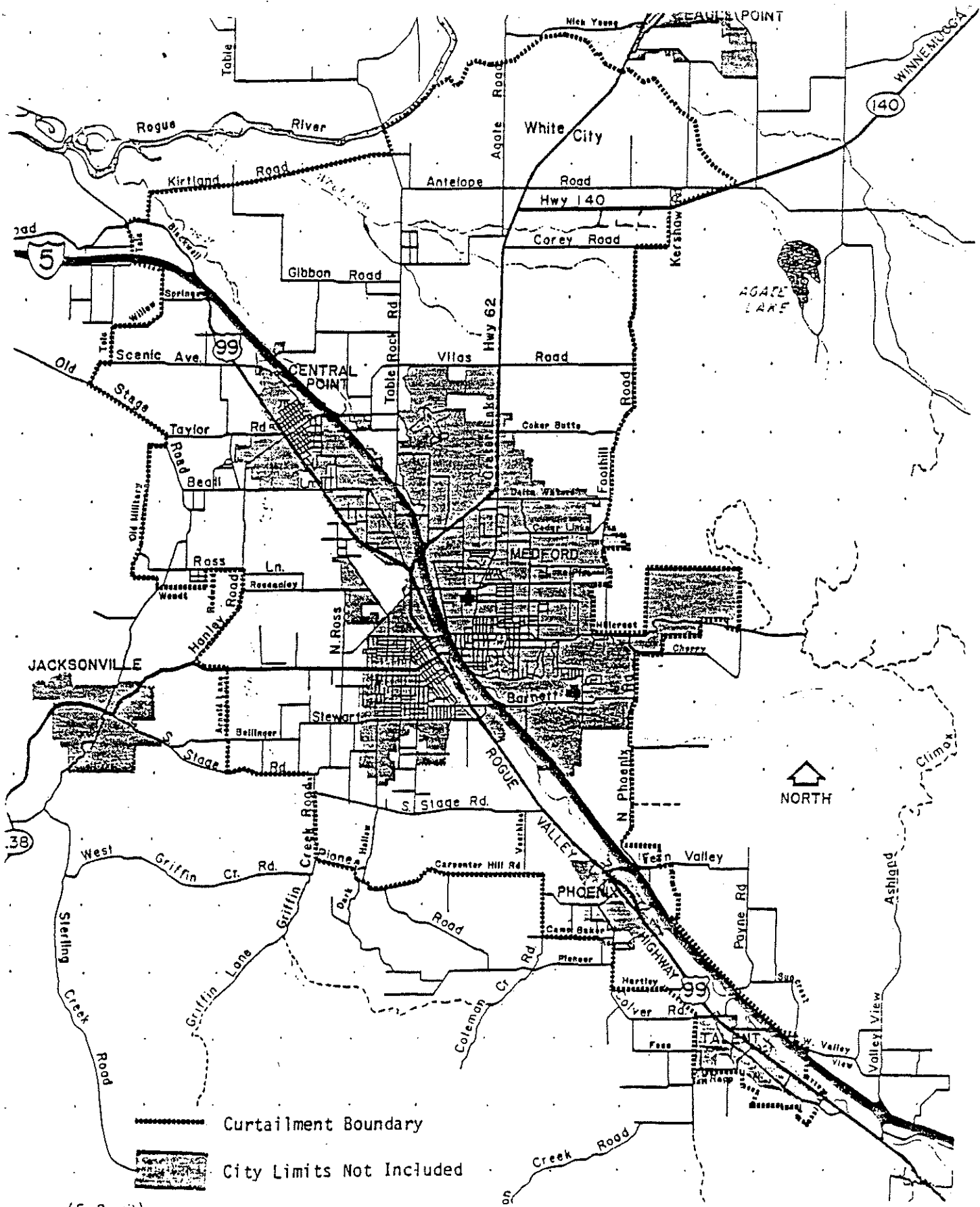
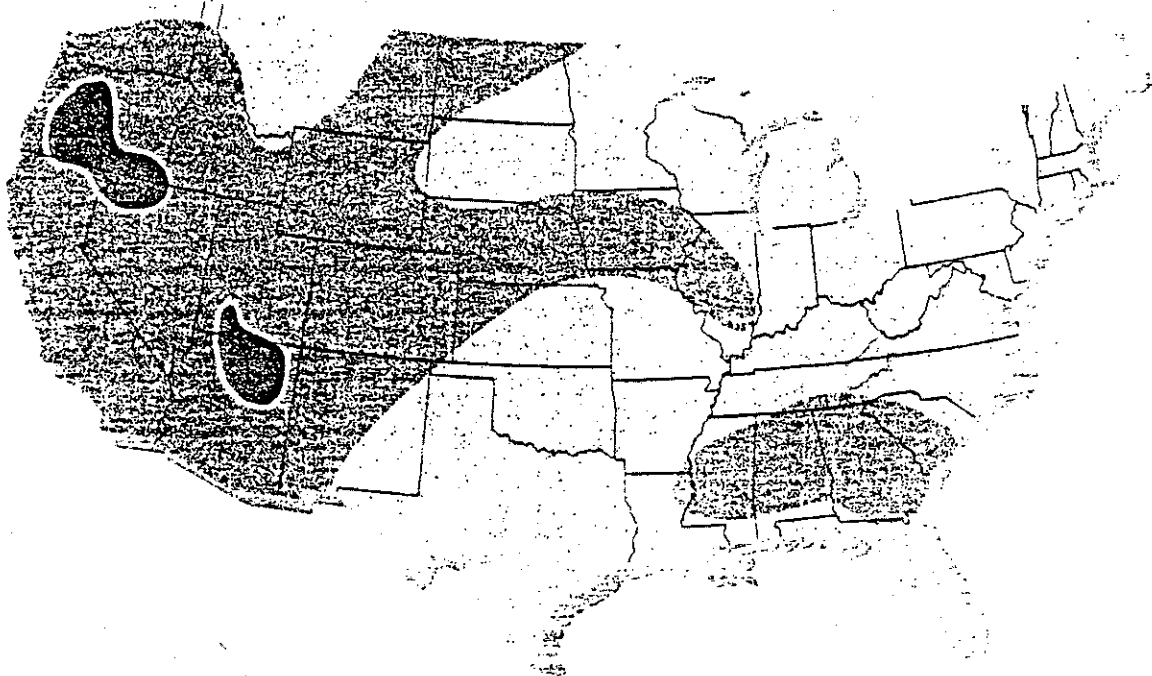


Figure 4.14.0-2: Map of Critical PM₁₀ Control Area.

ATMOSPHERIC VENTILATION



DEGREE OF VENTILATION



Figure 4.14.0-3: Comparison of Atmospheric Ventilation in U.S.

particulate matter is breathed more directly into the lungs since it bypasses the filtering systems of the nasal passages.

Among the sources of PM₁₀ emissions, woodsmoke is of particular concern in the Medford-Ashland AQMA because it accounts for a majority of the small particulate matter measured in the nonattainment area. These particles are less than 1 μm in diameter and remain suspended in the air for long periods of time. Because of their small size and their ability to remain airborne, they are easily inhaled and lodged in the alveolar region of the lungs. These particles can also act as carriers for toxic chemicals which are transported deep into the respiratory system. Some of these toxic substances are then absorbed into the bloodstream.

Woodsmoke contains fourteen carcinogenic compounds including benzo(a)pyrene, benzo(a)anthracene, and other polycyclic organic materials.¹⁰ Additionally, woodsmoke contains several other hazardous compounds such as aldehydes, phenols, carbon monoxide and volatile organic vapors. These compounds can cause or contribute to illness ranging from neurological dysfunctions and headaches to lung cancer. Many of the components of woodsmoke are also found in cigarette smoke and coke oven emissions and can affect the cilia in a similar manner making it difficult for the body to expel the particulate matter. Because woodsmoke concentrations are highest in residential areas, a large segment of the population is routinely exposed to woodsmoke pollution in the winter months. Additionally, it is those people who are most sensitive, children, the elderly, and the ill, who spend the most time in their homes, thereby increasing their risk.¹⁰

Because of these health concerns, a number of symposiums on woodsmoke health effects have been held in the Pacific Northwest. The University of Washington Department of Environmental Health and several other organizations sponsored a conference called "Health Effects of Woodsmoke" in January 1988, the Klamath County Health Department sponsored the "Symposium on Health Concerns of Woodsmoke" in October 1989, and the Jackson County Medical Society and Jackson County Health Department co-sponsored "Woodsmoke and Your Health" in February 1989.

4.14.1 Ambient Air Quality

Particulate ambient air quality monitoring for Total Suspended Particulate (TSP) began in Medford in 1969 at the Jackson County Courthouse near Oakdale/Main Streets. TSP monitoring in White City near Agate Road began in 1977.

¹⁰P.G. Jenkins, Washington Wood Smoke: Emissions, Impacts and Reduction Strategies, Washington Department of Ecology, Olympia, Washington. December, 1986.

Because these samplers are not equipped with a size selective inlet, the upper limit of particle size captured on the filter may reach 100 μm . Prior to EPA's adoption of the PM₁₀ NAAQS, this method was the standard reference method for measurement of airborne particulate matter.

The PM₁₀ Medium-Volume (MV) sampler collects PM₁₀ aerosol using a 12 port, 47 mm filter sequencing system that is programmed to collect 24-hour samples. The sampler pulls ambient air at a 4 CFM flow rate through a 10 μm Sierra-Anderson 254 inlet providing a PM₁₀ cut point. A dual-port system capable of simultaneously collecting aerosol on both Teflon and quartz filter substrate is used to allow complete chemical analysis for CMB receptor modeling purposes. EPA has designated the MV sampler as a reference method. Sampling typically occurs every day during the winter months and every sixth day during the remainder of the year.

The PM₁₀ High-Volume Size-Selective-Inlet (HV-SSI) is a sampler equipped with a Sierra-Anderson SA321A, SA321B or SA1200 PM₁₀ cut-point inlet. This method (except for the SA321A) has been designated by EPA as a reference method. Sampling typically occurs every sixth day.

Integrating Nephelometer measurements of light scattering (a surrogate for PM₁₀) have been conducted at Central/Main. This method provides hourly light scattering averages which are highly correlated to PM₁₀ concentrations measured using the MV or HV-SSI reference methods.

Table 4.14.1-1: Data Collection Periods/Methods at Jackson County Courthouse (Oakdale/Main) or Brophy Building (Central/Main).

Measurement Method	Began	Terminated
TSP High-Volume (TSP) Automated Particulate Monitor (APM)	Jan-69	Current
Integrating Nephelometer	Apr-78	Aug-88
PM ₁₀ Dichotomous Virtual Impactor (VI)	Apr-80	Current
PM ₁₀ High-Volume (SSI)	May-83	Sep-87
PM ₁₀ Medium-Volume (MV)*	May-83	Oct-89
	Dec-87	Current

* Both Teflon and quartz filter substrate are used.

4.14.1.2 PM₁₀ Air Quality in Medford and White City

The PM₁₀MV-equivalent data from the Courthouse and White City Post Office for the 1984-89 period are plotted in Figure 4.14.1-2. Peak PM₁₀ concentrations typically occur during December and January. This is due to poorer ventilation and increased woodheating emissions during these months. The peak PM₁₀ levels measured or calculated during 1984-89, other than the forest fire smoke impacts in September 1987, are summarized in Table 4.14.1-2.

Table 4.14.1-2: Peak Days PM₁₀MV and PM₁₀VI Levels ($\mu\text{g}/\text{m}^3$) During 1984 to 1989 in the Medford-Ashland AQMA.

Rank	PM ₁₀ MV	PM ₁₀ VI	Date	Location
Highest Value	327	308	851217	Courthouse
Second Highest	326	308	851223	Courthouse
Third Highest	295	277	851218	Courthouse
Fourth Highest	283	266	851220	Courthouse
Fifth Highest	269	253	851229	Courthouse
Highest Value	363	NA	851217	Oak & Taft
Second Highest	340	NA	851219	Oak & Taft
Third Highest	330	NA	851223	Oak & Taft
Fourth Highest	297	NA	851220	Oak & Taft
Fifth Highest	295	NA	851218	Oak & Taft
Highest Value	329	NA	851229	White City
Second Highest	302	NA	851224	White City
Third Highest	272	NA	851219	White City
Fourth Highest	268	NA	851227	White City
Fifth Highest	250	NA	851226	White City

During 1984-89, the most severe air stagnation episodes occurred in January 1985, December 1985, and December 1989. The peak PM₁₀ concentrations in the previous table occurred during the December 1985 episode.

The highest annual average PM₁₀ concentrations during 1984-89 at the Jackson County Courthouse (the site with the longest historical particulate monitoring record) were measured during 1985 with annual average concentrations of 60 $\mu\text{g}/\text{m}^3$ to 74 $\mu\text{g}/\text{m}^3$, depending on the PM₁₀ monitoring method used.

Particulate gradient studies were completed in Medford and White City during 1985. The maximum Medford PM₁₀ impacts occurred in the Oak & Taft and Haven & Holly areas. The maximum White City PM₁₀ impacts occurred in the Post Office area on Antelope Road. New PM₁₀ monitors were established at the peak PM₁₀ impact sites prior to the December 1985 episode in Medford (Oak & Taft from November 1985 to October 1989, Welch & Jackson from July 1989 to present) and White City (Post Office from November 1985 to present).

EPA reference samplers were installed at all of the PM₁₀ monitoring sites in the Medford and White City areas by December 1987. This reduced the uncertainty of 1988-forward PM₁₀ data. The 1989 PM₁₀ data, which is the most recent year of data and includes data during an extended air stagnation episode in December 1989 similar to the December 1985 episode, is summarized in Table 4.14.1-3.

Table 4.14.1-3: Peak Days and Annual Average PM₁₀MV Levels ($\mu\text{g}/\text{m}^3$) During 1989 in the Medford-Ashland AQMA.

Rank	PM ₁₀ MV	Date	Location
Highest Value	232	891221	Courthouse
Second Highest	229	891222	Courthouse
Third Highest	176	890119	Courthouse
Fourth Highest	166	891227	Courthouse
Fifth Highest	165	891215	Courthouse
Annual Average	50	1989	Courthouse
Highest Value	246	891221	Welch & J*
Second Highest	210	891223	Welch & J*
Third Highest	198	891227	Welch & J*
Fourth Highest	170	891214	Welch & J*
Fifth Highest	161	891226	Welch & J*
Annual Average	60	1989	Welch & J*
Highest Value	158	891220	White City
Second Highest	157	891223	White City
Third Highest	154	891223	White City
Fourth Highest	150	891227	White City
Fifth Highest	149	890130	White City
Annual Average	52	1989	White City

* Welch & Jackson data combined with Oak & Taft data for 1989.

of exceedances of the 24-hour NAAQS be less than or equal to one per year, and the annual average over a period of three or more years be less than or equal to the annual NAAQS.

The EPA PM₁₀ SIP Development Guideline specifies that the preferred approach for estimating a design value is through the use of an applicable dispersion model corroborated by receptor models.¹³ This approach was used for the Medford-Ashland AQMA.

EPA has not yet approved a guideline dispersion model for valley stagnation conditions such as occur in Medford on the peak days. Therefore the Department evaluated two non-guideline dispersion models (GRID and WYNDvalley) designed for valley stagnation conditions and one guideline dispersion model (ISCST) not designed for valley stagnation conditions. The time period selected for dispersion modeling was mid-1985 to mid-1986. The most precise meteorological data (McAndrews/Riverside meteorological station with lower wind speed threshold than the National Weather Service anemometer) was available for July 1985 to June 1986 as part of the Medford particulate gradient study. This time period included the highest several days on record (during December 1985), and the 12-month average was similar to the overall 1984-86 average.

The dispersion model results were corroborated with the chemical mass balance (CMB) receptor model (Version 7.0). CMB filters were analyzed for 88 days during 1984-89. The Department used the ambient monitoring data (1984-89) and dispersion model data (1985-86) to estimate the annual and 24-hour design values.

The ISCST dispersion model consistently underpredicted impacts on the worst case days of December 1985. Both the GRID and WYNDvalley dispersion models performed well, providing results similar to the ambient PM₁₀ measured at the Jackson County Courthouse. GRID gave slightly better results and was selected as the model for additional analyses. The dispersion modeling detailed results and methodology are outlined in the appendix.

The dispersion model output was compared to the ambient PM₁₀ monitoring data from the Courthouse and Oak & Taft sites. The results of these comparisons are outlined in Table 4.14.2-1. The Oak & Taft monitor was not installed until late in 1985 so a 12-month average was not available (NA) for that site. On average, the GRID dispersion model slightly overpredicted at the Oak & Taft site and slightly underpredicted at the Courthouse site.

¹³PM₁₀ SIP Development Guideline. US Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. June, 1987. EPA-450/2-86-001.

4.14.2.2 Emission Inventory

Introduction

Emission inventories provide information on the relative strength of sources within an airshed and provide a basis for control strategy evaluation. In addition, emission inventories provide a basis for tracking emission reductions and growth. They cannot, however, in some cases estimate with certainty the impact of a source, or group of sources, at a specific location. Atmospheric dispersion caused by wind movements within the airshed and transport of pollutants into the airshed from exterior sources (i.e., wildfires, slash burning smoke and secondary aerosols) must generally be considered.

PM₁₀ emissions (usually expressed in tons of particulate per year or TPY) are calculated from emission factors and source activity records. Emission factors are the weight of pollutant emitted per unit weight of material processed such as grams of PM₁₀ emitted per pound of cord wood burned; pounds of road dust emitted per vehicle mile driven or pounds of particulate emitted per unit area of plywood veneer processed. Emission factors used in this analysis are principally from the Environmental Protection Agency's compilation of emission factors AP-42.¹⁴

Source activity information on the amount of cord wood burned by residents, vehicle miles driven or veneer production volumes are obtained from a variety of sources including industrial air contaminant discharge permit reports on source testing and production rates, public mail surveys, census data, and population and traffic data gathered from other government agencies.

Estimation of seasonal or worst-case day PM₁₀ emissions requires development of a source operating schedule which describes the percent of annual emission that occur during specific seasons, months, or 24-hour periods.

Base Year Emission Inventory

PM₁₀ emissions for the 1985-86 base year within the AQMA were estimated for industrial sources, residential heating (gas, oil and wood), commercial space heating, residential open burning, burning for agriculture and forestry, paved and unpaved roads, construction and agricultural dust and transportation sources (cars, trucks, railroads and aircraft). The basis of the emission estimates for the most significant sources are described below:

¹⁴Compilation of Emission Factors, U.S. Environmental Protection Agency AP-42 Fourth Edition and subsequent supplements. US EPA Office of Air Quality Planning and Standards. Research Triangle Park, N.C. 27711.

TPY of PM₁₀ would be generated by this source during the late summer and early fall. Backyard and agricultural burning emissions are combined with other sources in the following summary tables.

Transportation Sources: 290 TPY PM₁₀. Highway vehicles (autos and trucks) emit 225 TPY PM₁₀ in tailpipe and tire wear particulate; off-highway vehicles emit 58 TPY; and railroad diesel engines and aircraft emit the remainder. Transportation emissions are combined with other sources in the following summary tables.

Other Sources: 241 TPY PM₁₀. Industries other than the wood products industries emit about 28 TPY. Residential and commercial space heating with fuels other than wood contribute 83 TPY. Structural fires contribute about 28 TPY. Slash burning and forest wildfires within the AQMA boundaries contribute about 75 TPY and 34 TPY, respectively, but these sources are of more interest for emissions outside the AQMA that contribute to the background PM₁₀ entering the AQMA.

Table 4.14.2-2 summarizes annual PM₁₀ emissions within the AQMA for 1985-86.

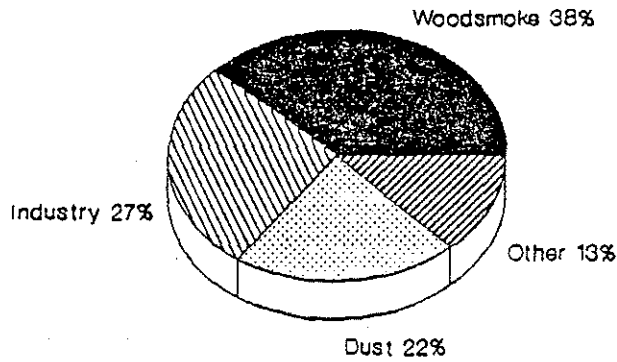
Table 4.14.2-2: PM₁₀ Emission Inventory for 1985-86 Base Year in Medford-Ashland AQMA (July 1985 to June 1986).

Source Category	Tons/Year	Percent
Wood Products Industry	1275	27%
Residential Wood Burning	1777	38%
Fugitive Dust	1008	22%
<u>Other</u>	<u>614</u>	<u>13%</u>
Total	4674	100%

24-Hour Worst Case Inventory

Development of an inventory representative of emissions during a 24-hour period when PM₁₀ ambient air concentrations reach their highest levels is important to understanding the sources that cause winter season episodes in the Medford-Ashland AQMA. The relative proportion of emissions during these periods is expected to be quite different than those reflected in the annual emission inventory, because some sources (such as open burning) are not as active, while others (such as residential wood heating) are much more active.

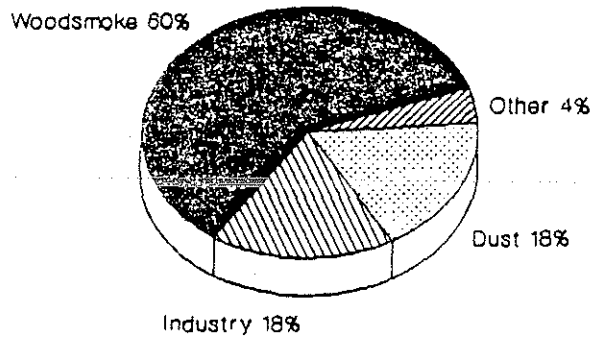
Annual Emission Inventory Local PM-10 Emissions



Medford-Ashland AQMA

Base Year: July 1985 to June 1986

Worst Case Day Emission Inventory Local PM-10 Emissions



Medford-Ashland AQMA

Base Period: December 1985

Figure 4.14.2-1: Medford-Ashland AQMA PM₁₀ Emission Inventories.

woodstoves with cleaner burning units (woodstove certification program, Project CLEAR, SOLVE Program), home weatherization, improved firewood seasoning and woodstove operation. The mandatory wood burning curtailment program is expected to reduce worst day woodburning emissions by up to 85% and annual average wood burning emissions by 20%.

The net result (growth minus annual and worst day emission reductions) is a projected 42% decrease in annual wood burning emissions and an 85% reduction on worst case days within the mandatory curtailment area and slightly smaller percentage reductions (35% annual and 75% worst day) over the entire AQMA.

Industrial Emissions have been projected as the maximum permitted within their current Plant Site Emission Limits (PSELs). The base year emission inventories and the dispersion and receptor modeling indicate that industry emissions were close to the PSELs during 1985-86. The 24-hour emissions in 1992 are calculated as the current hourly maximum PSEL emission rate over a 24-hour period minus the required reductions in wood-fired boiler and veneer dryer emissions (and thus the new PSELs) due to the new industrial rules adopted in September 1989. The net result is a 22% reduction in industrial emissions by 1992.

Projected Emissions: 1985-86 to 1992

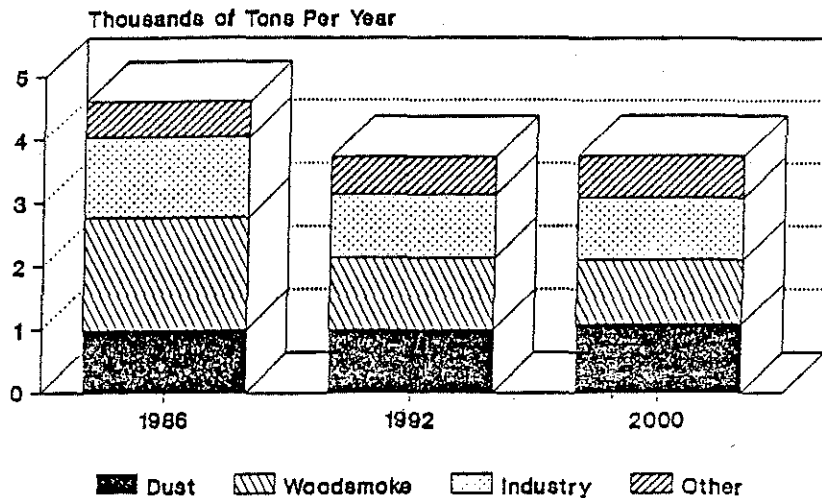
The 1985-86 annual and 24-hour emission and design value estimates must be adjusted to account for emission growth that may occur within the airshed during the six year period of 1986-1992. Estimates are based on the emission growth factors described above. The information presented in Table 4.14.2-4 provides a basis for the future year source impact estimates (Section 4.14.3.1).

Table 4.14.2-4: PM₁₀ Emission Inventory for 1992 in Medford-Ashland AQMA with Growth and Control Strategy Implementation.

Source Category	Annual		Worst Case Day	
	Tons	δ*	Pounds	δ*
Wood Products Industry	995	-22%	6721	-22%
Residential Wood Burning	1155	-35%	7275	-75%
Fugitive Dust	1008	NC	8655	NC
<u>Other</u>	<u>642</u>	<u>+5%</u>	<u>2352</u>	<u>+10%</u>
Total	3800	-19%	25003	-48%

* Change from 1985-86 baseline to 1992 attainment year.
NC indicates No Change.

Annual PM-10 Emissions Medford-Ashland AQMA



Worst Case Day PM-10 Emissions Medford-Ashland AQMA

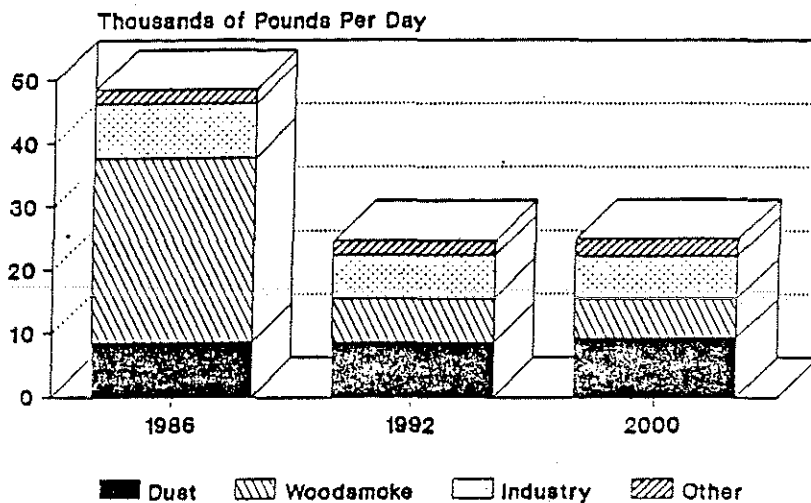


Figure 4.14.2-2: PM₁₀ Emission Inventories for 1985-86 to 2000.

The 4th column (4th highest day) is of special interest since this represents the 24-hour PM₁₀ design value that must be reduced to 150 µg/m³ in order to achieve the 24-hour PM₁₀ standard.

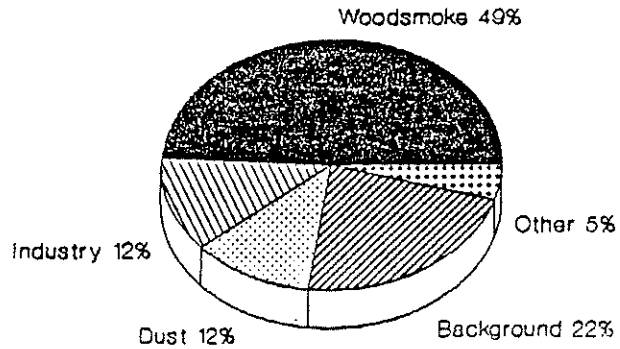
The GRID results for the annual average PM₁₀ simulation are summarized in Table 4.14.2-7. The time period was July 1985 to June 1986. The ambient PM₁₀ concentration measured at Dodge Road during this period averaged 14.8 µg/m³ but the GRID dispersion model projected that about 1.7 µg/m³ of this was from sources located in the Medford-Ashland AQMA. So the difference (13.1 µg/m³) was taken as the true background and combined with the local source contributions to obtain the total PM₁₀ impact.

Table 4.14.2-7: Annual Average PM₁₀ Source Contributions Using the GRID Dispersion Model for the July 1985 to June 1986 Period.

Source Category	Annual PM ₁₀ Impact	
	µg/m ³	Percent
<u>Jackson County Courthouse:</u>		
Wood Products Industry	7.2	12%
Residential Wood Burning	28.8	49%
Fugitive Dust	6.9	12%
<u>Other</u>	<u>2.7</u>	<u>5%</u>
Local Sources	45.6	78%
<u>Background</u>	<u>13.1</u>	<u>22%</u>
Total PM ₁₀	58.7	100%
<u>Medford Oak and Taft:</u>		
Wood Products Industry	17.9	26%
Residential Wood Burning	28.2	41%
Fugitive Dust	6.6	10%
<u>Other</u>	<u>2.3</u>	<u>3%</u>
Local Sources	55.0	81%
<u>Background</u>	<u>13.1</u>	<u>19%</u>
Total PM ₁₀	68.1	100%

The annual average PM₁₀ must be reduced by 27% at the Oak and Taft site and by 15% at the Courthouse in order to meet the annual PM₁₀ standard. However, the local PM₁₀ must be reduced by 33% and 19% at the Oak and Taft site and the Courthouse, respectively, in order to meet the annual PM₁₀ standard if the background PM₁₀ of 13.1 µg/m³ remains constant.

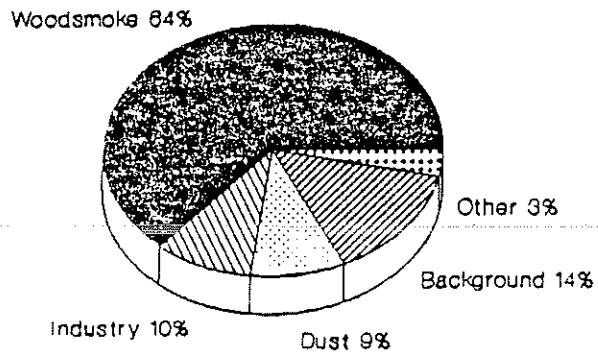
GRID Dispersion Model Estimates Annual Average PM-10 Impacts



Jackson County Courthouse

July 1986 to June 1986

GRID Dispersion Model Estimates Worst Case Day: 24-Hour PM-10 Impacts



Jackson County Courthouse

December 1985

Figure 4.14.2-3: GRID Dispersion Modeling Results at Courthouse.

Receptor Modeling

The Environmental Protection Agency PM₁₀ SIP Development Guideline Section 4.4 describes procedures to be used by the States for using receptor models to estimate source contributions to PM₁₀ concentrations. These guidelines support the use of receptor models as an important element of the SIP strategy development process. Receptor modeling (specifically Chemical Mass Balance or CMB) is especially appropriate in the Medford-Ashland AQMA with severe air stagnation and complex terrain conditions where emission inventories alone may be somewhat misleading and dispersion modeling is more difficult. The specific application of the CMB Receptor Model to PM₁₀ source apportionment in the Oregon Group I areas is described elsewhere.¹⁹

Chemical Mass Balance (CMB) is a form of receptor modeling based upon regression analysis of aerosol features such as trace element concentrations. The model attempts to find the most likely combination of source contribution estimates (SCEs) by minimizing the difference between the measured and model-predicted concentration of aerosol features. Values for the ambient aerosol matrix are obtained through chemical analysis of PM₁₀ filters taken at the Jackson County Courthouse site while the source "fingerprint" values are obtained through analysis of stack emissions. The CMB modeling protocol applied follows EPA guidance.²⁰ All of the CMB modelling has been conducted using EPA's Version 7.0 CMB program.²¹

Ambient Aerosol and Source Emission Analysis

Eighty-eight PM₁₀ samples from the Jackson County Courthouse site and 50 PM₁₀ samples from the Dodge Road background site have been chemically analyzed for CMB analysis.

The Courthouse CMB analysis included 50 fine and coarse (dichotomous sampler) aerosol samples collected from January 1984 to January 1987 as well as 38 PM₁₀ (medium-volume sampler) aerosol samples collected from January 1987 to July 1989. Eleven of the samples exceeded 150 $\mu\text{g}/\text{m}^3$, all of which were collected during the

¹⁹ PM₁₀ Receptor Modeling for Oregon's Group I Areas: Medford, Grants Pass and Klamath Falls. State of Oregon Department of Environmental Quality, Air Quality Division. February, 1990.

²⁰ Protocol for Reconciling Differences Among Receptor and Dispersion Models. US EPA 450/4-87-008. March, 1987.

²¹ Receptor Model Technical Series, Volume III (Revised): CMB User's Manual (Version 6.0) US EPA 450/4-83-014R. May, 1987.

Receptor Model Source Contribution Estimates: 24-Hour Impacts

Table 4.14.2-9 is a summary of the source contribution obtained for the highest CMB sample (310 $\mu\text{g}/\text{m}^3$ on December 2, 1988). The background data was obtained from the highest sample collected at Dodge Road (43 $\mu\text{g}/\text{m}^3$ on January 19, 1985). The chemical fingerprints of woodsmoke and veneer dryers are very similar so the dispersion model results from the 1st highest day in Table 4.14.2-7 were used to fill in the veneer dryer and other industry impacts in the second half of the table and subtract the veneer dryer impact from the total woodsmoke impact.

Table 4.14.2-9: Worst Case 24-Hour PM_{10} Source Contributions at the Jackson County Courthouse Using the CMB Receptor Model.

Source Category	24-Hour PM_{10} Impact ($\mu\text{g}/\text{m}^3$)		
	Total	Background	Local
<u>Before Supplementing with Dispersion Model:</u>			
Wood Products Industry			
Wood-fired Boilers	17.7	3.0	14.7
Veneer Dryers			
Other			
All Woodsmoke	249.7	31.6	218.1
Fugitive Dust	25.2	2.3	22.9
<u>Other</u>	<u>17.4</u>	<u>7.1</u>	<u>10.3</u>
Local Sources			266.0
<u>Background</u>		44.0	
Total PM_{10}	310.0		
<u>After Supplementing with Dispersion Model:</u>			
Wood Products Industry			
Wood-fired Boilers	17.7	3.0	14.7
Veneer Dryers	13.3		13.3
Other	7.3		7.3
Residential Wood Burning	236.4	31.6	204.8
Fugitive Dust	25.2	2.3	22.9
<u>Other</u>	<u>10.1</u>	<u>7.1</u>	<u>3.0</u>
Local Sources			266.0
<u>Background</u>		44.0	
Total PM_{10}	310.0		

The CMB receptor model worst case indicates that residential woodburning contributes about 66% of the PM_{10} measured at the Courthouse (204.8/310). This is very similar to the GRID dispersion model worst case residential woodburning impact of 64% at the Courthouse (195/307) in Table 4.14.2-6.

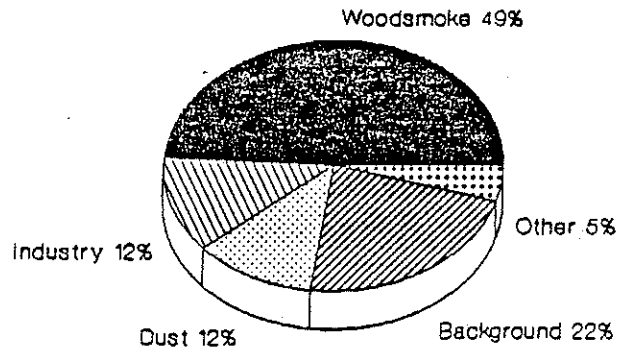
The CMB receptor model annual average indicates that residential woodburning contributes about 41% of the PM₁₀ measured at the Courthouse (24.2/58.4). This is slightly lower than the GRID dispersion model annual average residential woodburning impact of 49% at the Courthouse (28.7/58.5) in Table 4.14.2-7.

The CMB receptor model annual average also indicates that the wood products industry contributes about 16% of the PM₁₀ measured at the Courthouse (4.4+2.7+2.1)/58.4). This is slightly higher than the GRID dispersion model annual average industry impact of 12% at the Courthouse (7.2/58.5) in Table 4.14.2-7.

Overall Comparison of Dispersion and Receptor Modeling

The GRID dispersion model results and the CMB receptor model results are compared in Figures 4.14.2-5 (worst case day impacts) and Figure 4.14.2-6 (annual average impacts). Overall, the comparisons of the GRID dispersion model and the CMB receptor model results indicate quite good agreement on both worst case days and annual average for PM₁₀ source contributions at the Jackson County Courthouse.

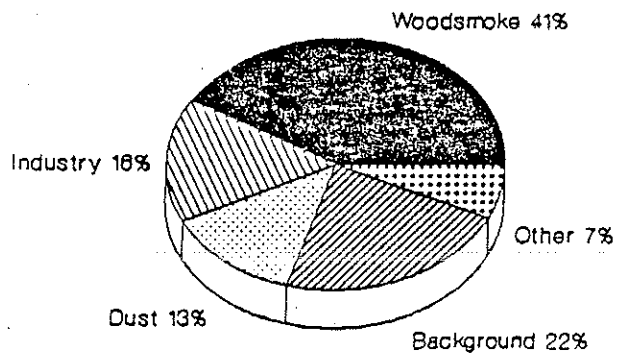
GRID Dispersion Model Estimates Annual Average PM-10 Impacts



Jackson County Courthouse

July 1985 to June 1986

Chemical Mass Balance Estimates Annual Average PM-10 Impacts



Jackson County Courthouse

January 1984 to July 1989

Figure 4.14.2-6: Annual Average PM₁₀ Impacts at Courthouse.

Table 4.14.3-1: PM₁₀ Source Contributions Using the GRID Dispersion Model for the Five Highest Days in 1992-94 Before Implementation of the PM₁₀ Control Strategy.

Source Category	24-Hour PM ₁₀ Impact ($\mu\text{g}/\text{m}^3$)				
	1st	2nd	3rd	4th	5th
<u>Jackson County Courthouse:</u>					
Wood Products Industry	29	28	41	23	13
Residential Wood Burning	207	202	183	166	160
Fugitive Dust	31	34	19	36	38
<u>Other</u>	<u>12</u>	<u>13</u>	<u>7</u>	<u>13</u>	<u>13</u>
Local Sources	278	276	249	237	224
<u>Background</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>
Total PM ₁₀	322	320	293	281	268

Medford Oak and Taft:

Wood Products Industry	78	62	97	59	44
Residential Wood Burning	193	192	164	177	194
Fugitive Dust	32	37	18	33	21
<u>Other</u>	<u>10</u>	<u>12</u>	<u>6</u>	<u>10</u>	<u>7</u>
Local Sources	313	303	285	280	265
<u>Background</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>
Total PM ₁₀	357	347	329	324	309

The 4th column (4th highest day) is the 1992 design value since it represents the fourth highest day in a 3-year period. At both sites this value must be reduced to no more than 150 $\mu\text{g}/\text{m}^3$ in order to attain the 24-hour PM₁₀ standard by 1992:

Courthouse 24-hour air quality improvement needed = 131 $\mu\text{g}/\text{m}^3$;
 Oak & Taft 24-hour air quality improvement needed = 174 $\mu\text{g}/\text{m}^3$.

The control strategy must be comprised of a mix of individual source reduction measures such that the sum of the reductions equal or exceed the total reduction requirement. Adopted control strategies must be shown through a demonstration of attainment (Section 4.14.3.3) to attain and maintain the NAAQS by reducing emissions such that an overall reduction in PM₁₀ 24-hour concentrations on the fourth highest day meets the above targets.

The control strategy must be comprised of a mix of individual source reduction measures such that the sum of the reductions equal or exceed the total reduction requirement. Adopted control strategies must be shown through a demonstration of attainment (Section 4.14.3.3) to attain and maintain the NAAQS by reducing emissions such that an overall reduction in annual average PM₁₀ concentrations meets the above targets.

4.14.3.2 Evaluation of Potential Control Measures

The PM₁₀ control strategy for the Medford-Ashland AQMA focuses on PM₁₀ emission reductions from woodstoves and fireplaces (RWC), the wood products industries, open burning of debris, and road dust. Additional reductions are expected from statewide efforts to reduce slash burning smoke.

The following control strategy elements have been set in place to assure attainment of the annual and 24-hour PM₁₀ NAAQS. Emission reduction credits associated with each element are listed and discussed. A PM₁₀ emission reduction credit is a measure of the reduction in PM₁₀ emissions that would be accomplished through adoption and implementation of the program element. The strategy elements and credits are further described in the appendix.

Residential Wood Combustion Strategies

There are two basic approaches to reducing woodsmoke from stoves and fireplaces: (1) improving the performance of the woodheating systems such as through a certified woodstove program; and (2) burning less wood through woodstove curtailment programs. Some strategies have multiple advantages. Certified woodstoves, for example, improve emission performance by reducing the amount of woodsmoke per cord of wood burned while improving energy efficiency, thus reducing the amount of wood burned. Other examples are well designed public information, energy conservation, or firewood seasoning programs that result in better combustion (lower emissions) and better energy efficiency (less fuel burned).

The Jackson County Woodburning Task Force was appointed by the Jackson County Board of Commissioners in May 1987. The Task Force evaluated various control measures for reducing residential woodsmoke and made its recommendations to the Jackson County Board of Commissioners in December 1987. The woodsmoke reduction elements in this plan are closely patterned after the Task Force recommendations. A copy of the Report of the Jackson County Woodburning Task Force is included in the appendix.

Woodstove and fireplace emissions will be reduced by an expanded public information program, an effective mandatory wood burning curtailment program, the Oregon woodstove certification program,

Wood Products Industry Strategies

Wood products industry emissions will be reduced by additional control requirements on veneer driers and large wood-fired boilers at plywood plants, more extensive source testing and continuous emission monitoring in order to maximize performance of pollution control equipment, and more restrictive emission offset requirements to insure a net air quality benefit from any new or expanded industries. These industrial emission reductions are in addition to the industrial pollution controls implemented during 1978-1984.

The new industrial rules will reduce industrial emissions by over 20% by the end of 1994, with most of this reduction occurring by 1992.

Open Burning Strategies

Open burning emissions will be reduced during the critical November to February period by local ordinances banning open burning during these months. Annual open burning emissions will be reduced by a year around ban within Medford and more restrictive ventilation criteria and shorter burn seasons in unincorporated areas of Jackson County and in Central Point.

Road Dust Strategies

Road dust emissions will be reduced by continuing programs to pave unpaved roads, to curb and gutter shoulders on paved roads, and to control mud and dirt trackout from industrial, construction and agricultural operations.

During 1984-87, despite an 11% increase in traffic volumes, the coarse PM₁₀ fraction and the CMB dust fraction decreased slightly. Based on the apparent effectiveness of the dust control programs, the continuation of these programs is expected to offset the increased dust due to the projected 12% traffic growth between the base year and 1992. Dust is projected to increase by 8% (half the projected traffic growth) between 1992 and 2000 due to the continuation of these dust control programs.

Other Strategies

Slash burning emissions will be reduced in western Oregon by about 20% between 1984 and the year 2000 as part of the Oregon Visibility Protection Plan. These emission reductions will further insure that background PM₁₀ concentrations will not increase in future years.

Table 4.14.3-3: PM₁₀ Source Contributions Using the GRID Dispersion Model for the Five Highest Days in 1992-94 After Implementation of the PM₁₀ Control Strategy.

Source Category	24-Hour PM ₁₀ Impact ($\mu\text{g}/\text{m}^3$)				
	1st	2nd	3rd	4th	5th
<u>Jackson County Courthouse:</u>					
Wood Products Industry	20	19	25	15	9
Residential Wood Burning	26	27	25	23	22
Fugitive Dust	28	30	17	32	34
<u>Other</u>	<u>12</u>	<u>13</u>	<u>7</u>	<u>13</u>	<u>13</u>
Local Sources	86	89	74	82	78
<u>Background</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>
Total PM ₁₀	130	133	118	126	122
<u>Medford Oak and Taft:</u>					
Wood Products Industry	55	46	65	42	29
Residential Wood Burning	25	23	21	22	24
Fugitive Dust	29	33	16	30	19
<u>Other</u>	<u>10</u>	<u>12</u>	<u>6</u>	<u>10</u>	<u>7</u>
Local Sources	119	114	108	104	78
<u>Background</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>
Total PM ₁₀	163	158	152	148	122

The 4th column (4th highest day) is the 1992 design value since it represents the fourth highest day in a 3-year period. At both sites this value by 1992 is projected to be less than the 24-hour PM₁₀ standard ($150 \mu\text{g}/\text{m}^3$) as a result of the control strategy. The GRID dispersion model indicates that the worst case PM₁₀ concentrations in 1992 in White City and Central Point will be lower than at Oak & Taft or the Courthouse.

Projected Annual Source Impacts in 1992

The 1992 projections for the annual average (using July 1985 to June 1986 meteorology) are summarized in Table 4.14.3-4. These represent the annual average in the base year (Table 4.14.2-8) factored up for growth expected between the base year and 1992, and then reduced by the control strategy. Industry emissions are projected at the new PSEs (tons per year limits) resulting from the new industrial rules, wood burning emissions are decreased by a net 35%, transportation emissions are increased by 12%, paved and unpaved road dust emissions are kept constant, and other emissions are factored up by 5%.

strategy will be modified as necessary to assure that attainment will be reached.

4.14.3.4 Emission Offsets and Banking

Industries in Oregon must comply with Plant Site Emission Limits (PSELS) as outlined in OAR 340-20-300 to 340-20-345. New industrial rules for the Medford-Ashland AQMA went into effect in September 1989. Industries in the Medford-Ashland AQMA were operating near their old PSELS in 1985-86 and most of these industries are required to reduce their actual emissions to meet the new PSELS by 1992 (possibly 1994 in a few cases where a large wood-fired boiler is not modified prior to 1994).

The Emission Reduction Credit Banking Rules (OAR 340-20-265) require that, to be eligible for banking, emission reduction credits must be in terms of actual emission decreases resulting from permanent continuous control of existing sources. Emission reductions which are required pursuant to adopted rules cannot be banked.

OAR 340-20-225 (22) requires that new or modified industrial sources that would increase emissions by more than 5 tons per year of PM₁₀ emissions must obtain emission reductions from other sources to offset their emissions at a 1.2:1 ratio and provide a net air quality benefit. The emission offsets may be obtained by reducing emissions within the facility to be modified, from other industrial sources, or from external sources, including woodstove emissions from sole-source low-income households if the woodstove emission reductions are funded by the industry obtaining the offset.

4.14.3.5 Demonstration of Maintenance

Emission reductions will continue after 1992 as a result of: (1) continued replacement of existing woodstoves with cleaner burning units (certified woodstoves or pellet stoves, or non-woodburning units such as gas, oil or electric units); (2) continued home weatherization; and (3) continued programs to pave unpaved roads and curb unpaved shoulders on paved roads. These emission reductions are projected to offset emission growth associated with fugitive dust and transportation sources and to result in maintenance of the PM₁₀ standards through at least the year 2000. Worst case day PM₁₀ and the annual average PM₁₀ in 2000 are projected to be 146 and 48 µg/m³, respectively, at Oak and Taft.

4.14.4 Implementation of the Control Strategy

All of the elements of the attainment strategy will be adopted prior to Environmental Quality Commission adoption (expected

\$1.8 million in funding from various sources has been obtained to date for this project. About 350-400 homes are projected to have woodstoves replaced and weatherization provided with the current funding. The City of Ashland has proposed the SOLVE (Save Our Livability, View and Environment) Program to begin in July 1990 that would provide financial incentives (zero-interest or low-interest loans or rebates) for weatherization and the replacement of existing woodstoves in 400 homes over the next eight years.

Woodburning Curtailment: A voluntary woodburning curtailment program (with daily advisories from November through February) began on November 19, 1985. Jackson County curtailment surveys during 1985-88 indicated an average compliance rate of about 25% under the voluntary program. The City of Medford adopted a mandatory woodburning curtailment program on November 2, 1989. Ambient air monitoring and curtailment surveys within the City of Medford during 1989-90 indicated over 80% compliance in some areas. The City of Central Point adopted a mandatory woodburning curtailment program on December 21, 1989. Jackson County adopted a mandatory woodburning curtailment program on May 2, 1990.

Industrial Elements

The Oregon Environmental Quality Commission adopted specific industrial rules for the wood products industries in the Medford-Ashland AQMA in 1978, 1983 and 1989. The 1978 and 1983 rules included: (1) tighter pollution control requirements for particle dryers, fiber dryers, veneer dryers, large wood-fired boilers, charcoal furnaces, and air conveying systems for sanderdust and sawdust; (2) additional source testing requirements; (3) operation and maintenance plans to prevent or minimize excess emissions; and (4) site-specific fugitive dust control plans. These industrial requirements resulted in a 70% reduction in industrial particulate emissions between 1978 and 1986.

The most recent industrial rules for the Medford-Ashland AQMA were adopted by the Commission on September 8, 1989. These new rules require: (1) tighter emission limits and better pollution control equipment on veneer dryers and large wood-fired boilers; (2) more extensive source testing and continuous emission monitoring; and (3) more restrictive emission offset requirements (1.2:1) for new or expanding industries. These new requirements are projected to reduce industrial PM₁₀ emissions by over 20% by the end of 1994, with most of this reduction occurring by 1992.

Road Dust Elements

The City of Medford and other local governments have ongoing programs to control mud and dirt trackout onto roadways. The City of Medford also has an ongoing program using HUD funding and

Air Quality Improvement Plan, Order No. 364-88, adopted November 30, 1988

Amendment to Air Quality Ordinance, Chapter 1810, Restriction on Woodburning on High Pollution Days, Ordinance No. 90-4, adopted May 2, 1990

City of Ashland Ordinances

Ban on Installation of Non-certified Solid Fuel Burning Devices, Ordinance No. 2552, adopted January 9, 1990

Regulation on What Can Be Burned in Woodstoves and the Sale of Seasoned Wood, Ordinance No. 2555, adopted February 8, 1990

Controls on Open Burning, Ordinance No. 2535, adopted November 21, 1989

City of Medford Ordinances and Resolutions

Control Strategies for Particulate Air Pollution, Ordinance No. 4740, adopted November 11, 1982, Section 4 repealed February 17, 1984

Outside Burning Ordinance, No. 4732, adopted October 21, 1982

Air Quality Improvement Plan, Resolution No. 6253, adopted December 1, 1988

Woodburning Restrictions, Ordinance No. 6484, adopted November 2, 1989

City of Central Point Ordinances and Resolutions

Air Quality Improvement Plan, Resolution No. 509, adopted December 1, 1988

Regulations and Permit Process for Outside Burning, Ordinance No. 1624, adopted October 19, 1989

Ordinance for Regulating Woodstoves and Other Solid Fuel Burning Devices for the Purpose of Reducing Health Hazards, Ordinance No. 1629, adopted December 21, 1989

4.14.5.1 Citizen Advisory Committee

The Jackson County Board of Commissions appointed members to the Jackson County Woodburning Task Force in May 1987 to assist the County, cities within the AQMA, and the Department in the development of control programs for the Medford-Ashland AQMA. The Task Force considered alternative control strategies and provided recommendations to the Board in December 1987. The Report of the Jackson County Woodburning Task Force is included in the appendix.

4.14.5.2 Public Notice

Public notice of proposed rule revisions is done through mailing lists maintained by the Department, through notifications published in local newspapers, and through Department press releases.

4.14.5.3 Public Hearings

Public hearings on the new industrial rules for the Medford-Ashland AQMA were held on January 10 and 12, 1989. Local public hearings were held on the local ordinances in accordance with the public notice and hearing requirements of the city or county involved.

4.14.5.4 Intergovernmental Review

Public hearing notices regarding adoption of this revision to the State Implementation Plan will be distributed for local and state agency review through the A-95 State Clearinghouse process forty-five days prior to adoption by the Environmental Quality Commission.

EQC meeting date 9-07-89
Effective 9-26-89

DIVISION 30

SPECIFIC AIR POLLUTION
CONTROL RULES FOR THE
MEDFORD-ASHLAND AIR QUALITY
MAINTENANCE AREA
AND THE
GRANTS PASS URBAN GROWTH AREA

Purposes and Application

340-30-005 The rules in this division shall apply in the Medford-Ashland Air Quality Maintenance Area (AQMA) and the Grants Pass Urban Growth Area (Area). The purpose of these rules is to deal specifically with the unique air quality control needs of the Medford-Ashland AQMA and the Grants Pass Area. These rules shall apply in addition to all other rules of the Environmental Quality Commission. The adoption of these rules shall not, in any way, affect the applicability in the Medford-Ashland AQMA and the Grants Pass Area of all other rules of the Environmental Quality Commission and the latter shall remain in full force and effect, except as expressly provided otherwise. In cases of apparent conflict, the most stringent rule shall apply.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 4-1978, f. & ef. 4-7-78

OAR30005 (9/89)

in open outdoor fires, burn barrels, and backyard incinerators.

- (10) {(12)} "Dry Standard Cubic Foot" means the amount of gas that would occupy a volume of one cubic foot, if the gas were free of uncombined water at standard conditions.
- (5) {(13)} "Criteria Pollutants" means Particulate Matter, Sulfur Oxides, Nonmethane Hydrocarbons, Nitrogen Oxides, or Carbon Monoxide, or any other criteria pollutant established by the U.S. Environmental Protection Agency.
- (13) {(14)} "Facility" means an identifiable piece of process equipment. A stationary source may be comprised of one or more pollutant-emitting facilities.
- (20) {(15)} "Lowest Achievable Emission Rate" or "LAER" [~~means; -for-any source; -that-rate-of-emission-which-is-the-most-stringent emission-limitation-which-is-achieved-in-practice-or-can reasonably-be-expected-to-occur-in-practice-by-such-class-or category-of-source-taking-into-consideration-the-pollutant which-must-be-controlled.-.-This-term-applied-to-a-modified source-means-that-lowest-achievable-emission-rate-for-that portion-of-the-source-which-is-modified.-.-LAER-shall-be construed-as-nothing-less-stringent-than-new-source performance-standards.-~~] is defined by section 340-20-220(13).
- (23) {(16)} "Modified Source" means any physical change in, or change in the method of, operation of a stationary source which increases the potential emission of criteria pollutants over permitted limits, including those pollutants not previously emitted.
- (a) A physical change shall not include routine maintenance, repair, and replacement.
 - (b) A change in the method of operation, unless limited by previous permit conditions, shall not include:
 - (A) An increase in the production rate, if such increase does not exceed the operating design capacity of the sources;
 - (B) Use of an alternative fuel or raw material, if prior to December 21, 1976, the source was capable of accommodating such fuel or material; or
 - (C) Change in ownership of a source.
- (24) {(17)} "New Source" means any source not previously existing or having an Air Contaminant Discharge Permit [~~permitted-in-the Medford-Ashland-Air-Quality-maintenance-Area~~] on the effective date of these rules.
- (25) {(18)} "Offset" means the reduction of the same or similar air contaminant emissions by the source;
- (a) Through in-plant controls, change in process, partial or total shut-down of one or more facilities or by otherwise reducing criteria pollutants; or
 - (b) By securing from another source or, through rule or permit action by DEQ, in an irrevocable form, a reduction in emissions similar to that provided in subsection (a) of this section.
- (32) {(19)} "Source" means any structure, building, facility, equipment, installation or operation, or combination thereof, which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person, or by persons under common control.

- (14) "Fuel Moisture Content By Weight Greater Than 20 Percent" means bark, hogged wood waste, or other wood with an average moisture content of more than 20 percent by weight on a wet basis as used for fuel in the normal operation of a wood-fired veneer dryer as measured during compliance source testing.
- (15) "Fuel Moisture Content By Weight Less Than 20 Percent" means pulverized ply trim, sanderdust, or other wood with an average moisture content of 20 percent or less by weight on a wet basis as used for fuel in the normal operation of a wood-fired veneer dryer as measured during compliance source testing.
- (17) "General Arrangement", in the context of the compliance schedule requirements in section 340-32-045(2), means drawings or reproductions which show as a minimum the size and location of the control equipment on a source plot plan, the location of equipment served by the emission-control system, and the location, diameter, and elevation above grade of the ultimate point of discharging contaminants to the atmosphere.
- (18) "Grants Pass Urban Growth Area" means the area within the Grants Pass Urban Growth Boundary as shown on the Plan and Zoning Maps for the City of Grants Pass as of 1 February 1988.
- (21) "Maximum Opacity" means the opacity as determined by EPA Method 9 (average of 24 consecutive observations).
- (31) "Rebuilt Boiler" means a physical change after April 29, 1988, to a wood-waste boiler or its air-contaminant emission control system which is not considered a "modified source" and for which the fixed, depreciable capital cost of added or replacement components equals or exceeds fifty percent of the fixed depreciable cost of a new component which has the same productive capacity.
- (36) "Wood-fired Veneer Dryer" means a veneer dryer which is directly heated by the products of combustion of wood fuel in addition to or exclusive of steam or natural gas or propane combustion.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 1-1978, f. & ef. 4-7-78; DEQ 9-1979, f. & ef. 5-3-79;
DEQ 3-1980, f. & ef. 1-28-80; DEQ 14-1981, f. & ef. 5-6-81

Wood Waste Boilers

340-30-015 (1) No person shall cause or permit the emission of particulate matter from any wood waste boiler with a heat input greater than 35 million BTU/hr in excess of 0.050 grain per dry standard cubic foot (1.4 grams per cubic meter) of exhaust gas, corrected to 12 percent carbon dioxide.

- (2) No person owning or controlling any wood waste boiler with a heat input greater than 35 million BTU/hour shall cause or permit the emission of any air contaminant into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour equal to or greater than {20} 10 percent opacity, unless the permittee demonstrates by source test that the emission limit in paragraph (1) of this section can be achieved at higher visible emissions in which case emissions shall not exceed the visible air contaminant limitations of section 340-12-015(2).
- (3) No person shall cause or permit the emission of particulate matter from any boiler with a heat input greater than 35 million Btu/hour unless the boiler has been equipped with emission control equipment which:

- (4) No person shall willfully cause or permit the installation or use of any means, such as dilution, which, without resulting in a reduction in the total amount of air contaminants emitted, conceals an emission which would otherwise violate this rule.
- (5) Where effective measures are not taken to minimize fugitive emissions, the Department may require that the equipment or structures in which processing, handling and storage are done, be tightly closed, modified, or operated in such a way that air contaminants are minimized, controlled, or removed before discharge to the open air.
- (6) Compliance with the visible emission limits in section (1) of this rule shall be determined in accordance with the Department's Method 9 on file with the Department as of November 16, 1979.

Air Conveying Systems (Medford-Ashland AOMA Only)

340-30-025 All air conveying systems emitting greater than 10 tons per year of particulate matter to the atmosphere at the time of adoption of these rules shall, with the prior written approval of the Department, be equipped with a control system with collection efficiency of at least 98.5 percent.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ -1978. f. & ef. 4-7-78

Charcoal Producing Plants

340-30-040 (1) No person shall cause or permit the emission of particulate matter from charcoal producing plant sources including, but not limited to, charcoal furnaces, heat recovery boilers, and wood dryers using any portion of the charcoal furnace off-gases as a heat source, in excess of a total from all sources within the plant site of 10.0 pounds per ton of char{coal} produced (5.0 grams per Kilogram of char{coal} produced).

- (2) Emissions from char storage, briquette making, boilers not using charcoal furnace off-gases, and fugitive sources are excluded in determining compliance with section (1).
- (3) Charcoal producing plants as described in section (1) of this rule shall be exempt from the limitations of 340-21-030(1) and (2) and 340-21-040 which concern particulate emission concentrations and process weight.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 4-1978, f. & ef. 4-7-78; DEQ 14-1986, f. & ef. 6-20-86

- (d) Routine follow-up evaluation upsets to identify the cause of the problem and changes needed to prevent a recurrence;
 - (e) Periodic source testing of pollution control units as required by air contaminant discharge permits;
 - (f) Inspection of internal wear points of pollution control equipment during scheduled shutdowns; and
 - (g) Inventory of key spare parts.
- { (4) ~~The operation and maintenance plan shall be prepared and implemented in accordance with the schedule outlined in GAR 340-30-045.~~}

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 6-1983, f. & ef. 4-18-83

Compliance Schedules

340-30-045 ~~{Sources affected by these rules shall comply with each increment of progress as soon as practicable but in no case later than the dates listed in Table I.}~~

Stat. Auth. ORS Ch. 468

Hist. DEQ 4-1978 f. & ef. 4-7-78; DEQ 27-1980 f. & ef. 10-29-80; DEQ 14-1981, f. & ef. 5-6-81; DEQ 6-1983, f. & ef. 4-18-83

Emission-Limits Compliance Schedules

340-30-046 (1) Compliance with the emission limits for wood-waste boilers in the Grants Pass area and veneer dryers established in sections OAR 340-30-015(1) and (2) and OAR 340-30-021 shall be provided according to the following schedules:

- (a) Within three months of the effective date of these rules, submit Design Criteria for emission control systems for Department review and approval;
 - (b) Within three months of receiving the Department's approval of the Design Criteria, submit a General Arrangement and copies of purchase orders for the emission-control devices;
 - (c) Within two months of placing purchase orders for emission-control devices, submit vendor drawings as approved for construction of the emission-control devices and specifications of other major equipment in the emission-control system (such as fans, scrubber-medium recirculation and make up systems) in sufficient detail to demonstrate that the requirements of the Design Criteria will be satisfied;
 - (d) Within one year of receiving the Department's approval of Design Criteria, complete construction;
 - (e) Within fifteen months of receiving the Department's approval of Design Criteria, demonstrate compliance.
- (2) Compliance with the emission limits for wood-waste boilers in section 340-30-015(3) shall be provided according to OAR 340-30-067 or the following schedule, whichever occurs first:
- (a) By no later than September 1, 1993, submit Design Criteria for emission control systems for Department review and approval;
 - (b) Within three months of receiving the Department's approval of the Design Criteria, submit a General Arrangement and copies of purchase orders for the emission-control devices;
 - (c) Within two months of placing purchase orders for emission-control devices, submit vendor drawings as approved for construction of the emission-control devices and specifications of other major equipment in the emission-control system (such as fans, scrubber-medium recirculation and make up systems) in sufficient detail to demonstrate that the requirements of the Design Criteria will be satisfied;
 - (d) Within one year of receiving the Department's approval of Design Criteria, complete construction;
 - (e) Within fifteen months of receiving the Department's approval of Design Criteria, demonstrate compliance.

Source Testing

340-30-055 (1) The person responsible for the following sources of particulate emissions shall make or have made tests to determine the type, quantity, quality, and duration of emissions, and/or process parameters affecting emissions, in conformance with test methods on file with the Department at the following frequencies: ~~{Source-Test-Frequencies:}~~

- (a) Wood Waste Boilers with heat input greater than 35 million Btu/hr. -- Once every year;
 - (b) Veneer Dryers -- Once every year ~~{until-January-1,-1983}~~, during 1991, 1992, and 1993 and once every 3 years thereafter;
 - (c) Wood Particle Dryers at Hardboard and Particleboard Plants -- Once every year;
 - (d) Charcoal Producing Plants -- Once every year.
- (2) Source testing shall begin at these frequencies within 90 days of the date by which compliance is to be achieved for each individual emission source.
 - (3) These source testing requirements shall remain in effect unless waived in writing by the Department because of adequate demonstration that the source is consistently operating at lowest practicable levels, or that continuous emission monitoring systems are producing equivalent information.
 - (4) Source tests on wood waste boilers shall not be performed during periods of soot blowing, grate cleaning, or other abnormal operating conditions ~~{which-may-result-in-temporary-excursions from-normal}~~. The steam production rate during the source test shall be considered the maximum permittee's steaming rate for the boiler.
 - (5) Source tests shall be performed within 90 days of the startup of air pollution control systems.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 4-1978, f. & ef. 4-7-78; DEQ 14-1986, f. & ef. 6-20-86

New Sources

340-30-065 New sources shall be required to comply with rules 340-30-015(3) and 340-30-020 through 340-30-~~{040}~~ 111 immediately upon initiation of operation.

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 4-1978, f. & ef. 4-7-78

Rebuilt Sources

340-30-067 Rebuilt sources shall immediately comply with the requirements of 340-30-015(3) except that in the Grants Pass Urban Growth Area this provision will apply to sources that are rebuilt after they have complied with 340-30-015(1).

Appendix 8: Woodburning PM₁₀ Control Programs/Ordinances

20 1990

ORDINANCE NO. 2552

AN ORDINANCE ADDING A NEW CHAPTER 15.06 TO THE ASHLAND MUNICIPAL CODE, BANNING THE INSTALLATION IN ASHLAND OF NON-CERTIFIED SOLID FUEL BURNING DEVICES IN ORDER TO HELP IMPROVE THE ROGUE VALLEY'S AIR QUALITY.

THE PEOPLE OF THE CITY OF ASHLAND DO ORDAIN AS FOLLOWS:

SECTION 1. A new Chapter 15.06 shall be added to the Ashland Municipal Code which shall read as follows:

"Chapter 15.06

SOLID FUEL BURNING DEVICE REGULATIONS

Sections:

- 15.06.010 Definitions.
- 15.06.020 Installation Requirements.
- 15.06.030 Enforcement and Penalties.

Section 15.06.010 Definitions. As used in this Chapter, the following words shall have the meanings indicated:

A. "Solid fuel burning device" means a device designed for solid fuel combustion so that usable heat is derived for the interior of a building, and includes, without limitation, solid fuel burning stoves, fireplace inserts, woodstoves of any nature, or pellet stoves used for space heating which can burn solid fuel. Unmodified fireplaces and solid fuel burning devices not subject to DEQ certification are excluded from this definition.

B. "Certified stove" means a solid fuel burning device certified by DEQ as meeting the 1988 particulate emission standards for certified woodstoves specified in Oregon Administrative Rules 340-21-115.

Section 15.06.020 Installation Requirements. It shall be unlawful to install any solid fuel burning device which is not a "certified stove" as defined in this Chapter.

Section 15.06.030 Enforcement and Penalties. Any person, firm or corporation, whether as a principal, agent, employee or otherwise, violating or causing the violation of any of the provisions of this ordinance has committed an infraction, and upon conviction thereof, is punishable as prescribed in Section 1.08.020 of the Ashland Municipal Code. Such person, firm or corporation is guilty of a separate violation for each and every day during which any violation of this Title is committed or continued by such person, firm or corporation."

D.W.

ASHLAND
JAN 19 1990

ORDINANCE NO. 2555

AIR QUALITY CONTROL

AN ORDINANCE TO HELP IMPROVE THE ROGUE VALLEY AIR QUALITY
BY REGULATING WHAT CAN BE BURNED IN WOODSTOVES AND
THE SALE OF SEASONED WOOD IN ASHLAND.

THE PEOPLE OF ASHLAND DO ORDAIN AS FOLLOWS:

SECTION 1. DEFINITIONS

As used in this chapter:

"Solid fuel burning device" means a device designed for solid fuel combustion so that useable heat is derived for the interior of a building, and includes, without limitation, solid fuel burning stoves, fireplaces, fireplace inserts, woodstoves of any nature, combination fuel furnace or boilers used for space heating which can burn solid fuel, or pellet stoves.

SECTION 2. SOLID FUEL BURNING DEVICE OPERATION

It shall be unlawful for a person to cause or allow any of the following materials to be burned in a solid fuel burning device:

- (1) Garbage;
- (2) Treated Wood;
- (3) Plastic Products;
- (4) Rubber Products;
- (5) Animals;
- (6) Asphaltic Products;
- (7) Waste Petroleum Products;
- (8) Paints; or
- (9) Any substance, other than properly seasoned fuel wood.

SECTION 3. SEASONED WOOD

It shall be unlawful to sell, advertise or deliver wood as 'seasoned or dry wood' unless the wood has a moisture content of 20% or less.

Staff Draft
November 23, 1989

Save
Our
Livability
View and
Environment

AIR QUALITY CONTROL

INTRODUCTION

The SOLVE (Save Our Livability, View and Environment) Program is designed to enhance the air quality of Ashland and the Rogue Valley. It will achieve this goal by using an incentive based program to remove existing woodstoves and fireplace inserts.

GOAL

The overall goal of the SOLVE Program is to remove 400 existing solid fuel burning devices over the next eight years.

BACKGROUND

1980 Census Data indicates that about 800 Ashland households used wood for their primary source of heat. While there exists no newer data, this number is probably still relatively accurate. By insulating these homes and replacing those existing woodstoves with efficient heating systems, we can make a significant impact on the amount of particulates introduced into the air shed by these households. Dr. Robert Palzer, of SOSOC, has estimated that these 800 households release about 84 tons of particulates into the air shed annually.

The SOLVE Program, by making it economically attractive for these households to remove these old woodstoves, should be able to retire half of these stoves in the next eight years.

THE PROGRAM

The program proposed is a three pronged attack to influence people to remove woodstoves. It will utilize a woodstove removal rebate, a zero interest loan payable upon change of ownership for low and moderate income customers, and a low interest loan from Valley of the Rogue Bank or C.P. National for other customers. These loans can be used for weatherization and new heating system costs. In order to take part in the City program, each participant installing a new heating system will be required to:

- 1) Have a permanently installed solid fuel burning device in his/her home prior to January 1, 1990.
- 2) Agree to surrender that device to the City upon completion of his/her participation in the program.

NEW HEATING SYSTEM INSTALL	LOW INCOME	SOURCE OF FUNDS	MODERATE INCOME	SOURCE OF FUNDS	REGULAR INCOME	SOURCE OF FUNDS
(Rebate) Removal Only	\$100	City	\$100	City	\$100	City
Gas Furnace Installed	0% loan for 100% of costs up to \$4,000	City Housing Rehab Funds	0% loan for 80% of costs up to \$3,000	City Housing Rehab Funds	6.5% loan	C.P. National
Electric heat Installed	0% loan for 100% of costs up to \$4,000	City Housing Rehab Funds	0% loan for 80% of costs up to \$3,000	City Housing Rehab Funds	6.5% loan for 2 years up to \$2,000	Valley of the Rogue Bank + \$250 City funds to buy down interest rate
Certified Woodstove Installed	0% loan for 100% of costs up to \$4,000	City Housing Rehab Funds	0% loan for 80% of costs up to \$3,000	City Housing Rehab Funds	6.5% loan for 2 years up to \$2,000	Valley of the Rogue Bank + \$250 City funds to buy down interest rate

INCOME CATEGORIES

The following income levels will be used to determine which program option the customer will fall into:

<u>NUMBER OF INDIVIDUALS/HOUSEHOLD</u>	<u>MAXIMUM INCOME FOR LOW-INCOME</u>	<u>MAXIMUM INCOME FOR MODERATE-INCOME</u>
1	\$ 7,475	\$22,275
2	\$10,025	\$25,465
3	\$12,575	\$28,655
4	\$15,125	\$31,845
5	\$17,675	\$33,825
6	\$20,225	\$35,805
7	\$22,775	\$37,840
8	\$25,325	\$39,820

BENEFITS TO THE AIR SHED

The 800 or so woodstoves in Ashland contribute 84 tons of particulates to the air shed annually. If 100 of these stoves are converted to certified stoves and another 300 are removed, the 500 remaining stoves would contribute 44 tons of particulates annually. This results in a reduction of about 48% over current levels.

OTHER BENEFITS

The prospect of removing old woodstoves could accrue other benefits to the City. Unsafe installations could be rectified and thus potential fire hazard could be avoided. Also, the City could help residents by sizing their heating systems to correspond with their heating load. This results in more efficient operation and a longer life for the heating system. In addition, one-on-one contact established would also educate customers on the air quality problem and woodstove operation in general.

SUMMARY

The goal of this program is to remove 400, or about half of the existing non-certified woodstoves in Ashland over the next eight years. While we have gathered as much data as possible about other programs of this nature, it might turn out that the proposed incentive will not be adequate to motivate 50 stove owners per year to take part in SOLVE. On the other hand, it could be very successful and actually generate a waiting list of potential customers. However, it will be impossible to know the answers to these questions without actual implementation experience.

Funding the program for one year as a pilot would probably give enough data to decide if funding for a longer time period is merited.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JAN 02 1990

ORDINANCE NO. 1629

AN ORDINANCE REGULATING WOODSTOVES AND OTHER SOLID FUEL BURNING DEVICES FOR THE PURPOSE OF REDUCING HEALTH HAZARDS
AIR QUALITY CONTROL

WHEREAS, the health, safety and welfare of the citizens of Central Point are adversely affected by the degradation of the air quality, and

WHEREAS, wood combustion and the use of other solid fuels for space heating produces particulate matter which is physically harmful, aesthetically unpleasant, and contributes to the degradation of the air quality, now, therefore,

THE PEOPLE OF THE CITY OF CENTRAL POINT DO ORDAIN AS FOLLOWS:

Section 1. There is hereby added to the Municipal Code of the City of Central Point Chapter 8.01, which is to read as follows:

Chapter 8.01

WOODSTOVES AND SOLID FUEL BURNING DEVICES

8.01.010 Definitions. For purposes of this chapter, the following definitions shall apply:

- (1) "Alternative heat source" means a heat source other than a solid fuel burning device.
- (2) "High pollution period" means a period of time commencing three hours after designation as a red or yellow day by the Oregon Department of Environmental Quality (hereinafter referred to as DEQ) or any other agency or authority approved by the City of Central Point. In the event that consecutive days are designated as red or yellow, they shall be considered a part of a single period.
- (3) "Medford-Ashland Air Quality Maintenance Area" means that part of the county specifically identified by DEQ as an air quality maintenance area that is one of several areas in the State wherein air quality has deteriorated due to unhealthful

issued by the City granting the exemption. Exemptions granted under this section shall expire on September 1 of each year:

(1) Economic Need: An exemption for an economic need to burn solid fuel for residential space heating purposes may be issued to heads of households who can show that they meet the eligibility requirements for energy assistance under the Low-income Energy Assistance Program (hereinafter referred to as L.E.A.P.), as administered by ACCESS, Inc. and as established by the United States Department of Energy.

(2) Sole Source: An exemption may be issued to the heads of households who sign a sworn statement declaring their reliance on a solid fuel burning device as the sole source of heat for their residence. Sole source exemptions shall not be issued after August 31, 1992 unless the residence is approved for installation of an alternative heating source through the Jackson County Wood Smoke Abatement CLEAR program guidelines.

(3) Oregon Certified Stoves: An exemption may be issued to the heads of households for the operation of an Oregon Certified Stove in a residence on a day declared to be a yellow day by the DEQ. The operation of an Oregon certified stove shall be prohibited on a day declared to be a red day by the DEQ or approved agency unless some other exemption applies and has been granted.

8.01.040 Penalty and Abatement. Any person or persons violating any of the provisions of this chapter shall upon conviction be punished in accordance with the general penalty ordinance of the City and shall be subject to appropriate legal proceedings to enjoin or abate any violation or noncompliance.

8.01.050 Administrative Regulations. The City Administrator may prescribe administrative regulations governing the procedure for granting exemptions.

Section 2. This ordinance being necessary for the immediate preservation of the public peace, health, and safety of the City, based upon the fact that extreme air stagnation conditions have resulted in health advisories and immediate reduction of woodsmoke is necessary and desirable to reduce health hazard to the citizens of the City of Central Point, an emergency is hereby declared to exist and this ordinance shall be in full force and effect immediately upon its passage.

Passed by the Council and signed by me in authentication of its passage
this 21st day of December, 1989



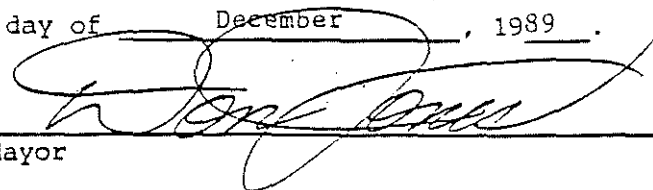
Mayor

ATTEST:



Designated City Officer

APPROVED by me this 21st day of December, 1989



Mayor

ORDINANCE NO. 6484

AN ORDINANCE amending Chapter 7 of the Code of Medford by adding new sections 7.220 through 7.228 pertaining to woodburning restrictions.

WHEREAS, the health, safety, and welfare of the citizens of Medford are adversely affected by the degradation of the air quality; and

WHEREAS, wood combustion for space heating produces particulate matter which is physically harmful, aesthetically unpleasant, and contributes to the degradation of the air quality; now, therefore,

THE CITY OF MEDFORD ORDAINS AS FOLLOWS:

Section 1. Chapter 7 of the Code of Medford is amended by adding new sections 7.220 through 7.228 pertaining to woodburning restrictions to read as follows:

"7.220 Definitions.

For purposes of Sections 7.220 through 7.228, the following definitions shall apply:

(1) "Alternative heat source" means a heat source other than a solid fuel burning device.

(2) "High pollution period" means a period of time commencing three hours after designation as a red or yellow day by the Oregon Department of Environmental Quality (hereinafter referred to as DEQ). In the event that DEQ designates consecutive days as red or yellow, they shall all be considered a part of the same period.

(3) "Medford-Ashland Air Quality Maintenance Area" means that part of the County specifically identified by DEQ as an air quality maintenance area, that is one of several areas in the State wherein air quality has deteriorated due to unhealthful levels of pollutants in the air. A map and written description of the Medford-Ashland Air Quality Maintenance Area

(2) After two years from the effective date of this Section, no property owner shall rent or lease a residential unit unless such unit is equipped with an alternative heat source complying with ORS 91.770. If the landlord violates this subsection (2), the tenant shall not be charged with any violation of subsection (1).

7.224 Exemptions.

It is permissible for a household to operate a solid fuel burning device during a high pollution period when the head of that household has previously obtained one of the following exemptions and possesses a certificate issued by the City granting the exemption. Exemptions granted under this section shall expire on September 1 of each year:

(1) Economic Need: An exemption for an economic need to burn solid fuel for residential space heating purposes may be issued to heads of households who can show their eligibility for energy assistance under the Low-Income Energy Assistance Program (hereinafter referred to as L.E.A.P.), as administered by ACCESS, Inc. and as established by the United States Department of Energy.

(2) Sole Source: An exemption may be issued to the heads of households who sign a sworn statement declaring their reliance on a solid fuel burning device as the sole source of heat for their residence. Sole source exemptions shall not be issued after two years from the effective date of this Section unless the residence is approved for installation of an alternative heating source through the Jackson County Wood Smoke Abatement CLEAR program guidelines.

(3) Oregon Certified Stoves: An exemption may be issued to the heads of households for the operation of an Oregon Certified Stove in a residence on a day declared to be a yellow day by the DEQ. The operation of an Oregon certified stove shall be prohibited on a day declared to be a red day by the DEQ unless some other exemption applies and has been granted.

7.226 Abatement; Legal Proceedings.

EXHIBIT A

JACKSON COUNTY, OREGON

MEDFORD-ASHLAND AIR QUALITY MAINTENANCE AREA

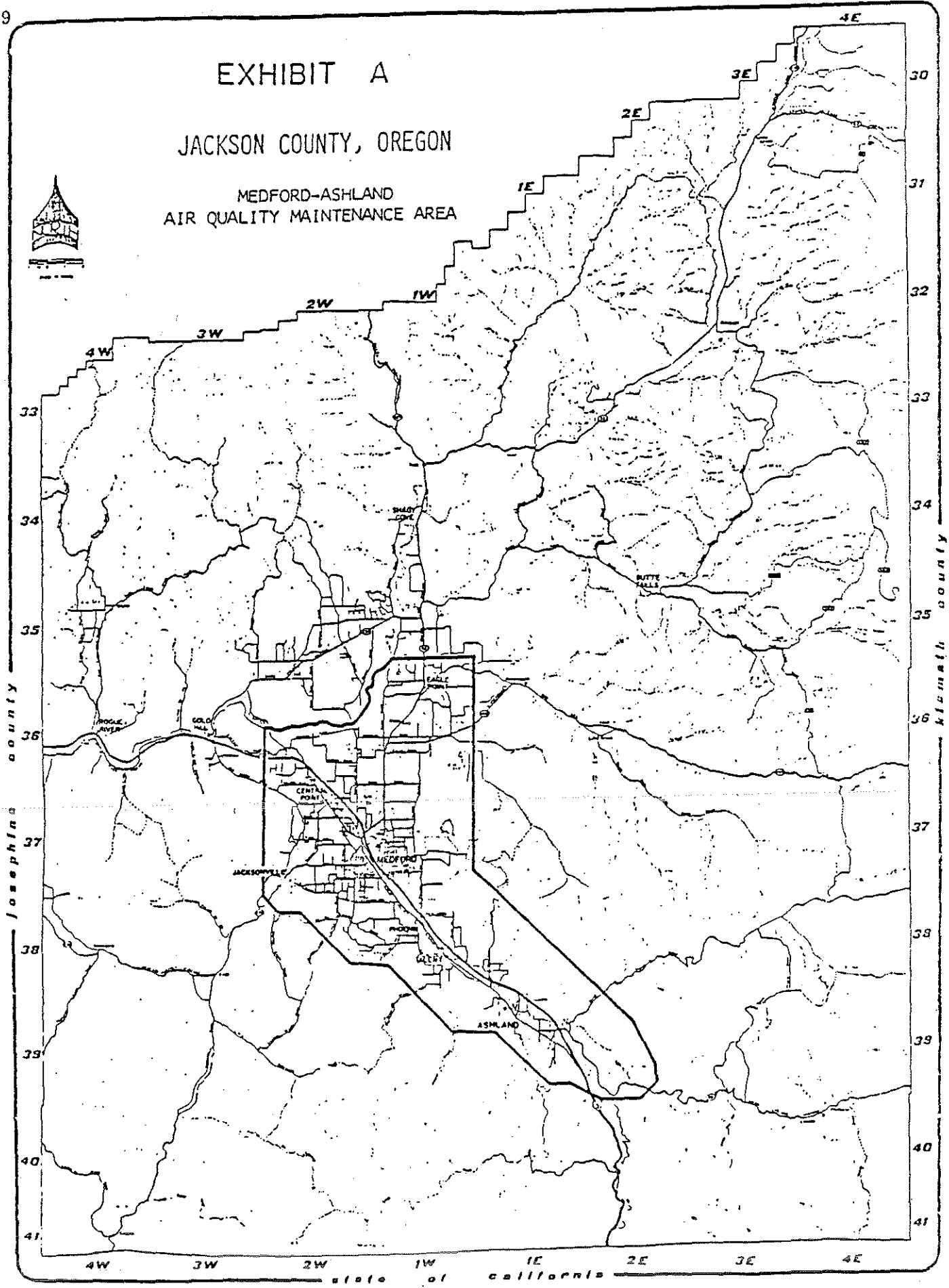


EXHIBIT B

BOUNDARY DESCRIPTION

MEDFORD-ASHLAND AIR QUALITY MAINTENANCE AREA

The Medford-Ashland Air Quality Maintenance Area is defined as beginning at a point approximately one mile NE of the town of Eagle Point, Jackson County, Oregon, at the NE corner of Section 36, T35S, R1W; thence south along the Willamette Meridian to the SE corner of Section 25, T37S, R1W; thence SE along a line to the SE corner of Section 9, T39S, R2E; thence SSE to the SE corner of Section 22, T39S, R2E; thence south to the SE corner of Section 27, T39S, R2E; thence SW to the SE corner of Section 33, T39S, R2E; thence west to the SW corner of Section 31, T39S, R2E; thence NW to the NW corner of Section 36, T39S, R1E; thence west to the SW corner of Section 26, T39S, R1E; thence NW along a line to the SE corner of Section 7, T39S, R1E; thence west to the SW corner of Section 12, T39S, R1W; thence NW along a line to the SW corner of Section 20, T38S, R1W; thence west to the SW corner of Section 24, T38S, R2W; thence NW along a line to the SW corner of Section 4, T38S, R2W; thence west to the SW corner of Section 5, T38S, R2W; thence NW along a line to the SW corner of Section 31, T37S, R2W; thence north along a line to the Rogue River, thence north and east along the Rogue River to the north boundary of Section 32, T35S, R1W; thence east along a line to the point of beginning.

BEFORE THE BOARD OF COMMISSIONERS OF JACKSON COUNTY OF THE STATE OF OREGON

IN THE MATTER OF AMENDING CHAPTER 1810 OF)
THE CODIFIED ORDINANCES OF JACKSON COUNTY)
TO PROVIDE FOR THE ENACTMENT OF A RESTRIC-)
TION ON WOODBURNING ON HIGH POLLUTION DAYS)

ORDINANCE No. 90-4

WHEREAS, the health, safety, and welfare of the citizens of Jackson County are adversely affected by the degradation of the air quality within the Medford-Ashland Air Quality Maintenance Area; and

WHEREAS, wood combustion for space heating produces particulate matter which is physically harmful, aesthetically unpleasant, and contributes to the degradation of the air quality;

NOW THEREFORE, the Jackson County Board of Commissioners hereby ordains as follows:

Section 1.

Ordinance No. 86-5, entitled "The Codified Ordinances of Jackson County, 1985," is amended by amending Section 1810.01, adding Section 1810.04, and amending Section 1810.05, providing for the enactment of a restriction on emissions from solid fuel burning devices. The sections amended and added shall read as follows:

SECTION 1810.01. DEFINITIONS

As used in this chapter:

- (a) "Agricultural operation" means an activity on land currently used or intended to be used primarily for the purpose of obtaining a profit by raising, harvesting, and selling crops or by raising and sale of livestock or poultry, or the produce thereof, which activity is necessary to serve that purpose.
- (b) "Agricultural waste" means any material actually generated or used by an agricultural operation but excluding those materials described in Section 1810.07(d) of this Chapter.
- (c) "Board" means the Board of County Commissioners.
- (d) "Critical PM₁₀ Control Area" means that part of the County specifically identified by the Board as the Critical PM₁₀ Control Area. A map and written description of the Critical PM₁₀ Control Area are included as Exhibits "A" and "B" respectively, following the text of this Chapter.

stoves, fireplaces, or woodstoves of any nature, combination fuel furnaces or boilers used for space heating which can burn solid fuel, or solid fuel burning cooking stoves. Solid fuel burning devices do not include barbecue devices, natural gas-fired artificial fireplace logs, DEQ approved pellet stoves, or Kachelofens.

- (p) "Space Heating" means raising the interior temperature of a room.
- (q) "Trackout" means the deposit of mud, dirt, and other debris on paved public roadways by motor vehicles. "Trackout" also means the material being so tracked onto public roadways. Trackout can become pulverized and blown into the air by vehicular traffic where it becomes a part of the total suspended particulate level.
- (r) "Ventilation Index" means the National Weather Service's indicator of the relative degree of air circulation for a specified area and time period.
- (s) "Waste" means discarded or excess material, including:
 - (1) Agricultural waste resulting from farming or agricultural practices and operations; and
 - (2) Nonagricultural waste resulting from practices and operations, other than farm operations, including industrial, commercial, construction, demolition, and domestic wastes and yard debris.
- (t) "Yellow day" means a 24 hour period beginning at 7:00 a.m. when the PM_{10} levels are forecast by the DEQ or the Jackson County Department of Health and Human Services to be 91 ug/m^3 and above but less than 130 ug/m^3 .

SECTION 1810.04 SOLID FUEL BURNING DEVICE EMISSION STANDARD

- (a) Within the Critical PM_{10} Control Area, no person owning or operating a solid fuel burning device shall at any time cause, allow, or discharge emissions from such device which are of an opacity greater than fifty (50) percent.
- (b) The provisions of this subsection shall not apply to emissions during the starting or refueling of a new fire for a period not to exceed 30 minutes in any four-hour period.
- (c) For the purposes of this section opacity percentages shall be determined by a certified observer using the standard visual method listed in 40 CFR 60A, Method 9, or operation of equipment approved by the Jackson County Department of Health and Human Services that is known to produce equivalent or better accuracy.

ance on a solid fuel burning device as the sole source of heat for their residence. Sole source exemptions shall not be issued after two years from the effective date of this ordinance, unless the residence is approved for installation of an alternative heating source through the Jackson County Wood Smoke Abatement CLEAR program guidelines or in the absence of the CLEAR program when, the head of the household can show that the family income is less than 80% of the median income level for the Medford metropolitan area as established by the Federal Department of Housing and Urban Development (HUD). Households that qualify for an exemption based on economic need, as defined in this Chapter, may continue to rely on a solid fuel burning device as the sole source of heat for the residence beyond two years from the effective date of this ordinance.

- (3) Special Need: Upon a showing of special need, as further defined by administrative rule, a temporary exemption may be granted authorizing the burning of a solid fuel burning device notwithstanding Section 1810.05 (a)(1) and (2) of this Ordinance. "Special need" shall include, but not be limited to occasions when a furnace or central heating system is inoperable other than through the owner or operator's own actions or neglect.

(c) Administrative Rules

The County Administrator shall develop administrative rules setting out the requirements necessary to qualify for the exemptions described herein and specifying the manner in which the ordinance will be enforced.

Dated this Two day of May, 1990.

APPROVED AS TO FORM:

JACKSON COUNTY BOARD OF COMMISSIONERS

Arminda Brown
County Counsel

Sue Kupiāas
Sue Kupiāas, Chair

ATTEST:

Katharine F. Bates
Recording Secretary

PROPOSED CURTAILMENT BOUNDARY - JACKSON COUNTY

Beginning on I-5 and Tolo Road, crossover north on Tolo Road to Old Hwy 99. East on Old Hwy 99 to Kirtland Road. Northeasterly on Kirtland Road to Tablerock Road. North on Tablerock Road to the Rogue River. Northeasterly along the southern bank of the Rogue River to the mouth of Little Butte Creek. Northeasterly along Little Butte Creek to Antelope Creek. Southeasterly along Antelope Creek to Dry Creek. Southeasterly on Dry Creek to Hwy 140. Southwesterly on Hwy 140 to Kershaw Road. South on Kershaw Road to Corey Road. West on Corey Road to Foothill Road. South on Foothill Road to Medford Urban Growth Boundary (UGB) (near Delta Waters Road). Follow eastern UGB south to North Phoenix Road. South on North Phoenix Road to Phoenix UGB. Follow eastern UGB south to I-5. Southeasterly on I-5 to Talent UGB. Follow the eastern southern and western UGB until intersection with Southern Pacific Railroad track. Southern Pacific Railroad track north to Hartley Lane. West on Hartley Lane to Talent-Phoenix Road. North on Talent-Phoenix Road to Phoenix UGB. West along southern boundary of Phoenix UGB to Camp Baker Road. West on Camp Baker Road to Coleman Creek Road. North on Coleman Creek Road to Carpenter Hill Road. West on Carpenter Hill Road to Pioneer Road. Northwest on Pioneer Road to Griffin Creek Road. North on Griffin Creek Road to Medford UGB. North along Medford UGB to South Stage Road. West on South Stage Road to Arnold Lane. North on Arnold Lane to Jacksonville Hwy. West on Jacksonville Hwy to Hanley Road. Northeast on Hanley Road to Ross Lane. West on Ross Lane to Redwood Drive. South on Redwood Drive to LaPine Avenue. West on LaPine Avenue to Old Stage Road. North on Old Stage Road to Old Military Road. North on Old Military Road to Old Stage Road. Northwest on Old Stage Road to Scenic Avenue. Northwest on Scenic Avenue to Tolo Road. North on Tolo Road to Willow Springs Road. East on Willow Springs Road to Ventura Lane. North on Ventura Lane to I-5. Northwest on I-5 to crossover of Tolo Road.

BOUNDARY DESCRIPTION

MEDFORD-ASHLAND AIR QUALITY MAINTENANCE AREA

The Medford-Ashland Air Quality Maintenance Area is defined as beginning at a point approximately one mile NE of the town of Eagle Point, Jackson County, Oregon, at the NE corner of Section 36, T35S, R1W; thence south along the Willamette Meridian to the SE corner of Section 25, T37S, R1W; thence SE along a line to the SE corner of Section 9, T39S, R2E; thence SSE to the SE corner of Section 22, T39S, R2E; thence south to the SE corner of Section 27, T39S, R2E; thence SW to the SE corner of Section 33, T39S, R2E; thence west to the SW corner of Section 31, T39S, R2E; thence NW to the NW corner of Section 36, T39S, R1E; thence west to the SW corner of Section 26, T39S, R1E; thence NW along a line to the SE corner of Section 7, T39S, R1E; thence west to the SW corner of Section 12, T39S, R1W; thence NW along a line to the SW corner of Section 20, T38S, R1W; thence west to the SW corner of Section 24, T38S, R2W; thence NW along a line to the SW corner of Section 4, T38S, R2W; thence west to the SW corner of Section 5, T38S, R2W; thence NW along a line to the SW corner of Section 31, T37S, R2W; thence north along a line to the Rogue River, thence north and east along the Rogue River to the north boundary of Section 32, T35S, R1W; thence east along a line to the point of beginning.

Appendix 9: Fugitive Dust Control Programs/Ordinances

CITY OF MEDFORD

INTER-OFFICE MEMORANDUM

RECEIVED
DEC 15 1982
PLANNING DEPARTMENT

To: Planning Director via Public Works Director

From: City Engineer

Subject: Particulate Reduction

Date: December 14, 1982

I. Improvement of Granite Streets

This year's (FY 82-83) City budget contains \$200,000 of HUD Community Development Block Grant money that is earmarked for assistance on local improvement projects within the low/moderate income areas of the City. City Council approved the City Engineer's proposal that this money be directed toward residential streets with a granite type of riding surface. The City will provide 50% of the estimated costs of improving these streets; therefore, we effectively will have \$400,000 worth of project money to upgrade these streets.

It is anticipated that the above funding level can cause improvement of approximately 5,700 linear feet of roadway. This type of street surfacing program should significantly improve air quality in Medford via the particle reduction avenue.

II. Paving Arterial Street Shoulders

The City currently has three different programs aimed at our arterial street needs. All three are at different levels of funding and different degrees of certainty. A brief description of each follows:

- A. Bond Issue: The City has gone on record for presenting a bond issue question to the public in the March 1983 elections. The bond amount of \$9.4 million would allow for improving approximately 20,000 linear feet of roadway. Of this amount, about 1/5 presently has curb and gutter type of construction, so this program would eliminate approximately 33,000 linear feet of unpaved shoulder area.
- B. Revenue Sharing: The City Manager has directed that \$850,000 of Federal Revenue Sharing money should be budgeted in the FY 82/83 budget for the improvement of certain segments of the identified arterial streets needed in "A" above. This is a safety valve move that would allow the program to go forward even if the bond measure was not approved. The funding level available in this program would allow for 2,500 linear feet of improved shoulder to be paved.
- C. HUD Block Grant

It has been proposed by my office that FY 83-84 HUD funding be directed into a major street project servicing the low/moderate income areas. If this pro-



PUBLIC WORKS DEPARTMENT

CITY OF MEDFORD
MEDFORD, OREGON 97501

TELEPHONE: 775-7485

January 17, 1983

Merlyn Hough
DEQ-Air Quality Division
P. O. Box 1760
Portland, Oregon 97207

JAN 20 1983

AIR QUALITY CONTROL

Subject: Particulate Strategies: Winter Sanding/Cleanup Program

Dear Mr. Hough:

This letter is in addition to the December 17, 1982, documents from the City of Medford regarding program commitments to reduce particulate emissions. This letter describes the Medford winter street sanding and cleanup program.

1. Material. Pea gravel will continue to be used as the sanding material. This material minimizes the amount of fines available for resuspension.
2. Locations. Subject to public safety requirements, a minimal amount of sanding material is normally used. Winter sanding will generally be limited to the necessary curves, intersections and overpasses.
3. Cleanup. Sanding material will be picked up using the regular street sweeping equipment as described in the Sweeping Report. Sanding material will be cleaned up as soon as possible, normally within two days following the icing episode. The prompt cleanup of sanding materials reduces the material resuspension time period.
4. Records. Cubic yards of pea gravel and man-hours spent on winter sanding are included in reports each December and June. This information can be obtained from the Medford Public Works Department by July 1 for the preceding fiscal year.

The City of Medford winter sanding and cleanup program is designed to provide safe driving conditions and also minimize road dust emissions. Please call me if you need additional information on this program.

Sincerely yours,

Lewis N. Powell, P.E.
Public Works Director

CC: Mayor and Council
(via City Manager)
City Manager
Public Works Superintendent
Planning Director

ahf

Appendix 10: Open Burning PM₁₀ Control Programs/Ordinances

exceptions of fires allowed under Subsections A and F, the fire should not be allowed unless it is determined by the Fire Chief, or his/her representative, to be the only feasible way to dispose of the debris.

A. Burning of a structure or other use of fire for training purposes by the Fire Department;

B. Field burning in agricultural areas;

C. Fire hazard reduction burning;

D. Slash and other forest service burning in the interface and forested areas covered under the Smoke Management Plan;

E. Certain other fires when, because of topography, there is no other feasible way to remove debris; and

F. Any burning which has written approval of DEQ.

10.30.050 Special Exemptions--Disease Control. The following types of outdoor fires may be allowed by the Fire Chief, or his/her representative, on any day of the year:

A. Fires to control agricultural diseases, such as blight, that must be destroyed immediately by fire to prevent the spread of disease.

B. Burning bee hives and bee-keeping paraphernalia to eradicate the spread of disease.

10.30.060 Special Exemptions--Religious Fires.

A. Religious fires shall be allowed by the Fire Chief, or his/her representative, on any day of the year, provided that all safety precautions required by the Fire Chief have been complied with.

B. During periods which the Fire Chief, or his/her representative, has declared an extreme fire danger, religious fires shall also require six hours advance notification to the Fire Chief or his/her representative.

10.30.070 Permits Required. A permit issued by the Fire Chief, or his/her representative, shall be required for all burning, including the exempted fires of Sections 10.30.040, 10.30.050 and 10.30.060.

A. Upon receipt of a request for a permit and application fee for any fire, except a religious fire, the Fire Chief, or his/her representative, shall undertake whatever investigation he/she deems necessary. Based on this investigation, the Fire Chief or his/her representative may approve the permit. The Fire Chief, or his/her representative, shall approve fires only when it is determined such fires do not constitute a hazard and that steps have been taken to assure reasonable public safety. Such fires shall conform with Article 11 of the Uniform Fire Code. Fires which are approved by permit shall be maintained during daylight hours and by a competent adult person, and shall be extinguished prior to darkness unless continued burning is specifically authorized by the Fire Chief or his/her representative. In addition, the Fire Chief, or his/her representative, may deny a permit for fires allowed under Section

ORDINANCE NO. 1624

SEAL OF CITY OF CENTRAL POINT
DEPARTMENT OF ENGINEERING & PUBLIC UTILITIES
RECEIVED
FEB 20 1990
QUALITY CONTROL

AN ORDINANCE ADOPTING REGULATIONS AND A PERMIT
PROCESS FOR OUTSIDE BURNING

THE PEOPLE OF THE CITY OF CENTRAL POINT DO ORDAIN AS
FOLLOWS:

Section 1. There is hereby added to the Municipal Code of
the City of Central Point Chapter 8.02, which is to read as
follows:

Chapter 8.02

OUTSIDE BURNING

8.02.010 Outside Burning - Conditions.

A. No person shall start or maintain any fire outside of a
building (except for an outdoor cooking fire and agricultural
heating devices) for the purpose of burning any combustible
material, or cause or participate therein, nor shall any person
in control of any premises cause or knowingly allow any such fire
to be started or maintained on any part of said premises unless:

- (1) A written permit has been issued by the City Fire
Chief or designee to maintain such fire at that location; and
- (2) The fire is started and maintained in accordance
with the terms of the permit and the following requirements of
this chapter.

8.02.020 Restriction on Permits.

A. No permit shall be issued under any circumstances for
outside burning during December or January.

B. No permit shall be issued where burning would constitute
a violation of Oregon Administrative Rules governing open burning
in the Rogue Basin Open Burning Control Burning Area.

C. No permits shall be issued for burn barrels, trash
incinerators or other similar devices, and the use thereof is
prohibited within the City.

D. The Fire Chief or designee shall not approve outside
burning on any day in which it is determined that low humidity,
high winds, drought, or other weather or unusual conditions exist
which make outside burning generally, or at the particular time
and place proposed, unreasonably hazardous to the safety of
persons or property. In no event shall the Fire Chief or
designee approve outside burning on a day when one or more of the
following conditions exist, or in the Fire Chief or designee's

8.02.060 Penalty. Burning without a permit as prescribed by this chapter, or in violation of the terms of any permit, or any other act in violation of this chapter shall be a violation of ordinance punishable under the general penalty ordinance of the City.

Section 2. Chapter 15.16 of the Central Point Municipal Code is hereby repealed.

Passed by the Council and signed by me in authentication of its passage this 19 day of OCTOBER, 1989.

Mayor

ATTEST:

Designated City Officer

APPROVED by me this _____ day of _____, 1989.

Mayor

- (e) "Open Burning" means burning in burn barrels or incinerators, open outdoor fires, and any other burning where combustion air is not effectively controlled and combustion products are not effectively vented through a stack or chimney.
- (f) "PM₁₀" means airborne particles ranging from .01 to 10 microns in size which can be harmful to the human respiratory system.
- (g) "Primary PM₁₀ standard" means an average particulate concentration of 150 micrograms per cubic meter of air during a twenty-four hour period.
- (h) "Regulations" means regulations promulgated by the Board of County Commissioners pursuant to this Chapter.
- (i) "Residence" means a building containing two or fewer dwelling units which is used for habitation by one or more persons.
- (j) "Residential Woodburning" means utilization of wood in a solid fuel heating device inside a dwelling.
- (k) "Solid fuel heating device" means a stove, heater, fireplace modified with an insert or other receptacle, wherein wood or other solid fuel combustion occurs for the purpose of space heating. Unmodified fireplaces are excluded from this definition.
- (l) "Space Heating" means raising the interior temperature of a room.
- (m) "Trackout" means the deposit of mud, dirt, and other debris on paved public roadways by motor vehicles. "Trackout" also means the material being so tracked onto public roadways. Trackout can become pulverized and blown into the air by vehicular traffic where it becomes a part of the total suspended particulate level.
- (n) "Ventilation Index" means the National Weather Service's indicator of the relative degree of air circulation for a specified area and time period.
- (o) "Waste" means discarded or excess material, including:
 - (1) Agricultural waste resulting from farming or agricultural practices and operations; and
 - (2) Nonagricultural waste resulting from practices and operations, other than farm operations, including industrial, commercial, construction, demolition, and domestic wastes and yard debris.

SECTION 1810.02 EXCEPTIONS TO CHAPTER

This Chapter shall not apply:

- (a) Within incorporated limits of any city;
- (b) To Federal or State lands;

- (c) Open burning of any kind is prohibited within the Medford-Ashland Air Quality Maintenance Area during November, December, January, and February of each year due to generally poor smoke dispersion.
- (d) Open burning of any wet garbage, plastic, wire insulation, automobile part, asphalt, petroleum product, petroleum treated material, rubber product, animal remains, or animal or vegetable matter resulting from the handling, preparation, cooking, or service of food or of any other material which normally emits dense smoke or noxious odors is prohibited throughout the unincorporated areas of Jackson County.
- (e) The provisions of this section do not apply to the open burning of agricultural wastes which is necessary for disease or pest control.

**SECTION 1810.08 BURNING OF MATERIAL EMITTING DENSE SMOKE OR NOXIOUS ODORS
IN SOLID FUEL BURNING DEVICES**

The burning of any of the materials listed in Section 1810.07(d) above in a solid fuel burning device is prohibited throughout the unincorporated areas of Jackson County at all times.

SECTION 1810.09 ABATEMENT; LEGAL PROCEEDINGS

Whoever violates or fails to comply with any of the provisions of this chapter shall be subject to appropriate legal proceedings to enjoin or abate such violation or noncompliance, in addition to the penalty provided in Section 1810.99.

Section 2. Emergency Declared.

This ordinance being necessary to the health, safety, and welfare of the people of Jackson County, an emergency is hereby declared to exist, and it shall take effect immediately upon adoption.

Dated this 22nd day of December 1989.

APPROVED AS TO FORM:

Armanda B.
County Counsel

JACKSON COUNTY BOARD OF COMMISSIONERS

Hank Henry
Hank Henry, Chairman

ATTEST:

Nancy Mitchell
Recording Secretary

11-1-89

Previous staff reports to the Environmental Quality Commission (EQC):

Agenda Item D, January 22, 1988, EQC Meeting, Informational Report: New Federal Ambient Air Quality Standard for Particulate Matter (PM₁₀) and Its Effects on Oregon's Air Quality Program.

Agenda Item H, November 4, 1988, EQC Meeting, Request for Authorization to Conduct Public Hearings on New Industrial Rules for PM₁₀ Emission Control in the Medford-Ashland AQMA and Grants Pass and Klamath Falls Urban Growth Areas (Amendments to OAR 340, Divisions 20 and 30).

Agenda Item E, September 8, 1989, EQC Meeting, Industrial PM₁₀ Rules for Medford-Ashland and Grants Pass: Adoption of New Industrial Rules That Were Taken to Public Hearings in January 1989.

Guidance Document for Residential Wood Combustion Emission Control Measures, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park NC, September 1989, EPA-450/2-89-015.

All documents referenced may be inspected at the Department of Environmental Quality, Air Quality Division, 811 S.W. 6th Avenue, Portland, Oregon, during normal business hours.

LAND USE CONSISTENCY STATEMENT

The proposed rule changes appear to affect land use as defined in the Department's coordination program with DLCD, but appear to be consistent with the Statewide Planning Goals.

With regard to Goal 6, (air, water, and land resources quality), the proposed changes are designed to enhance and preserve air quality in the State and are considered consistent with the goal. The proposed rule changes do not appear to conflict with the other Goals.

Public comment on any land use issue involved is welcome and may be submitted in the same fashion as indicated for other testimony on these rules.

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 appropriate conflicts brought to our attention by local, state, or federal authorities.

MLH:a
PLAN\AH8095 (5/90)

COSTS TO RESIDENTS WITH WOODSTOVES OR FIREPLACES

The residential woodsmoke reduction strategies are closely patterned after the December 1987 recommendations of the Jackson County Wood burning Task Force. Woodstove and fireplace emissions will be reduced by an expanded public information program, an areawide local mandatory woodburning curtailment program, the Oregon woodstove certification program, financial assistance programs for replacement of existing woodstoves with cleaner burning units and weatherization of homes, a ban on installation of non-certified woodstoves, and continued improvements in firewood seasoning and woodstove operation.

The typical cost of woodburning curtailment (under the local ordinances adopted between November 1989 and May 1990) is estimated at \$2-4 per curtailment day per woodburning home, depending primarily on the type of alternative heat, amount of weatherization, and size of home. Economic, sole-source and certified-stove exemptions are available to qualifying households. Up to 12,000 homes in the critical PM₁₀ control area would be affected about 22 red days and 14 yellow days per year (five-year average, 1985-1990).

The CLEAR (Coordinated Local Effort for Air Resources) Project of the Housing Authority of Jackson County and ACCESS, Inc. are providing assistance to low-income families for home weatherization and replacement of existing woodstoves with cleaner burning units. Approximately \$1.7 million of funding has been secured thus far through Community Development Block Grants, Regional Strategies Funds, Oil Overcharge Settlement Funds, and utility company rebates. The City of Ashland has budgeted \$64,494 for the first year of the SOLVE (Save Our Liveability, View and Environment) Program to replace existing woodstoves and weatherize homes.

COSTS TO STATE AND LOCAL GOVERNMENT AGENCIES

The new industrial emission control and monitoring requirements will require additional plan reviews, inspections, monitoring report reviews, and other compliance assurance activities by Department of Environmental Quality staff. This additional work will be done by shifting existing resources and seeking additional revenue to fund deferred work.

The daily decision on woodburning curtailment programs will be based on air quality information from the Department's existing air monitoring network and meteorological information from the National Weather Service. The daily woodburning decision (red, yellow, green call) will be made by the Jackson County Health Department. Public information programs will be done by Jackson County and cities within the AQMA with DEQ or subcontractor assistance. The compliance assurance surveys, exemption permitting and enforcement activities for the woodburning curtailment programs will be conducted by local government staff of Jackson County and the cities of Medford and Central Point. Some EPA grant funds may be available to help support these activities.

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 August 9, 1990.

**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 as part of the State Clean Air Act Implementation Plan. The Commission's deliberation should come in November 1990 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.

MLH:a
PLAN\AH8097

REPORT OF
JACKSON COUNTY WOODBURNING TASK FORCE

DECEMBER 21, 1987

EXECUTIVE SUMMARY

The Medford-Ashland Air Quality Maintenance Area has a serious particulate air pollution problem. Particulate concentrations violate national health standards, both the annual average standard (50 micrograms per cubic meter) and the peak day standard (150 micrograms per cubic meter). The peak day standard will be the more difficult standard to meet in the Medford, White City, and Central Point areas. The inhalable particulate, called PM₁₀ because it represents particulate matter that is less than 10 micrometers in diameter, is of greatest health concern. Annual average PM₁₀ concentrations must be reduced by 20% and peak day concentrations must be reduced by 50% to meet health standards.

The peak particulate concentrations generally occur during air stagnation periods in December and January. About 65-70% of the peak day inhalable particulate is due to residential woodsmoke from stoves and fireplaces. On an annual basis, about 40% of the inhalable particulate is from residential woodsmoke.

The Jackson County Commissioners appointed the Woodburning Task Force in May 1987 to evaluate the particulate problem and recommend corrective measures. The Task Force has reviewed the air quality data, the relative source contributions to the problem, past efforts to reduce pollution, and the available alternatives to reduce particulate pollution from woodburning. The Task Force has considered the relative costs and benefits (economic, energy, safety, environmental, and health) of the alternatives in making its recommendations.

The Task Force recommends the following measures be included in the woodsmoke reduction strategy for the portion of Jackson County and the cities within the Medford-Ashland Air Quality Maintenance Area:

1. Mandatory curtailment of woodstove/fireplace use during air stagnation;
2. Comprehensive public education program;
3. Clean air utility rates for electricity and natural gas;
4. Financial incentives/subsidies for cleaner woodburning units; and
5. Ban on installation of non-certified woodstoves.

This package of measures represents strategy options C, D, or E outlined in the full report. The differences between these strategy options are the amount of financial incentives provided and the number of cleaner heating units installed. This in turn affects the number of curtailment days and the amount of room in the airshed for additional growth.

<u>Differences in Options</u>	<u>Option:</u>	<u>C</u>	<u>D</u>	<u>E</u>
Subsidy in \$ million		1.7	2.9	6.0
Curtailment days per year		15-20	10-15	0-10
Airshed space in tons per year		None	100-200	200-400

Additional details are included in the full report and appendices.

PRIOR EQC AGENDA ITEMS

Agenda Item D, January 22, 1988, EQC Meeting, Informational Report: New Federal Ambient Air Quality Standard for Particulate Matter (PM₁₀) and Its Effects on Oregon's Air Quality Program.

Agenda Item M, June 10, 1988, EQC Meeting, Informational Report: Implementation Status of the Total Suspended Particulate Air Pollution Control Strategy in the Medford-Ashland Air Quality Maintenance Area.

Agenda Item H, November 4, 1988, EQC Meeting, Request for Authorization to Conduct Public Hearings on New Industrial Rules for PM₁₀ Emission Control in the Medford-Ashland AOMA and Grants Pass and Klamath Falls Urban Growth Areas (Amendments to OAR 340, Divisions 20 and 30).

December 8, 1988, EQC Work Session, Status Report on Medford PM₁₀ Issues.

Agenda Item E, September 8, 1989, EQC Meeting, Industrial PM₁₀ Rules for Medford-Ashland and Grants Pass: Adoption of New Industrial Rules That Were Taken to Public Hearings in January 1989.

SUPPLEMENTAL BACKGROUND INFORMATION

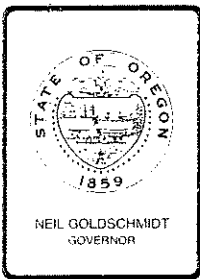
Preliminary Review of State Implementation Plan Revisions

The Department of Environmental Quality (Department) sent copies of the preliminary draft of the proposed State Implementation Plan revision for comment to local governments, U.S. Environmental Protection Agency (EPA) Region 10 and the (southern Oregon) Coalition to Improve Air Quality (Coalition). Changes were made in the revised draft to address the local government and EPA comments and many of the Coalition comments. The Coalition comments that were not addressed in the revised draft were generally issues that were debated and responded to in the rule adoption process on the industrial rules (September 1989).

The Department continues to disagree with the Coalition and particularly one of its members, Dr. Palzer, on the relative contribution of residential woodheating and wood products industry to the Medford PM₁₀ problem. The Department has maintained that residential woodheating is a larger contributor to the PM₁₀ problems than industry, while Dr. Palzer has maintained that industry is the largest source.

Over the last eight months, in the preparation of the proposed PM₁₀ control strategy, the Department has done extensive work consistent with EPA protocols for emission inventories, dispersion modeling and receptor modeling to accurately identify the contributions of the PM₁₀ source categories and project the effect of the proposed control strategy on ambient air quality. The Department has used the most recent PM₁₀-specific chemical fingerprints and most appropriate dispersion and receptor models in this analysis. EPA has found this analysis acceptable. The results and conclusions of this analysis are consistent with similar analyses of other PM₁₀ problem areas in the Pacific Northwest that residential woodheating is the predominant cause of PM₁₀ nonattainment problems.

A comparison of extended air stagnation episodes in December 1985 and December 1989 indicates that the recently adopted mandatory woodburning curtailment program has made a dramatic difference in Medford air quality. The smoke readings from continuous particulate monitoring in downtown Medford indicated a 60% reduction in the smoke levels between similar stagnation episodes in December 1985 and December 1989. This dramatic improvement was the result of the substantial increase in curtailment compliance (from about 25% compliance with voluntary curtailment to over 80% in some areas after mandatory curtailment) observed by Jackson County and Medford field staff when the mandatory program became effective. This real-world example further confirms that residential woodburning is the predominant source of PM₁₀ emissions on worst winter days.



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: H
Division: Water Quality
Section: Standards and Assessments

SUBJECT:

Clear Lake (near Florence): Authorization for Hearing on Proposed Rules Modifying OAR 340-41-270 Special Policies and Guidelines for the Mid Coast Basin and OAR 340-71-460(7) Moratorium Areas for On-Site Sewage Disposal Systems.

PURPOSE:

The rules, if adopted, would revise the requirements for protecting the very high quality water in Clear Lake near Florence, 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 A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Public Notice Attachment D
 - Other: TMDL Document Attachment E

Meeting Date: June 29, 1990
Agenda Item: H
Page 3

Pursuant to Rule: _____ Attachment _____
 Pursuant to Federal Law/Rule: _____ Attachment _____
 Other: _____ Attachment _____

Time Constraints: Undeveloped property owners within the watershed are anxious to have the rules modified because this will provide some very limited potential for them to develop their properties.

DEVELOPMENTAL BACKGROUND:

Advisory Committee Report/Recommendation Attachment _____
 Hearing Officer's Report/Recommendations Attachment _____
 Response to Testimony/Comments Attachment _____
 Prior EQC Agenda Items: (list) Attachment _____
 Other Related Reports/Rules/Statutes:
 Summary of Criteria Required by ORS454.685 Attachment F
 Supplemental Background Information Attachment G
 Map of Affected Area Attachment H

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The existing rules were adopted by the Commission in 1983 for the purpose of protecting Clear Lake as an unfiltered drinking water supply. At the time it was adopted, there was a concern about the impact on lake water quality caused by additional development within the existing subdivisions around Collard Lake and the potential for more subdivisions being created elsewhere in the Clear Lake watershed.

Although federal requirements will probably require water supply filtration regardless of water quality, the Department believes it is prudent to prevent the discharges of nutrient into the lake in order to control algal growths that would cause turbidity and taste and odor problems. Even a small increase in lake algae levels will require the water district to provide and operate more expensive filtration facilities.

When the existing rule for Clear Lake was adopted, it was anticipated that the local planning jurisdiction (Lane County) would develop a management plan for the lake's watershed, consistent with the adopted lake loading limits in the rule. A subsequent limnological study was done on the lake by the county which showed that the lake loading limits should have been based on phosphorus instead of nitrate nitrogen. In addition, a planning study was done to

determine the cost of installing conventional sewers for the Collard Lake subdivisions. The construction cost was estimated to be about \$970,000 which was believed to be too expensive, and further efforts to sewer the subdivision were dropped. Because of these reasons and because Lane County may not have had the necessary expertise, the lake loading limit has never been translated into a lake watershed management plan.

The existing rules have prevented people from developing their properties within the watershed. Although some of the development problems could have been relieved by the construction of a sewerage system, one has not been built. Existing homeowners in the watershed are content with no sewers and are not very interested in helping to pay for a sewer that will only increase development within the watershed. People who own larger properties in the watershed would probably have difficulty accessing a sewer if one were constructed, however.

PROGRAM CONSIDERATIONS:

Oregon Revised Statute (ORS 468.715) declares it to be the public policy of the state to protect, maintain and improve the quality of the waters of the state for public water supplies. This statute also declares it to be public policy to provide for the prevention, abatement and control of new or existing water pollution. Oregon Administrative Rule (OAR) 340-41-026 states that existing high quality waters which exceed those levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water shall be maintained and protected unless the Environmental Quality Commission chooses, after full satisfaction of the intergovernmental coordination and public participation provisions of the continuing planning process, to lower water quality for necessary and justifiable economic or social development.

This action is for the purpose of protecting the high quality water of Clear Lake. It is not to eliminate a health hazard caused by inadequate on-site sewage disposal systems. As such, Lane County has no specific authority to require that sewers be installed. There is no local municipality in the watershed that has authority to operate a sewerage facility. If the local property owners do not voluntarily install and operate a sewer system as required by the proposed rule, the Department may have to enforce the rule by taking individual action against each property owner.

The state statute that gives the Commission the authority to prohibit or limit construction of on-site sewage disposal systems requires the Commission to consider a number of factors. These factors were addressed in detail in the previous work done when the moratorium was established in 1984. A summary of the factors are summarized in Attachment F.

The Siuslaw Soil and Water Conservation District, at the request of Lane County, has convened a group of interested citizens and local and state agencies to assist the Department in revising the rules and in developing a management plan for the lake that would be compatible with the proposed rules.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Do not modify the existing rules that prohibit new on-site sewage disposal systems and that specify an annual nitrate-nitrogen lake loading limitation.
2. Modify the existing rules that specify an annual nitrate-nitrogen lake loading limitation, but do not lift the on-site sewage disposal moratorium.
3. Do not modify the content of the existing rules, but require that a sewer be provided to the existing subdivisions within the watershed.
4. Modify the rules so that they:
 - a. Have a loading limitation for Clear Lake based on total phosphorus instead of nitrate nitrogen;
 - b. Include a phosphorus loading limitation for Collard Lake;
 - c. Require sewers to the existing subdivisions within the watershed, unless an equivalent alternative is demonstrated;
 - d. Provide for some limited construction of new on-site sewage disposal systems;
 - e. Require a plan for managing the lake watershed before any connections are made to sewers and before any new on-site sewage disposal systems are installed.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends alternative four for the following reasons:

1. Clear Lake has been determined to be phosphorus limited not nitrogen limited. The Department believes phosphorus is a much better parameter for controlling algal growth because limiting nitrogen, in itself, may not limit algal growth. Most nitrogen contamination caused by human development, however, also has associated total phosphorus. Consequently, the restrictions on development that is caused by the nitrate-nitrogen limitation would probably also effectively limit phosphorus contamination. The current nitrate-nitrogen limitation is very much more restrictive than the proposed phosphorus limit at least as it relates to the use of on-site sewage disposal systems.
2. The Department does believe that some very limited increases in phosphorus levels in Clear Lake can be acceptable and still maintain the lake's high quality water. Depending on the management desires of the local planning jurisdiction, this could include the addition of a very few new on-site sewage disposal systems. In developing the proposed lake phosphorus loading limits, the Department has taken a conservative path at virtually every point. In addition, where the Department anticipates phosphorus reductions by either sewerage or improving septic tank efficiencies, the resulting reductions would be banked in the Department's reserve. (When establishing a Total Maximum Daily Load, or annual lake loading as in the case of Clear Lake, portions of the loading are assigned to point and nonpoint sources and a portion is kept for the Department. The Department's portion includes natural background and reserve capacity that could be assigned in the future, if desired, to other point or nonpoint sources.)
3. With the existing subdivisions continuing to use on-site sewage disposal systems, even without further development, the phosphorus levels could increase in Clear Lake over time. This argues that a sewer should be required. It also argues for a limitation to be established for Collard Lake. There may be other

alternatives (such as a buyout of the houses by Heceta Water District or other entity) which should remain an option, however. The Department proposes an annual limitation of 67 pounds of phosphorus for Collard Lake which should allow flexibility to consider other alternatives for addressing the phosphorus load from the Collard Lake subdivisions. All sources of phosphorus within the watershed should be addressed, not just that from human sewage.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rule is consistent with the agency and legislative policy of preventing pollution. The proposed rule establishes lake loading limits for the protection of water quality, but the burden of developing the lake management plan (i.e. land use) to be consistent with the loading limitations, remains with local government.

ISSUES FOR COMMISSION TO RESOLVE:

1. Should the proposed rule allow any increases in phosphorus levels over existing conditions?
2. Should the on-site sewage disposal moratorium be left as is?
3. Should sewers be required in the rule or should this issue be left to local government?
4. Should the loading limit for Collard Lake allow for limited flexibility that would allow other mechanisms to control the phosphorus loading from sewage?
5. Should the rule require local government to routinely monitor the lake's water to verify its quality?
6. Should reductions in phosphorus loadings created by sewerage or modification of septic tanks be saved within the Department's reserve or made available for development?

Meeting Date: June 29, 1990
Agenda Item: H
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INTENDED FOLLOWUP ACTIONS:

Subject to Commission authorization, the Department proposes to hold a hearing on the proposed rules in August in Florence and return with a final rule proposal to the Commission at their September meeting. In addition, the Department will continue to provide technical assistance to local government during the development of their watershed management plan.

Approved:

Section:

Art J. Mullone

Division:

Water Resources

Director:

Art J. Mullone

Report Prepared By: Dick Nichols

Phone: 229-5323

Date Prepared: June 8, 1990

R.J.Nichols:crw
MW\WC6675
June 8, 1990

SPECIAL POLICIES AND GUIDELINES

340-41-270

In order to preserve the existing high quality water in Clear Lake north of Florence for use as a[n unfiltered] public water supply source requiring only minimal filtration, it is the policy of the Environmental Quality Commission to protect the Clear Lake watershed including both surface and ground waters, from existing and potential contamination sources [by] with the following requirements:

- [(1) Prohibiting new waste discharges into the lakes, streams, or groundwater within the watershed.
- (2) Establishing a management goal of limiting the cumulative total quantity of NO₃-N discharged to the watershed of a maximum of 170 pounds NO₃-N per year from man-controlled sources, including but not limited to On-Site Sewage Disposal systems, managed forest areas, residential areas and public facilities.
- (3) Requiring that land and animal management activities be conducted utilizing state of the art best management practices to minimize nutrient, suspended solids or other pollutants from contaminating the ground and surface waters.]

(1) The total phosphorus maximum annual loading discharged into Clear Lake shall not exceed 265 pounds per year from all sources.

(2) The total phosphorus maximum annual loading for the Clear Lake watershed shall be deemed exceeded if:

(a) The median concentration of total phosphorus from samples collected in the epilimnion between May 1 and September 30 exceed 9.5 micrograms per liter during two consecutive years, and

(b) The median concentration of chlorophyll a from samples collected in the epilimnion between May 1 and September 30 exceed 2.75 micrograms per liter during two consecutive years. Chlorophyll a shall be determined by the Fluorometric method as specified on page 10-34 of the 17th Edition of Standard Methods for the Examination of Water and Wastewater, 1989. Collection of samples for chlorophyll a shall be according to the methods described in A Manual of Sea Water Analyses, Bulletin 125, 2nd Edition, Fisher's Research Board of Canada, p 187-203.

(3) Of the total phosphorus loading of 265 pounds per year specified in section (1) of this rule, if sewers are installed in the Collard Lake subdivisions, 234 pounds per year shall be considered current background and Department reserve and shall not be available to other sources. If sewers are not installed, the Department's reserve shall be 224 pounds per year.

(4) After implementation of the plans and requirements of sections (5), (6), and (7) or (8) of this rule, the total phosphorus maximum annual loading discharged into Collard Lake shall not exceed 67 pounds per year.

(5) Lane County or any other jurisdiction shall not issue permits allowing connection of new development in the Clear Lake watershed to a sewerage facility until a plan is submitted to and approved by the Department showing how total phosphorus loadings limitations required by this rule will be achieved and maintained. The plan shall address total phosphorus associated with erosion due to construction as well as that due to existing and new development. The plan shall include ordinances as necessary to effectively implement the plan.

(6) The Department or its contract agent shall not issue on-site sewage system construction installation permits or favorable site evaluation reports for on-site sewage systems to serve property within the Clear Lake watershed until a plan is submitted to and approved by the Department showing how total phosphorus loadings limitations required by this rule will be achieved and maintained. The plan shall address total phosphorus associated with erosion due to construction as well as that due to existing and new development. It shall also address forest harvesting activities. The plan shall include ordinances, easements, and/or contracts as appropriate and necessary to effectively implement the plan.

(7) By October 1, 1993, all sewage generated within the Collard Lake subdivisions shall be collected, treated and disposed according to a sewerage facilities plan report submitted to the Department by October 1, 1991. No construction of the sewerage facility shall begin until or unless:

(a) The facilities plan report and engineering plans and specifications have been approved in writing by the Department.

(b) It is constructed and operated by a municipality with authority for the operation and maintenance of sewerage facilities.

(c) Before construction starts, the responsible municipality shall demonstrate that it has a reliable source of funding to assure proper construction, operation, maintenance, and replacement of the required sewerage facilities.

(8) The Department may grant exception to section (7) of this rule, if, by October 1, 1991, an alternative plan is submitted to and approved by the Department which, when implemented, will achieve the annual phosphorus loading limit for Collard Lake required by section (4) of this rule.

(9) No on-site sewage system construction installation permits, favorable site evaluation reports, or sanitary sewer connection permits shall be issued until a plan for monitoring the water quality of Clear Lake is submitted to and approved by the Department. The plan shall include contracts or memorandums of agreement that assure that the monitoring will be conducted.

(10) Unless it is demonstrated that stormwater runoff treatment and control systems are not necessary to meet the total maximum annual loading for total phosphorus, any off-site or on-site control facilities for stormwater quality control necessary to comply with this rule shall be under the control of a municipality.

(11) Unless otherwise approved in writing by the Department, a municipality shall be responsible for all sewerage facilities including on-site sewage disposal systems constructed in the Clear Lake watershed after December 1, 1989.

Stat. Auth.: ORS Ch. 454 & 468 Hist.: DEQ 3-1983, f. & ef.
4-18-83

340-71-460 MORATORIUM AREAS.

- (1) Whenever the Commission finds that construction of subsurface or alternative sewage disposal systems should be limited or prohibited in an area, it shall issue an order limiting or prohibiting such construction.
- (2) The order shall be issued only after public hearing for which more than thirty (30) days notice is given.
- (3) The order shall be a rule of this division which contains a general description of the moratorium area. A more detailed description of the area, if needed, shall be an appendix to these rules.
- (4) No permit or site evaluation report shall be issued for construction of a new or expanded system which would violate any order of the Commission issued pursuant to ORS 454.685.
- (5) Criteria For Establishing Moratoriums. In issuing an order under this section the Commission shall consider the factors contained in ORS 454.685(2).
- (6) Specific Moratorium Areas. Pursuant to ORS 454.685, the Agent shall not issue sewage system construction installation permits or approved site evaluation reports within the boundaries of the following areas of the state:
 - (a) Benton County -- Kingston Heights Subdivision;
 - (b) Benton County -- Kingston Heights Subdivision, First Addition;
 - (c) Benton County -- Princeton Heights Subdivision;
 - (d) Benton County -- Princeton Heights Subdivision, First Addition;
 - (e) Lane County -- Community of Dexter, as follows:

The area generally know as Dexter, and defined by the Boundary submitted by the Board of County Commissioners for Lane, which is bounded on the Northeast by Willamette Highway No. 58, and contains those properties Southwesterly of Highway No. 58 in the following tax assessment maps of

Lane County: T 19 S, R 1 W, Section 16.2, T 19 S, R 1 W, Section 16.32, T 19 S, R 1 W, Section 16.31, T 19 S, R 1 W, Section 16.42, and T 19 S, R 1 W, Section 16 and index located totally within Lane County.

(7) Clear Lake Moratorium Area. For the purpose of protecting the high water quality of Clear Lake by limiting the discharge of nutrients into the lake from on-site sewage disposal systems pursuant to ORS 454.685, except as allowed by subparagraph (7)(b), the Agent shall not issue on-site sewage system construction-installation permits or favorable site evaluation reports within the boundaries of the following area:

[(f)](a) Lane County - Clear Lake Watershed of the North Florence Dunal Aquifer Area, as follows: The area hereby known as the Clear Lake Watershed of the North Florence Dunal Aquifer Area defined by the hydrologic boundaries identified in the June 1982, 208 North Florence Dunal Aquifer Study which is the area beginning at a point known as Tank One, located in Section One, Township 18 South, Range 12 West, of the Willamette Meridian, Lane County, Oregon:

Run thence S. 67° 50' 51.5" E. 97.80 ft. to the True Point of Beginning;
Run thence S. 05° 40' 43.0" W. 1960.62 ft. to a point,
Run thence S. 04° 58' 45.4" W. 1301.91 ft. to a point,
Run thence S. 52° 44' 01.0" W. 231.21 ft. to a point,
Run thence S. 15° 20' 45.4" W. 774.62 ft. to a point,
Run thence S. 31° 44' 14.0" W. 520.89 ft. to a point,
Run thence S. 00° 24' 43.9" W. 834.02 ft. to a point,
Run thence S. 07° 49' 01.8" W. 1191.07 ft. to a point,
Run thence S. 50° 26' 06.3" W. 731.61 ft. to a point,
Run thence S. 02° 51' 10.5" W. 301.37 ft. to a point,
Run thence S. 36° 37' 58.2" W. 918.41 ft. to a point,
Run thence S. 47° 12' 26.3" W. 1321.86 ft. to a point,
Run thence S. 72° 58' 54.2" W. 498.84 ft. to a point,

Run thence S. 85° 44' 21.3" W. 955.64 ft. to a point,
Which is N. 11° 39' 16.9" W. 5434.90 ft. from a point known as Green Two (located in Section 13 in said Township and Range);
Run thence N. 58° 09' 44.1" W. 1630.28 ft. to a point,
Run thence N. 25° 23' 10.1" W. 1978.00 ft. to a point,
Run thence N. 16° 34' 21.0" W. 1731.95 ft. to a point,
Run thence N. 06° 13' 18.0" W. 747.40 ft. to a point,
Run thence N. 03° 50' 32.8" E. 671.51 ft. to a point,
Run thence N. 59° 33' 18.9" E. 1117.02 ft. to a point,
Run thence N. 59° 50' 06.0" E. 2894.56 ft. to a point,
Run thence N. 48° 28' 40.0" E. 897.56 ft. to a point,
Run thence N. 31° 29' 50.7" E. 920.64 ft. to a point,
Run thence N. 19° 46' 39.6" E. 1524.95 ft. to a point,
Run thence S. 76° 05' 37.1" E. 748.95 ft. to a point,
Run thence S. 57° 33' 30.2" E. 445.53 ft. to a point,
Run thence S. 78° 27' 44.9" E. 394.98 ft. to a point,
Run thence S. 61° 55' 39.0" E. 323.00 ft. to a point,
Run thence N. 89° 04' 46.8" E. 249.03 ft. to a point,
Run thence S. 67° 43' 17.4" E. 245.31 ft. to a point,
Run thence S. 79° 55' 09.8" E. 45.71 ft. to a point,
Run thence S. 83° 59' 27.6" E. 95.52 ft. to a point,
Run thence N. 42° 02' 57.2" E. 68.68 ft. to a point,
Run thence S. 80° 41' 24.2" E. 61.81 ft. to a point,
Run thence S. 10° 47' 03.5" E. 128.27 ft. to the True Point of Beginning; and containing all or portions of T17S, R12W, Section 35 and 36, and T18S, R12W, Sections 1, 2, 11 and 12; W.M., Lane County.

(b) On-site sewage system construction installation permits and approved site evaluation reports may be issued by the Agent for lots listed in paragraph (D) of this subsection, provided:

(A) The loadings specified in OAR 340-41-270 are not exceeded; and

(B) The plan required by OAR 340-41-270(6) and (9) has been approved by the Department and the requirements of OAR 340-41-270(11) are met; and

(C) An easement, on a form acceptable to the Department, to allow inspection, operation and maintenance of the on-site sewage treatment and disposal system shall be granted to the municipality required by OAR 340-41-270(11). Prior to issuance of the construction-installation permit, this document shall be recorded with the County deed records.

(D) In T18S, R12E, W.M. and as of January 1, 1990,

(i) In Section 1, Lots 801 and 900,

(ii) In Section 2, Lots 400, 401, 403, and 601,

(iii) In Section 11, Lot 2200,

(iv) In Section 12, Lot 400.

Agenda Item __, June 29, 1990, 1990 EQC Meeting

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 a rule.

1. Legal Authority

Oregon Revised Statute (ORS) 468.020 grants the Environmental Quality Commission the authority to "adopt such rules and standards as it considers necessary and proper in performing the functions vested by law in the Commission." ORS 468.710 states that it is the public policy of the state to conserve the water of the state and to provide for the prevention, abatement and control of new or existing water pollution. Further, ORS 468.705 provides the Environmental Quality Commission authority over water pollution. ORS 454.685 grants the Commission authority to prohibit or limit construction of on-site sewage disposal systems.

2. Need for the Rule

In April, 1983, the Environmental Quality Commission adopted special policies and guidelines for protecting Clear Lake as an unfiltered drinking water supply. The special policy and guidelines established a total annual loading in the Clear Lake watershed of 170 pounds per year of nitrate-nitrogen. In addition, the Commission established a moratorium on the construction of new on-site sewage disposal systems in the Clear Lake watershed. These actions recognized the value of the lake's high quality water as a drinking water source and the need to protect water quality for this purpose. Since this rule was adopted, additional studies have been conducted which conclude that the limitations for the lake should be based on phosphorus instead of nitrate-nitrogen. By converting to phosphorus loading limitations, the rule could also be revised such that some additional development could occur within the lake watershed and still protect the high quality water of the lake.

3. Principal Documents Relied Upon in this Rulemaking

- a. ORS 468 and ORS 454

- b. Oregon Administrative Rules, Chapter 340, Divisions 41 and 71.
- c. Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985.
- d. Christensen, Ralph and Gerritt Rosenthal, North Florence Dunal Aquifer Study, Final Report, June, 1982.
- e. Johnson, Daniel M., Richard R. Petersen, D. Richard Lycan, James W. Sweet, Mark E. Neuhaus, Andrew L. Schaedel, Atlas of Oregon Lakes, Oregon State University Press, Corvallis, Oregon.
- f. Gilliom, Robert J., Estimation of Nonpoint Source Loadings of Phosphorus for Lakes in the Puget Sound Region, Washington," U.S. Geological Survey Water-Supply Paper 2240, U.S. Government Printing Office: 1983.
- g. Chapra, Steven C., and Stephen J. Tarapchak, "Chlorophyll a Model and Its Relationship to Phosphorus Loading Plot for Lakes, Water Resource Research, Vol. 12, No. 6, December, 1976.
- h. Quality Criteria for Water, 1986, United States Environmental Protection Agency, May 1, 1986.
- i. Clear Lake Watershed Study, April, 1985, Century West Engineering Corporation, Summary and Recommendations.
- j. Dillon, P.J., F.H. Rigler, A Simple Method for Predicting the Capacity of a Lake for Development Based on Lake Trophic Status, Journal of the Fisheries Research Board of Canada, Volume 32, No. 9, September, 1975.
- k. Letter from V.W. Kaczynski, Ph.D. to Richard Nichols concerning Clear Lake, dated April 5, 1990.
- l. Schueler, T., Controlling Urban Runoff: A Practical Handbook for Planning and Designing Urban BMPs, Metropolitan Washington Council of Governments, Washington, D.C., 1987.
- m. Environmental Quality Commission staff report, Agenda Item No. G, April 7, 1983.

LAND USE COMPATIBILITY STATEMENT

Land Use Consistency

The Department has concluded that the proposal conforms with the Statewide Planning Goals and Guidelines.

Goal 6 (Air, Water and Land Resources Quality): The Department believes that the proposed rules will protect water quality resources of Clear Lake and Collard Lake. The proposed rules will establish lake loading limits upon which land use decisions can be based.

Goal 11 (Public Facilities and Services): The proposed rules may require that a sewage collection system be provided to the already existing Collard Lake subdivisions which are not inside an urban growth boundary. Sewers may be necessary, however, to protect the high quality water of Clear Lake which is the drinking water source for the Heceta Water District and which also augments the water supply for the City of Florence.

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 STATEMENT

Currently, the rules of the Environmental Quality Commission prohibit the construction of new on-site sewage disposal systems within the Clear Lake watershed. There is no sewer system available to properties within the watershed and, consequently, owners of undeveloped property are unable to build houses because there is no available means for sewage disposal. The existing rule, therefore, has already imposed a significant economic impact on the owners of undeveloped property.

Within the watershed, there are several contiguous subdivisions located around the northeast corner of Collard Lake. These subdivisions, collectively referred to as the "Collard Lake properties", contain about 112 lots and were platted in the late 1960s and early 1970s. The lots range in size of about 0.17 acre up to 0.4 acre. Forty two of the lots have houses on them each served by an on-site sewage disposal system installed before the current moratorium was put in place.

Also within the watershed are about 24 other lots varying in size from 1 acre to 160 acres (part of this lot is outside the watershed). Three of these lots are publicly owned. Three have houses on them (one lot has two houses). Five privately-owned, undeveloped lots are entirely within the watershed. Thirteen privately-owned, undeveloped lots are only partially in the watershed.

The proposed rules would modify the existing policies and guidelines for protecting Clear Lake as an unfiltered drinking water supply. This would be done by revising water quality loading limitations for Collard and Clear Lakes. The proposed rules would also provide for the addition of a very limited number of new on-site sewage disposal systems that are currently prohibited. It will be up to Lane County to determine how it will revise limitations and restrictions on land uses as needed to meet the loading limitations when and if they are revised by the Environmental Quality Commission.

The proposed rule would provide some relief to some property owners who currently do not have an approved means for sewage disposal for their property. The rule, however, potentially may require a sewer system to be installed to serve the Collard Lake properties although Lane County may choose, instead, to reduce the development density within the Collard Lake subdivisions. Density could be reduced by requiring a minimum lot size in which case

property owners would have to consolidate lots by purchasing adjacent lots. Another option being considered is a buyout of at least some of the undeveloped Collard Lake lots by Heceta Water District. There are probably several other options that could be developed and implemented by Lane County to meet the proposed loading limitations of the lakes within the watershed.

If the county chooses to sewer the Collard Lake properties and allow development of all of the lots, storm water quality controls would probably also be necessary in order to comply with lake loading limitations. These controls could be individual systems located on each lot or could be area-wide systems serving many lots. In addition to stormwater quality control facilities, the proposed rules will also require that erosion control practices be applied to construction within the watershed.

Because of the potential impact of a failing on-site sewage disposal system on the lakes, the proposed rule would require that all new on-site sewage disposal systems be under the control of a municipal entity. This could be a city or a sanitary district. The municipality would periodically inspect the systems, pump the septic tanks, and replace systems if and when necessary.

Finally, the proposed rule requires a routine lake water quality monitoring program to be in place to assure that the status of lake water quality is known. This would be the responsibility of local government to perform.

The greatest economic impact on property owners for sewer installation would be if a sewer is installed only to serve existing houses within the Collard Lake subdivisions (undeveloped lots are bought out or otherwise remain undeveloped). If the sewage is collected in a septic tank effluent pumping (STEP) system and pumped to the Florence sewerage facility, the total cost for constructing the system is estimated to be \$284,000. For 42 lots making annual payments over 20 years at 7% interest, the annual cost for constructing the system (this includes \$2000 per lot for a new septic tank and pump) is \$827 or about \$69 per month. If the sewer is installed to serve all 112 lots, the annual cost would be \$428 or about \$36 per month. In addition to the construction costs, it is estimated that the maintenance and operation costs for the collection system would be about \$17 per month. There would also be a monthly charge by the City of Florence to treat the sewage in addition to the monthly operation and maintenance cost for the collection system.¹

Another mechanism for financing the sewer system that has been suggested is by the water users of Heceta Water District. This approach has been justified by the fact that the sewer system will protect the drinking water source of the district and, consequently, benefits all of the customers within the district.

(Note: the Department neither objects to nor endorses this approach). The maximum cost to the district under such a scenario is if the district buys out the remaining undeveloped lots in the subdivisions, and pays for the entire cost of the sewer system. This calculation assumes that the district will not pay for each property's septic tank and pump or the operation and maintenance of the sewerage facilities. Under this scenario, the total cost is \$1,301,000. Presuming this is paid for over 20 years at 7% interest by charging the users based on water purchased, the cost is about \$0.44 per 1000 gallons of water used. For a single family household using about 250 gallons per day of water, this would result in an additional monthly charge of \$3.29 to that already paid for water.

Whether or not storm water quality control facilities will be needed depends upon the density of development. If densities are more dense than one house per acre, storm water quality control facilities will likely be necessary. This likely will only occur in the Collard Lake subdivisions. There are a number of ways that one could design and construct storm water quality control facilities. The Department has estimated the costs for one system which is a dry well that would collect and dispose of roof runoff by seepage. In order to retain the runoff from a 6 inch, 24 hour rainfall event (10 year storm), the Department believes a dry well would have to have a storage volume of 1000 cubic feet and a seepage area of 70 square feet for a roof with 2000 feet of surface area. This could be accomplished with a concrete box including cover with a size of 7 ft. x 10 ft. x 7 ft. deep. If one were to use concrete rings with a six foot inside diameter, one would need about 3 separate dry wells each about 12 feet deep. A contractor in the Portland area estimated the cost of each drywell to be between \$1400 and \$2400. The maximum cost for a 2000 square foot cost might be \$7200.

There are a number of various area-wide stormwater quality control facilities that could conceivably also be employed to reduce phosphorus concentrations in storm water runoff. Presuming the runoff from the 68 undeveloped lots could be collected and discharged through a wet pond facility designed for a 1 inch mean storm event, the cost per lot would be about \$1000. This does not include costs for transporting the storm water to the treatment facility. Lots that are adjacent to the lake could probably not transport their runoff to the facility by gravity which would then require pumps which, in turn is probably not feasible. Lake front lots would probably require individual systems.²

Erosion control practices will probably be required for all new construction resulting in added construction costs of about \$1000 per house. This is based upon current estimates for such practices now being required in the Tualatin River basin.

Monitoring costs will result from collecting six samples from Clear Lake twice each year. Some of the required tests may be able to be performed by Heceta Water District. Others will probably have to be done by a commercial laboratory. We estimate this cost to be about \$1600 per year.³

There will be some costs associated with periodically inspecting on-site sewage disposal systems and pumping septic tanks. The Department would expect the tanks to be pumped no more frequently than once every three years. Pumping should cost less than \$100 per occurrence. Inspections should occur no more than four times per year. Assuming that each inspection takes no more than one half hour per inspection and the cost is \$15 per hour for the person doing the inspections, the annual cost per system would be \$30 dollars per year.

None of the land within the watershed is currently zoned for commercial or industrial use. Consequently, there should be no direct increased costs for small business as a result of the proposed rules if they are adopted. If Heceta Water District opts to pay for either a buyout or to help construct the sewer system, small businesses that use Heceta Water District Water will have increased water bills. Finally, logging practices within the watershed may come under more stringent requirements in order to assure that erosion due to logging is minimized to the greatest extent possible.

1. Information relative to the cost of installing sewers in the Collard Lake subdivisions was from information provided to the Clear Lake Coordinated Resource Management Process (CRMP) group by the City of Florence.

2. Cost information for a wet pond storm water quality control facility was obtained from Schueler, T., Controlling Urban Runoff: A Practical Handbook for Planning and Designing Urban BMPs, Metropolitan Washington Council of Governments, Washington, D.C., 1987.

3. Cost information for monitoring were developed from information supplied by Century Testing Laboratories, Bend for analytical charges for running total phosphorus, dissolved orthophosphorus, nitrate-nitrogen, and chlorophyll a. It is assumed that one person can collect the samples and measure turbidity, temperature, and pH in a half a day at \$15 dollars per hour. Shipping costs of \$20 per shipment were assumed.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PUBLIC NOTICE

Notice Issue: August 1, 1990
Comments Due: August 24, 1990

- WHO IS AFFECTED:** People who own property or live in the Clear Lake watershed near Florence, Oregon. Also, people who are served water by the Heceta Water District or the City of Florence.
- WHAT IS PROPOSED:** The Department proposes to revise the rules that establish special policies and guidelines for protecting the water quality of Clear Lake as a drinking water supply. Subject to specific conditions, the proposal would also allow a very few new on-site sewage disposal systems (septic tanks) in the watershed.
- WHAT ARE THE HIGHLIGHTS:** The proposed rules would change the current lake loading limitations from nitrate-nitrogen to phosphorus. The proposed rule would require the Collard Lake subdivisions to be sewerred by October 1, 1993, unless it can be shown that it is not needed to meet phosphorus loading limits. The proposed rules specify what actions must be taken before any new connections to either sewer or septic tank system may occur. It would also require local government to perform routine monitoring of Clear Lake.
- PUBLIC HEARING:** Public Hearings will be held before a member of the Department of Environmental Quality who will act as the Environmental Quality Commission's hearings officer. The hearing will be held:
- TIME:** 7:00 PM
- DATE:** August 22, 1990
- PLACE:** Siuslaw High School Auditorium
Lecture Rooms A & B
30th and Oak Streets
Florence, Oregon



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.

**HOW TO
COMMENT:**

Written or oral comments may be presented at the hearings. Written comments may also be sent to the Department of Environmental Quality, Water Quality Division, 811 S.W. Sixth Avenue, Portland, OR 97204, and must be received no later than 5:00 PM, August 24, 1990.

Copies of the complete proposed rule package may be obtained from the DEQ, Water Quality Division. The documents, as listed in the "Statement of Need for Rulemaking," are also available for review during normal business hours at the Department's office, 811 SW Sixth, Portland, Oregon, fifth floor.

**WHAT IS THE
NEXT STEP:**

Testimony, both oral and written, will be summarized and addressed by the Hearings Officer in a report made to the Environmental Quality Commission. Proposed rules may be modified as necessary to address the concerns of those who testify. The final proposed rules will then be presented to the Environmental Quality Commission at its September 21, 1990, meeting.

TMDL Number:

Page 1 of 7 Pages

TOTAL MAXIMUM DAILY LOAD
WATER QUALITY MANAGEMENT PLAN COMPONENT
 Department of Environmental Quality
 811 Southwest Sixth Avenue, Portland, OR 97204
 Telephone: (503) 229-5696

Developed pursuant to ORS 468.730 and The Federal Clean Water Act

WATER BODY SEGMENT:

Clear Lake near Florence

RECEIVING SYSTEM INFORMATION:

Basin: Mid Coast

Subbasin:

County: Lane

**SPECIAL WATER QUALITY VALUE
TO BE PROTECTED:**

High clarity

APPLICABLE RULES:

OAR 340-41-270

OAR 340-41-006

TMDL PARAMETER:

Total Phosphate as Phosphorus

SOURCES COVERED BY THIS TMDL:

<u>Source Number</u>	<u>Allocation Type</u>	<u>Source Description</u>
001	LA	Collard Lake
002	LA	Clear Lake
003	WLA	Clear Lake Point Sources
004	LA	Department Reserve Allocation and Background

WATER QUALITY MANAGEMENT ACTIVITIES AND IMPLEMENTATION

Until this TMDL is modified, point source permits will be issued only if they include limits complying with the established waste loads. Nonpoint sources will be addressed through specific plans approved by the Department pursuant to the requirements of OAR 340-41-270.. All requirements, limitations, and conditions are set forth in the attached schedules as follows:

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SCHEDULE A

Pollutant Discharge limits not to be Exceeded

1. Pollutant Discharge Limitations not to be Exceeded After TMDL Issuance (Interim Limits based on existing conditions prior to implementation of controls).

ANNUAL PHOSPHORUS LOADS
(pounds per year)

<u>Source Number</u>	<u>Source Description</u>	<u>Limitations</u>
001	Collard Lake	86
002	Clear Lake	218
003	Clear Lake Point Sources	0.0
004	Department Reserve Allocation/Background (For Clear Lake)	192

- a. The load allocation for Collard Lake is based upon a total phosphorus concentration of 14.4 ug/l in the epilimnion and a sensitivity factor of 0.37. $[2.205 \times 14.4/0.37 = 86]$
- b. The load limitation for Clear Lake is based upon a total phosphorus concentration of 7.8 ug/l in the lake's epilimnion and a sensitivity factor of 0.079. $[2.205 \times 7.8/0.079 = 218]$
- c. Department Reserve and Background total phosphorus is based upon subtracting the calculated loadings on Clear Lake from existing development from 218.3 pounds per year.

The calculated load for Clear Lake is based adding the contribution from the existing Collard Lake development multiplied by 0.52 (Collard to Clear Lake factor) to that contributed by 4 existing houses located in the watershed, but outside the subdivisions. Each of the 4 existing houses is assumed to contribute 0.88 pounds per year of total phosphorus from on-site sewage disposal systems and 0.28 pounds per year from storm runoff. The storm runoff component assumes one acre of developed land associated with each house outside the subdivisions and areal loading rate of 30 kilograms/km²/year for this residential development.

The calculated load from Collard Lake due to development is based on the assumption of 42 houses each contributing 0.88 pounds per year of total phosphorus into Collard Lake from on-site sewage disposal systems and 0.11 pounds per year being contributed into the lake as a result of storm runoff from residential development in the subdivisions. The runoff loading assumes 1/4 acre development and a 50 kilograms/km²/year areal loading rate.

SCHEDULE A (continued)

2. Pollutant Discharge Limitations not to be Exceeded After Achieving Compliance with Requirements of Schedule C of this Document.

ANNUAL TOTAL PHOSPHORUS LOADS

<u>Source Number</u>	<u>pounds per year</u> <u>Source Description</u>	<u>Limitations</u>
001	Collard Lake	67
002	Clear Lake	265
003	Clear Lake Point Sources	0.0
004	Department Reserve Allocation/Background (For Clear Lake)	
	If Collard Lake subdivisions not sewered	224
	If Collard Lake subdivisions are sewered	234

- a. Load for Collard Lake is determined by subtracting 18.5 pounds per year from the current loading of 85.8 pounds per year. $[85.8 - 18.5 = 67.3$ pounds per year] Note: This assumes the addition of alum to septic tanks which should result in at least a 95% reduction of phosphorus coming from the house. These calculations also assume that the current houses are contributing about 37 pounds per year of phosphorus which is about a 90% reduction from that assumed to be coming from the houses.
- b. Load into Clear Lake from Collard Lake is determined by multiplying Collard Lake loading by 0.52.
- c. Clear Lake loading is derived from an allowable phosphorus loading of 264.6 pounds per year. Using a sensitivity factor of 0.079, this should be equivalent to a 9.5 ug/l total phosphorus concentration in Clear Lake.
- d. DEQ reserve and background is calculated by adding a recycle factor of 22.5 pounds per year plus the load reduced by either sewerage or modifying septic tank systems to the Department reserve specified in condition 1 of Schedule A. The recycle factor assumes a Clear Lake concentration of 9.5 ug/l and a recycle rate of 0.5. $\text{Recycle factor} = 22.5 = [(1.4-1.0)/1.4] \times 9.5 \times 0.5 \times 2.205\#/kg \times 7.53$. The septic tank loading on Clear Lake from modifying the septic tanks in the Collard Lake subdivisions is calculated on the basis of 0.44# of total P per house and 42 houses, and a Collard to Clear Lake factor of 0.52. This assumes existing tanks are modified to inject alum and results in a 95% reduction in phosphorus. $[0.44 \times 42 \times 0.52 = 9.6]$

DEQ Reserve = $192 + 22.5 + 9.6 = 224$ [No sewer installed]

If a sewer is installed the resulting reduction of phosphorus loading on Clear Lake is based on 0.88# of total P per house and 42 houses, and a Collard to Clear Lake factor of 0.52. [$0.88 \times 42 \times 0.52 = 19.2$]

DEQ Reserve = $192 + 22.5 + 19.2 = 234$ [Sewer installed]

SCHEDULE B

Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing by the Department)

1. Ambient Monitoring. A lake water quality monitoring program shall be operated to evaluate the effectiveness of the TMDL and to guide development of any additional control strategies. The ambient monitoring program shall consist of two water sample collection on two separate dates at least a month apart. The sample collections shall occur between May 1 and September 30 and include a minimum of 6 water samples collected within the epilimnion of Clear Lake. The samples shall be analyzed for pH, total phosphorus, dissolved ortho phosphorus, chlorophyll a, NO₂ + NO₃-nitrogen, temperature, and turbidity.

SCHEDULE C

Compliance Conditions and Schedules

1. By October 1, 1993, all sewage generated within the Collard Lake subdivisions shall be collected, treated and disposed according to a sewerage facilities plan report submitted to the Department by October 1, 1991. No construction of the sewerage facility shall begin until the facilities plan and engineering plans and specifications have been approved in writing by the Department. The Department may grant an exception to sewer the Collard Lake subdivisions if, by October 1, 1991, an alternative plan is submitted to and approved by the Department. The alternative plan must provide equivalent controls on phosphorus so that the loading limit for Collard Lake is met.

SCHEDULE D

Special Conditions

1. The total phosphorus maximum annual loading for the Clear Lake watershed shall be deemed exceeded if:
 - (a) The median concentration of total phosphorus from samples collected in the epilimnion between May 1 and September 30 exceed 9.5 micrograms per liter during two consecutive years, and
 - (b) The median concentration of chlorophyll a from samples collected in the epilimnion between May 1 and September 30 exceed 2.75 micrograms per liter during two consecutive years.

2. Lane County or any other jurisdiction shall not issue permits allowing connection of new development in the Clear Lake watershed to a sewerage facility until a plan is submitted to and approved by the Department showing how total phosphorus loadings limitations required by OAR 340-41-270 will be achieved and maintained. The plan shall address total phosphorus associated with erosion due to construction as well as that due to existing and new development. The plan shall include ordinances as necessary to effectively implement the plan.
3. Department or its contract agent shall not issue on-site sewage system construction installation permits or favorable site evaluation reports for sewage systems to serve property within the Clear Lake watershed until a plan is submitted to and approved by the Department showing how total phosphorus loadings limitations required by this rule will be achieved and maintained. The plan shall address total phosphorus associated with erosion due to construction as well as that due to existing and new development. It shall also address forest harvesting activities. The plan shall include ordinances, easements, and/or contracts as appropriate and necessary to effectively implement the plan.
4. No construction of the sewerage facility to serve the Collard Lake subdivisions shall begin until or unless:
 - (a) The facilities plan report and engineering plans and specifications have been approved in writing by the Department,
 - (b) It is constructed and operated by a municipality with authority for the operation and maintenance of sewerage facilities.
 - (c) Before construction starts, the municipality shall demonstrate that it has a reliable source of funding to assure proper construction, operation, maintenance, and replacement of sewerage control facilities.
5. No on-site sewage system construction installation permits, favorable site evaluation reports, or sanitary sewer connection permits shall be issued until a plan for monitoring the water quality of Clear Lake is submitted to and approved by the Department. The plan shall include contracts or memorandums of agreement that assure that the monitoring will be conducted.
6. Unless it is demonstrated that stormwater runoff treatment and control systems are not necessary to meet the total maximum annual loading for total phosphorus, any off-site or on-site control facilities for stormwater quality control necessary to comply with this total maximum annual load shall be under the control of a municipality.

7. A municipality shall be responsible for all sewerage facilities including on-site sewage disposal systems constructed in the Clear Lake watershed after December 1, 1989.

SUMMARY OF CRITERIA REQUIRED BY ORS 454.685

ORS 454.685 establishes the authority for the Environmental Quality Commission to limit or prohibit construction of on-site sewage disposal systems. The Commission is required to consider certain factors when prohibiting or limiting the types of systems. The factors are as follows:

- a. Present and projected density of population.
- b. Size of building lots.
- c. Topography.
- d. Porosity and absorbency of soil.
- e. Any geological formations which may adversely affect the disposal of sewage effluent by subsurface means.
- f. Ground and surface water conditions and variations therein from time to time.
- g. Climatic conditions.
- h. Present and projected availability of water from unpolluted sources.
- i. Type of and proximity to existing domestic water supply sources.
- j. Type of and proximity to existing surface waters.
- k. Capacity of existing subsurface sewage disposal systems.

These factors are addressed, in order, as follows:

Factors (a) and (b):

The Clear Lake watershed area contains 850 acres of public and private land. There are approximately 138 existing lots contained in part or in total within the watershed. Lot sizes range from one quarter acre to 120 acres. There are about 46 houses in the watershed. Some of these houses are occupied only by seasonal residents.

The maximum build-out population projection for the year 2000 based on current zoning, multiplied by 2.6 persons per residence, is 358 people.

Factors (c), (d), (e), (f), and (g):

The Clear Lake Watershed is a relatively flat dunal sheet of wind blown sand over an ancient wave cut terrace. The sand is of medium grain size with high porosity and absorbency, as illustrated by the lack of surface drainage features. The homogeneous dunal aquifer is highly permeable with a permeability constant ranging from 250 to 700 gallons per day.

Annual aquifer recharge is 4.36 feet per year. Clear Lake is the aquifer discharge zone. The rapidly draining nature of the dunal aquifer make it likely that any discharges on or in the aquifer will eventually percolate down to the water table and be discharged to Clear Lake.

The watershed is located in a temperate marine climate zone and receives an average annual precipitation of 69 inches with ranges in average monthly temperature from 61°F. to 44.5°F.

Factors (h), (i), and (j):

The moratorium area contains two surface water bodies, Collard Lake and Clear Lake, with 190 acres of lake surface. Residents of the watershed currently under moratorium are provided domestic water from Clear Lake by the Heceta Water District. The District provides water to improved properties within its boundaries and also supplies a portion of the water needs of the City of Florence.

The Clear Lake Watershed is within the North Florence Dunal Aquifer which has been declared a "sole source" aquifer by the U.S. Environmental Protection Agency. Such a declaration means that the Administrator of EPA has determined that the North Florence Dunal Aquifer "is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health."

Existing treatment facilities for the domestic water provided by the Heceta Water District do not presently include filtration due to the existence of a unique source of high quality raw water source currently available from Clear Lake.

Without controls to limit the discharge of nutrients in to the lake via surface and groundwaters, existing and potential future development in the Clear Lake watershed will lead to increased algal growth in the lake. Algal growth will impair the ability to use lake water as domestic water without potentially expensive treatment of the water prior to distribution.

The Department believes that the very high water quality of Clear Lake can be preserved by limiting phosphorus discharges into the lake.

Factor (k):

Scientific literature indicates that each dwelling using on-site sewage disposal systems will potentially contribute about 1.8 pounds per year of total phosphorus to the surface waters in the watershed. The Department believes that unrestricted construction of additional on-site sewage disposal systems will increase levels of phosphorus in the lake that will then begin to impair its water quality and its use as a drinking water source. Some additional on-site sewage disposal systems may be allowable, but only if part of a management plan for the lake that limits overall phosphorus discharges into the lake. The management plan must consider sources of phosphorus from forest activities and residential runoff as well as from on-site sewage disposal.

BACKGROUND REPORT

CLEAR LAKE NEAR FLORENCE

Background and History

Clear Lake is located a few miles north of Florence, Oregon. It is the water supply for the Heceta Water District which provides domestic water for about 1350 users. In addition, the District supplies about a half of million gallons of water per month to the City of Florence to augment the City's well water supplies during the summer months. Clear Lake has the potential to supply upwards of two million gallons per day of water. Currently, only chlorination is provided after withdrawal from the Lake. The District is operating a pilot study to determine the feasibility of using a slow sand filter system to meet federal requirements of the Safe Drinking Water Act.

Clear Lake is a sand-dune lake, with a surface area of 153 acres and a maximum depth of 86 feet. The western shoreline is bordered by sand dunes; the eastern shoreline is covered by second growth forest. The primary surface inlet to Clear Lake is Collard Creek, draining from Collard Lake.¹

Both Clear Lake and Collard Lake are part of the North Florence Dunal Aquifer. Although the land immediately adjacent to Clear Lake is virtually undeveloped, there is already some residential development around Collard Lake.²

Clear Lake is one of only a few coastal lakes that are oligotrophic (others are Woahink and the Clear Lake south of Reedsport). Oligotrophic lakes have a limited supply of nutrients, are biologically unproductive, often deep, with very transparent waters which are usually fully saturated with dissolved oxygen.³

¹ Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985, page 1-1.

² Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985, page 1-1.

³ Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985, page 1-1.

A study of the North Florence Dunal Aquifer, including Clear Lake, was initiated in 1979 to formulate alternatives for the protection of the aquifer from contamination by on-site sewage disposal. In the study, nitrate-nitrogen was the contaminant/nutrient of primary concern.⁴ The final report strongly recommended "a commitment be made to retain Clear Lake as a pristine domestic water supply and to protect and improve its water quality or a commitment be made to develop alternate water supplies and/or additional treatment facilities and Clear Lake be allowed to degrade in quality."⁵ More specifically, the report recommended that no new developments be allowed in the Clear Lake watershed using on-site systems. All permits approved must include plans for the transportation and treatment of wastes outside the watershed boundaries, or for the use of dry-waste and grey water systems in instances where such systems do not increase the calculated overall loading beyond 170 pounds per year of nitrate-nitrogen and only as replacements for on-site systems.⁶

In October, 1982, the Lane County Commission petitioned the Environmental Quality Commission to modify the Department's rules for on-site sewage disposal to prohibit the construction of new on-site systems in the Clear Lake watershed. The County also adopted an order which established a moratorium on new development within the watershed. (It should be noted that the County has since repealed this order and, consequently, there is no longer a building moratorium in the watershed).

In April, 1983, the Environmental Quality Commission adopted special policies and guidelines (Attachment I of this background report) for protecting Clear Lake as an unfiltered drinking water supply. The special policy and guidelines established a total annual loading in the Clear Lake watershed of 170 pounds per year of nitrate-nitrogen. In addition, the Commission established a moratorium on the construction of new on-site sewage disposal systems in the Clear Lake watershed. These actions recognized the value of the lake's high quality water as a drinking water source and the need to protect water quality for this purpose.

⁴ Christensen, Ralph and Gerritt Rosenthal, North Florence Dunal Aquifer Study, Final Report, June, 1982, page iv.

⁵ Christensen, Ralph and Gerritt Rosenthal, North Florence Dunal Aquifer Study, Final Report, June, 1982, page 2.

⁶ Christensen, Ralph and Gerritt Rosenthal, North Florence Dunal Aquifer Study, Final Report, June, 1982, page 2.

In 1984, Lane County hired Cooper Consultants, Inc., to study Clear Lake. The study had two objectives: "first to characterize the seasonal variation in biota and nutrients in the lake, and, second, to determine what might be the effect of adding nitrogen, in the form of nitrate, to Clear Lake."⁷ The Cooper study was completed in 1985. In addition, two other studies relative to Clear Lake were also completed in 1985. One study, conducted by Mr. Ralph Christensen, was the development of a water quality model for Clear Lake. The final study was a technical feasibility analysis and economic evaluation of several Clear Lake watershed protection alternatives. This was done by Century West Engineering Corporation of Bend, Oregon. This feasibility analysis concluded that "the alternative to sewer the existing high density Collard Lake Subdivision was best suited to protect the Clear Lake Watershed based upon the present conditions and study criteria."⁸

There are a number of property owners within the Clear Lake watershed who have been adversely affected by the Commission's current rules. Of the 112 total lots in the platted subdivisions around Collard Lake, about 68 are undeveloped. (For convenience, these 112 lots will be referred to as the "Collard Lake properties" in this report). These lots are relatively small (one quarter acre to one acre in size). Because a sanitary sewer is unavailable to the subdivisions and because septic tanks and drainfields are not allowed, houses cannot be built on the undeveloped lots.

Within the watershed, but outside the platted subdivisions are 26 properties, varying in size from one acre to 145 acres. (Again for convenience, these 26 properties will be referred to as the "big Clear Lake properties" in this report). Only five properties, however, are totally within the watershed. Three of the properties are owned by public bodies, Heceta Water District and Lane County. Five properties have existing dwellings on them. These existing dwellings are assumed to use septic tanks and drainfields. Since no sewer system is available to the big Clear Lake properties, further development is also precluded by the moratorium on construction of on-site sewage disposal systems.

⁷ Cooper Consultants, Inc., Final Report, Limnology and Nutrient Dynamics of Clear Lake, Oregon, Lane County, February, 1985, page 1-2.

⁸ Clear Lake Watershed Study, April, 1985, Century West Engineering Corporation, Summary and Recommendations.

The Clear Lake watershed is outside the City of Florence urban growth boundary. Therefore, zoning and building requirements are through Lane County. The big Clear Lake properties are zoned either F-2 (forest lands) or ML (marginal lands). Lane County's property is zoned NR (natural resource). The Collard Lake properties are zoned R-4 which would allow construction of a single family dwelling if an acceptable means for sewage disposal was available.

In October, 1987, in response to a petition from a citizen of Florence, the U.S. Environmental Protection Agency designated the North Florence Dunal Aquifer, including the Clear Lake watershed as a Sole Source Aquifer pursuant to the federal Safe Drinking Water Act. Any project located within the boundaries of the sole source aquifer that receives financial assistance from the federal government must be reviewed by U.S.E.P.A. to assure that it does not pose a threat to the drinking water contained in the aquifer. If there is no federal financial assistance, U.S.E.P.A. plays no role in the review of the project.

The inability to develop their properties has caused the property owners to put increasing pressure both on Lane County and the Department of Environmental Quality. In 1987, several of the owners of big Clear Lake properties sued Heceta Water District, Lane County, and the Environmental Quality Commission claiming that the Commission's rules prohibiting new on-site sewage disposal systems and Lane County's development moratorium constituted inverse condemnation of their properties. The suit was dismissed because the plaintiffs had not attempted to use other remedies available to them such as petitioning the Commission to modify the rules.

In 1989, Lane County asked the Siuslaw Soil and Water District to convene a Coordinated Resource Management Process (CRMP) to develop and recommend a watershed management plan for the Clear Lake watershed. The CRMP was intended to bring together people and agencies that have interests within the watershed to resolve the resource management conflict. Representatives from Lane County, City of Florence, Heceta Water District, the Collard Lake properties, the big Clear Lake properties, and the Departments of Environmental Quality, Forestry, Fish and Wildlife were invited to participate in the process. The group began meeting in April, 1989 and has met many times since. At the time this document was being drafted, the CRMP group was in final preparation of a document containing various management alternatives. It is the intention of the group to present this document to the public and hold hearings on it in June, 1990.

The CRMP group has agreed that Clear Lake's high quality water should be maintained. The group's goal has been to determine how best the lake can be protected while still meeting the needs of the property owners and the affected entities including the state agencies as well as Lane County, Heceta Water District, and the City of Florence.

The management plan proposed by the CRMP group will probably consist of two basic issues. The first issue concerns the recommendations for water quality loading limitations for Collard and Clear Lakes. The Environmental Quality Commission will be the responsible body in Oregon for considering the CRMP group's recommendations and determining whether to revise existing limits.

The second issue concerns recommendations for limitations and restrictions on land uses as needed to meet the loading limitations established in rule by the Environmental Quality Commission. Because local governments have been designated the primary responsible governmental agencies for land use planning, the second issue will be ultimately determined and implemented, in the case of Clear Lake, by Lane County through ordinances adopted by the county board of commissioners.

Technical Issues

When the Environmental Quality Commission adopted its rules for Clear Lake, the main concern relative to water quality was the addition of nutrients (nitrogen and phosphorus) caused by increasing urban development, particularly on-site sewage disposal systems, within the watershed. As nutrient levels increase, algal activity will also increase, causing high turbidities and odor and taste problems. At that time and as is still the case, Heceta Water District provides water to its customers from Clear Lake with only chlorination, but no filtration. It must be stated that the federal Safe Drinking Water Act will most likely require that Heceta Water District provide filtration regardless of the water quality of the lake. If the lake remains clear and free of algal growths, however, the costs of providing filtration can be significantly reduced.

At this time, the Environmental Quality Commission has several issues to consider relative to Clear Lake and the determination of whether or not to revise the policy and guidelines that have been adopted to protect Clear Lake water quality. These are:

1. Should the loading limits for Clear Lake be based on phosphorus instead of nitrate-nitrogen as is currently stated in the rule?

2. If the loading limits are changed to phosphorus limits, what should the new limits be? Should the limits allow any additional loadings on the lake? If so, how much?
3. What watershed management alternatives are available if the allowable Clear Lake loading is reestablished to 265 pounds per year of total phosphorus?
4. Should the existing policies and guidelines be expanded to better assure that Lane County can develop a watershed management plan consistent with allowable lake loadings?
5. What criteria should be used to verify that the lake's water quality is remaining at an acceptable level?
6. Is the approach being proposed with Clear Lake compatible with the protection of other lakes with very high quality water?

A response to the above issues follows:

ISSUE: Should the loading limits for Clear Lake be based on phosphorus instead of nitrate-nitrogen as is currently stated in the rule?

At the time that the special policies were adopted, water quality data suggested that nitrogen was the limiting nutrient and control of this parameter would prevent excessive algal growths in the lake. Subsequent water quality data collected in 1984 by Cooper Consultants, Inc., showed that the lake was instead phosphorus limited although both nitrogen and phosphorus were present in the lake at very low levels.

The water quality data collected by Cooper Consultants, Inc., was part of an extensive study of the limnology and nutrient dynamics of Clear Lake. The results of this study are contained in FINAL REPORT - LIMNOLOGY AND NUTRIENT DYNAMICS OF CLEAR LAKE, OREGON, Cooper Consultants, Inc., February, 1985. This report concludes that "Clear Lake is similar to other oligotrophic lakes. The water is very clear, there are relatively few algal cells in the water, and nutrient concentration is low."⁹ The report also states that "phosphorus is the major limiting nutrient. Nitrogen can become limiting for short periods, but any added nitrate is

⁹ Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985, p 1-3

quickly consumed and phosphorus is again limiting after a short growth spurt. There is no continued increase with increased nitrogen. An increase in phosphorus concentration in the lake will result in increased algal growth in the lake."¹⁰ The average phosphorus concentration in Clear Lake during the summer months (May through September), according to the Cooper report was 7.8 micrograms per liter.¹¹

The Department agrees with the conclusions of the Cooper report. In addition, it should be pointed out that phosphorus has been the target nutrient of most control efforts to limit algal growth in fresh water systems.

If the current nitrate-nitrogen limitation were retained, however, Clear Lake would probably still be very effectively protected. This is because the current limits would limit the number of houses using on-site sewage disposal systems within the watershed to about eight according to the documentation in the original April, 1983 EQC staff report that proposed adoption of the Clear Lake nitrate-nitrogen limitation. Further, with eight on-site systems, probably very little other development could occur including forest harvesting. Consequently, in order to meet the current nitrate-nitrogen loading limit on Clear Lake, most of the existing development would have to be removed. The phosphorus load associated with the nitrate-nitrogen loading limit would be substantially below what would be needed to maintain lake water quality. (Projected lake phosphorus loadings would be 206 pounds per year instead of a current estimate of 218 pounds per year under current conditions.) The Department believes the nitrogen based limits may be more stringent than necessary to adequately protect the lake's water quality. Phosphorus-based loading limits, on the other hand, could be set at levels that would maintain very good lake water quality and still allow some development.

CONCLUSION AND RECOMMENDATION:

The Department concurs that the lake is phosphorus-limited and the lake loading limits should be based upon phosphorus instead of nitrate-nitrogen.

¹⁰ Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985, p 1-8.

¹¹ Raymond, Richard B., Stephen A. Wille, and James W. Sweet, Final Report - Limnology and Nutrient Dynamics of Clear Lake, Lane County, Oregon, Cooper Consultants, Inc., Portland, Oregon, February, 1985, p 3-4.

ISSUE: If the loading limits are changed to phosphorus limits, what should the new limits be? Should the limits allow any additional loadings on the lake? If so, how much?

Before proceeding on this issue, there should be some discussion of the trophic classification system for lakes. It is the system most widely applied to lakes and reservoirs. In it, "surface waters are ranked according to their biological productivity: unproductive lakes are termed oligotrophic ('little-nourished') and productive lakes are termed eutrophic ('well-nourished'). The productivity of a lake is determined by a number of chemical and physical characteristics of which the most important are the availability of essential plant nutrients, primarily nitrogen and phosphorus, and the intensity of light throughout the surface water. Although the terms oligotrophic and eutrophic provide a scale against which lakes may be ranked, an additional term has been added to allow for a wider range of categories. This includes 'mesotrophic' for lakes that are intermediate between oligotrophic and eutrophic."¹²

(Attachment 1 to this background report is a table reproduced from a paper written by Robert J. Gilliom¹³ that describes the biological changes to lakes in the Puget Sound area as phosphorus concentration increase. It should be noted that the biological changes are not abrupt from one trophic phase to another. Any increase in phosphorus concentrations, even if only slight, will produce proportionately more algae.)

There is no complete, universal agreement on the point at which a lake is no longer oligotrophic and enters mesotrophy. A review of the literature, however, seems to indicate general agreement that a mean concentration of 10 micrograms per liter of phosphorus is the upper level for oligotrophy. Some authors have also used chlorophyll a concentrations to define trophic phases. Chapra and Tarapchak¹⁴ in their December 1976 paper reviewed various criteria for trophic states relative to chlorophyll a and

¹² Johnson, Daniel M., Richard R. Petersen, D. Richard Lycan, James W. Sweet, Mark E. Neuhaus, Andrew L. Schaedel, Atlas of Oregon Lakes, Oregon State University Press, Corvallis, Oregon, p 29.

¹³ Gilliom, Robert J., Estimation of Nonpoint Source Loadings of Phosphorus for Lakes in the Puget Sound Region, Washington, " U.S. Geological Survey Water-Supply Paper 2240, U.S. Government Printing Office: 1983, p4.

¹⁴ Chapra, Steven C., and Stephen J. Tarapchak, "Chlorophyll a Model and Its Relationship to Phosphorus Loading Plot for Lakes, Water Resource Research, Vol. 12, No. 6, December, 1976, p 1261.

concluded that 2.75 micrograms per liter of chlorophyll a was an appropriate upper boundary for oligotrophy for lakes in a northern temperate zone. Finally, Vollenweider has developed a curve using total phosphorus loadings in grams per square meter of surface area per year to define a permissible level for oligotrophic conditions within the receiving waterway for a particular water volume where the mean depth of the lake in meters is divided by the hydraulic detention time in years.¹⁵

By using the above criteria for the upper boundary of oligotrophy and applying it to lake modeling equations developed by various authors, one can determine associated, maximum limits for phosphorus loadings for an oligotrophic state for Clear Lake for each of the criteria. The following table displays the loadings for various criteria and equations.

**MAXIMUM PHOSPHORUS LOADING FOR AN OLIGOTROPHIC STATE
FOR CLEAR LAKE
Pounds per year**

Source of Criteria/Equation	Total Phosphorus Loading Pounds per year
Gilliom*	280
Chapra and Tarapchak*	317
Dillon and Rigler*/Gilliom*	346
Vollenweider/Kaczynski	441

¹⁵ Quality Criteria for Water, 1986, United States Environmental Protection Agency, May 1, 1986.

*Gilliom¹⁶, Chapra and Tarapchak¹⁷, Dillon and Rigler¹⁸,
Vollenweider¹⁹ and Kaczynski²⁰

As the table shows, the application of the various criteria and equations do not provide a consistent loading limit for an oligotrophic state. With this knowledge, the Department recommends, as a beginning point, the lowest loading which is based upon applying 10 ug/l of total phosphorus to Gilliom's equation and would result in 280 pounds per year.

For comparison purposes, the instream criteria for total phosphorus for controlling algal growths in the Tualatin River was selected as 70 ug/l. U.S. E.P.A. recommends, in order to prevent the development of biological nuisances and to control accelerated or cultural eutrophication, that total phosphorus levels in lakes not exceed 25 ug/l within a lake or reservoir.²¹ Total phosphorus levels in the epilimnion of Clear Lake in the summer of 1984 (from the Cooper report which is the most recent data) averaged 7.8 ug/l.

Gilliom's equation can also be applied to the mean total phosphorus concentration found by Cooper during the summer of 1984. If this is done, the current annual loading of total phosphorus is determined to be 218 pounds per year. Using the 1984 data presumes that conditions in 1984 are similar to those found today in the Clear Lake watershed. This is not

¹⁶ Gilliom, Robert J., Estimation of Nonpoint Source Loadings of Phosphorus for Lakes in the Puget Sound Region, Washington," U.S. Geological Survey Water-Supply Paper 2240, U.S. Government Printing Office: 1983, p7.

¹⁷ Chapra, Steven C., and Stephen J. Tarapchak, "Chlorophyll a Model and Its Relationship to Phosphorus Loading Plot for Lakes, Water Resource Research, Vol. 12, No. 6, December, 1976, p 1261.

¹⁸ Dillon, P.J., F.H. Rigler, A Simple Method for Predicting the Capacity of a Lake for Development Based on Lake Trophic Status, Journal of the Fisheries Research Board of Canada, Volume 32, No. 9, September, 1975, p1525.

¹⁹ Quality Criteria for Water, 1986, United States Environmental Protection Agency, May 1, 1986.

²⁰ Letter from V.W. Kaczynski, Ph.D. to Richard Nichols concerning Clear Lake dated April 5, 1990.

²¹ Quality Criteria for Water, 1986, United States Environmental Protection Agency, May 1, 1986.

unreasonable because the septic tank construction moratorium has essentially prohibited any development within the watershed. There has been no significant water quality sampling done since 1984, however, to verify this assumption. (The Department wishes to point out that the big Clear Lake property owners retained a consultant, Mr. V.W. Kaczynski, who has provided calculations that show the current lake loading to be 128 pounds per year instead of 218 as determined using Gilliom's equation. The Department has chosen to consider the 218 pounds per year as representative of the existing loading because it is more conservative and is more protective of the lake's water quality.)

If 280 pounds of total phosphorus per year is the maximum annual loading to be allowed and 218 pounds per year is the current annual loading, this leaves 62 pounds per year that could, if desired, be allocated to additional development. The Department believes that the entire 62 pounds should not be allocated to new development. Instead, it is recommended that a safety factor should be applied and, consequently, only 75% of the 62 pounds per year or 47 pounds per year of total phosphorus should be considered for allocation to new development.

CONCLUSION AND RECOMMENDATION:

The Department believes that an annual total phosphorus loading of 265 pounds per year should be established for Clear Lake. This would allow an increase of an additional 47 pounds per year for new development.

ISSUE: What watershed management alternatives are available if the allowable Clear Lake loading is reestablished to 265 pounds per year of total phosphorus?

The CRMP group has developed and evaluated a number of different management alternatives. In predicting the expected phosphorus loads on Clear Lake, a number of assumptions have been made. These are as follows:

1. On-site sewage disposal systems serving single family dwellings will ultimately contribute 1.8 pounds of phosphorus per year. This figure is from Gilliom²² who found that phosphorus loadings data could only be correlated empirically for those on-site sewage disposal systems over forty years in age. The predictions also assume that the

²² Gilliom, Robert J., Estimation of Nonpoint Source Loadings of Phosphorus for Lakes in the Puget Sound Region, Washington," U.S. Geological Survey Water-Supply Paper 2240, U.S. Government Printing Office: 1983, p13.

existing on-site sewage disposal systems, most of which are about 20 years old, contribute 0.9 pounds per year. There is no practicable way to confirm this assumption. Some members of the CRMP group believe the assumed loading is excessive particularly for those systems over 500 feet from the shoreline. Further, phosphorus tends to be readily immobilized in all, but the most coarse soils. The data on phosphorus, however, is not conclusive. Even using 1.8 pounds per on-site system assumes that there is 80% removal of phosphorus in the drainfield. Until there is better data, the Department believes it is appropriate to use 1.8 pounds per year per on-site sewage disposal system.

2. All phosphorus loadings contributed by Collard Lake properties will discharge first into Collard Lake. Based upon Gilliom's work and equations, only 52% of the Collard Lake loading will enter Clear Lake. This is because of assimilation of phosphorus that will occur in Collard Lake. All of the phosphorus loads generated by the big Clear Lake properties will discharge directly into Clear Lake. It is likely, however, that some of the big Clear Lake property load will probably go into Collard Lake first, but that this assumption is conservative, at least, in respect to Clear Lake.
3. There will be no agricultural development in the watershed.
4. Forestry loads are very difficult to determine. While there has been substantial research done with regard to phosphorus and forest activities, there are a multitude of variables which makes it virtually impossible to apply phosphorus loading data from one case to another. Erosion appears to be the most significant factor relative to phosphorus loadings. Controlling erosion will depend upon the amount roads, harvesting techniques, slopes, soils, etc. Although it can probably be debated, the Department feels that phosphorus loadings of 0.18 pounds per acre should be conservative provided that erosion controls are maximized.

5. A substantial part of the inflow into Clear Lake is from groundwater. This groundwater contains virtually no dissolved oxygen. Anaerobic conditions could increase the amount of phosphorus recycled back into the lake from sediments. To account for this, the Department has assumed that one half of the phosphorus contained in the lake is recycled back into the lake. This portion will be included as part of the Department's reserve.

Based upon the above assumptions, the Department believes the following lake watershed management scenarios could be implemented within a Clear Lake loading limit of 265 pounds per year. Each case is briefly described along with perceived advantages and disadvantages. The reader will notice that while the Clear Lake loading for most cases does not vary, the loading for Collard Lake does. While the major emphasis of the rule is on Clear Lake, the implications on Collard Lake must also be considered. (Note: The Department does not believe it is the Commission's role to determine which watershed management plan is most appropriate. This is the duty of local government which is the responsible entity for making land use decisions. The Commission, however, must be assured that the land use decisions do not conflict with lake loading limits. These scenarios are provided in this report so the Commission can better understand the ramifications of various lake loading limits.)

CASE I: Collard Lake annual loading set at 56 # total P per year.
Clear Lake annual loading set at 265 # total P per year.
Department reserve set at 234 # total P per year.

This alternative assumes that sewers are either installed for the Collard Lake subdivisions or a significant number of existing homes are removed. In the case of sewers for the Collard Lake subdivisions, it also assumes that all lots in the subdivisions are allowed to develop. The reduction of phosphorus gained by sewers or equivalent controls was given to the DEQ reserve. This was done because of the uncertainty about how much phosphorus is currently being contributed by on-site sewage disposal system. Further, if the Department has correctly estimated the amount of phosphorus coming from existing septic tanks, it will be some length of time before the phosphorus in the ground and groundwater is finally purged and no longer contributes to the lake.

In this case, there is about 31 pound per year to be distributed to other development. The Department believes that 31 pounds would allow houses to be built on most of the large properties around Clear Lake as long as septic tanks effluent is disposed into drainfields outside the watershed on those lots that have some area outside the watershed boundary. Forest harvesting would probably have to be controlled to a degree greater than that provided by the Forest Practices Act.

Advantages: In this case, the loading on Collard Lake will be substantially reduced and its water quality over time should improve substantially.

Disadvantage: If a buyout of Collard Lake properties is the chosen alternative, almost every existing house will have to be removed. A second disadvantage is that, with sewers and full build-out, stormwater quality control facilities will be needed to control stormwater quality from new development.

CASE II: Collard Lake annual loading set at 123# total P per year.
Clear Lake annual loading set at 265 # total P per year.
Department reserve set at 215 # total P per year.

Under this alternative, existing houses in the Collard Lake subdivisions would remain, but undeveloped lots would remain undeveloped. Very little loading would be then available to other development. Houses could be built on the large lots around Clear Lake, but no more than two could have on-site drainfields in the watershed. No forestry harvesting could be allowed if the houses are built on the larger properties. Even if no houses are built on the larger lots, forest harvesting would probably need to be controlled to a greater extent than that required by the Forest Practices Act.

Advantages: Existing property owners in the Collard Lake subdivisions are allowed to keep their houses and not have to connect to sewer.

Disadvantages: Phosphorus concentrations in Collard Lake would probably increase substantially (to 21 ug/l as compared to existing 14). Algal blooms will be substantially more frequent and intense. Development options for the larger properties around Clear Lake are severely limited.

Note: the CRMP group has discarded this option as a viable alternative.

CASE III. Collard Lake annual loading set at 55# total P per year.
Clear Lake annual loading set at 265 # total P per year.
Department reserve set at 234 # total P per year.

In this alternative, the Collard Lake subdivisions would be sewerred, but the remaining undeveloped lots would be consolidated, in some fashion, to one acre lots. Larger properties around Clear Lake would have similar development options as allowed in Case I. Additional controls over that required by the Forest Practices Act would be needed for forest harvesting.

Advantages: Stormwater quality control facilities probably would not be needed for Collard Lake subdivisions. Collard Lake water quality over time should improved considerably.

Disadvantages: Sewers for Collard Lake subdivisions still necessary. Some additional restrictions on forest harvesting probably necessary.

CASE IV. Collard Lake annual loading set at 67# total P per year.
Clear Lake annual loading set at 265 # total P per year.
Department reserve set at 234 # total P per year.
Remainder load available to Clear Lake large lots:23#/yr

Under this alternative, existing developed lots in Collard Lake subdivision would modify their septic tank systems to add alum (reduces total P discharge to about 0.45 #/yr/ house). Undeveloped lots would remain undeveloped in Collard Lake subdivisions. Using septic tanks with alum addition, Clear Lake larger lots could each develop with one house with a septic tank/drainfield in the watershed. Added restrictions on forest harvesting would probably be necessary.

Advantages: No sewer. No stormwater quality controls necessary. Collard Lake improves considerably (14.4 ug/l to 11.4 ug/l). All Clear Lake lots get a drainfield system on the property within the watershed.

Disadvantages: Alum addition to septic tanks although pilot tested in Canada is untried technology on a large scale. If this option is chosen, the Commission's rules for on-site sewage disposal would have to be modified. Undeveloped lots in Collard Lake subdivisions must be left undeveloped. Some restrictions on forest harvesting probably required.

CASE V: Collard Lake annual loading set at 49 # total P per year.
Clear Lake annual loading set at 218 # total P per year.
Department reserve set at 192 # total P per year.

Under this option, the loading on Clear Lake is to remain unchanged. The Collard Lake subdivisions must be sewered and the undeveloped lots in the subdivisions would probably have to remain undeveloped. The big Clear Lake properties could have one house on each lot, but only five could have their on-site sewage disposal systems inside the watershed. Forest harvesting would probably have to be severely restricted. Note: in presenting this case, the Department did not reserve for itself the phosphorus loading created by sewerage the Collard Lake subdivisions. This presumes that the benefit of removing those systems will be realized immediately, which is unlikely. If the Department reserves this phosphorus loading to itself, no further development could occur in the watershed. Because this case does not project any increased loadings into Clear Lake, these calculations do not include a recycling factor.

Advantages: Clear Lake loadings to no increase which should better assure that lake water quality is maintained. Collard Lake water quality improves substantially (14.4ug/l phosphorus to 8.2ug/l).

Disadvantages: Sewers required for Collard Lake subdivisions. Collard Lake undeveloped lots would remain undeveloped. Forest harvesting probably precluded if new houses put on big Clear Lake properties.

CONCLUSION AND RECOMMENDATION:

At a lake loading limitation of 265 pounds of phosphorus per year, there will be a number of reasonable watershed management alternatives that local government can consider. The Department recommends that the loading limit for Collard Lake be set at 67 pounds of phosphorus per year. This provides for some improvement in its quality and also provides for flexibility to consider other alternatives for controlling phosphorus loadings on both Collard Lake and Clear Lake.

ISSUE: Should the existing policies and guidelines be expanded to better assure that Lane County can develop a watershed management plan consistent with allowable lake loadings?

Although the Environmental Quality Commission established nitrate-nitrogen loading limits for Clear Lake over seven years ago, there has been no movement until recently to develop a land use management plan to assure that development and land use is consistent with the loading limits. There are a number of reasons for this:

- a. There was a lack of sufficient technical expertise at the local level to develop and evaluate various watershed management options based upon potential nitrate-nitrogen loadings.
- b. There remained the question of whether or not the lake was phosphorus limited instead of nitrogen limited.
- c. The expense of installing a conventional sewer system to serve the Collard Lake subdivisions appeared too much to Collard Lake residents who were satisfied with the status quo.

If the Commission determines to modify the policies and guidelines for the Clear Lake watershed, serious consideration should be given to assuring that local government has a clear understanding as to the Commission's expectations of local government in meeting lake loading limits. Otherwise, the watershed management plan necessary for the lake may remain in limbo as it has since the original rule was adopted in 1983. The Department has proposed modified rule language that lays out a process for the development and approval of a watershed management plan. The significant components of the proposed rule are as follows:

- a. Lane County or any other jurisdiction shall not issue permits allowing connection of new development in the Clear Lake watershed to a sewage collection system until a plan is submitted to and approved by the Department showing how total phosphorus loadings limitations required by OAR 340-41-270 will be achieved and maintained. The plan shall address total phosphorus associated with erosion due to construction as well as that due to existing and new development. The plan shall include ordinances as necessary to effectively implement the plan.

Justification: This requirement is to assure that all elements of a lake management plan are in place before any new development is allowed. The pressure for new development is a significant part of the driving force for the creation of a lake watershed management plan. This driving force can be applied to other aspects of the watershed plan, not just those directly related to building a sewer.

- b. Department or its contract agent shall not issue sewage system construction installation permits or approved site evaluation reports for sewage systems to serve property within the Clear Lake watershed until a plan is submitted to and approved by the Department showing how total phosphorus loadings limitations required by this rule will be achieved and maintained. The plan shall address total phosphorus associated with erosion due to construction as well as that due to existing and new development. It shall also address forest harvesting activities. The plan shall include ordinances, easements, and/or contracts as appropriate and necessary to effectively implement the plan.

Justification: The reason for this requirement is the same as for requirement (a) above.

- c. No construction of the sewerage facility to serve the Collard Lake subdivisions shall begin until or unless:

- (1) The facilities plan report and engineering plans and specifications have been approved in writing by the Department,
- (2) It is constructed and operated by a municipality with authority for the operation and maintenance of sewerage facilities.
- (3) Before construction starts, the municipality shall demonstrate that it has a reliable source of funding to assure proper construction, operation, maintenance, and replacement of sewerage control facilities.

Justification: These requirements are intended to assure that a sewer system, if constructed, is properly designed and that it will be operated by an entity with the legal authority and resources to comply with the Department's requirements.

- d. No sewage system construction installation permits, approved site evaluation reports, or sanitary sewer connection permits shall be issued until a plan for monitoring the water quality of Clear Lake is submitted to and approved by the Department. The plan shall include contracts or memorandums of agreement that assure that the monitoring will be conducted.

Justification: The Department believes that Clear Lake needs to be continuously monitored so that any changes in its quality can be readily detected. Prompt detection of water quality changes will allow the Department and others to more quickly determine the extent and cause of the problems and take steps to address the problems. The

Department believes that this monitoring should be the responsibility of local government because the monitoring is necessary to verify compliance with discharge limitations.

- e. Unless it is demonstrated that stormwater runoff treatment and control systems are not necessary to meet the total maximum annual loading for total phosphorus, any off-site or on-site control facilities for stormwater quality control necessary to comply with this total maximum annual load shall be under the control of a municipality. _____

Justification: The Department believes that, if storm water quality controls are needed to meet the lake loading limitations, there must be assurances that these systems are properly operated and maintained. The Department does not believe that individual homeowners can be relied upon for operation and maintenance even if the systems are located on individual lots.

- f. A municipality shall be responsible for all sewerage facilities including on-site sewage disposal systems constructed in the Clear Lake watershed after December 1, 1989. _____

Justification: A single failing on-site sewage disposal system, particularly if located next to the lake, will contribute about five times the amount of phosphorus to the lake as predicted in the analyses. Periodic inspection of the systems by an entity with the powers to correct any failing system is essential for the protection of the lake.

- g. By October 1, 1993, all sewage generated within the Collard Lake subdivisions shall be collected, treated and disposed according to a sewerage facilities plan report submitted to the Department by October 1, 1991. No construction of the sewerage facility shall begin until the facilities plan and engineering plans and specifications have been approved in writing by the Department. The Department may grant an exception to sewer the Collard Lake subdivisions if, by October 1, 1991, an alternative plan is submitted to and approved by the Department. The alternative plan must provide equivalent controls on phosphorus so that the loading limit for Collard Lake is met.

Justification: Some people will argue that it is inappropriate at this time to require a sewer system in these rules. Other alternatives are available so that a sewer would not be needed. The Department agrees that there are other alternatives that may not include a sewer for Collard Lake. The Department believes, however, that the threat of sewers more than anything else has caused the current Collard Lake residents to seriously consider and

participate in the development of a lake management plan. The requirement provides an out, if an acceptable alternative is submitted and approved by DEQ.

ISSUE: What criteria should be used to verify that the lake's water quality is remaining at an acceptable level?

The Department has recommended that the lake loadings be established on the basis of 9.5 ug/l of total phosphorus. In addition, the literature indicates that chlorophyll a levels of 2.75 ug/l would be the upper limit of oligotrophic conditions. The Department has chosen these two parameters as the triggering points for when the Department would judge that the lake loading limits were being exceeded. The proposed rule language is:

The total phosphorus maximum annual loading for the Clear Lake watershed shall be deemed exceeded if:

- (a) The median concentration of total phosphorus from samples collected in the epilimnion between May 1 and September 30 exceed 9.5 micrograms per liter during two consecutive years, and
- (b) The median concentration of chlorophyll a from samples collected in the epilimnion between May 1 and September 30 exceed 2.75 micrograms per liter during two consecutive years.

ISSUE: Is the approach being proposed with Clear Lake compatible with the protection of other lakes with very high quality water?

The Department believes the approach recommended for Clear Lake is a good approach that could and perhaps should be taken with other oligotrophic lakes whose shores and watershed are subject to residential development. The approach with Clear Lake is protective of all uses including drinking water and aesthetics. The Department, however, would not approve of a similar approach for lakes such as Waldo Lake and Crater Lake because of their incredible clarity and public value. Such lakes should be managed with no increases in phosphorus loadings.

Gilliom Lake Water Quality Groupings²³

Phosphorus
Concentration
ug/l

Lake Group Characteristics

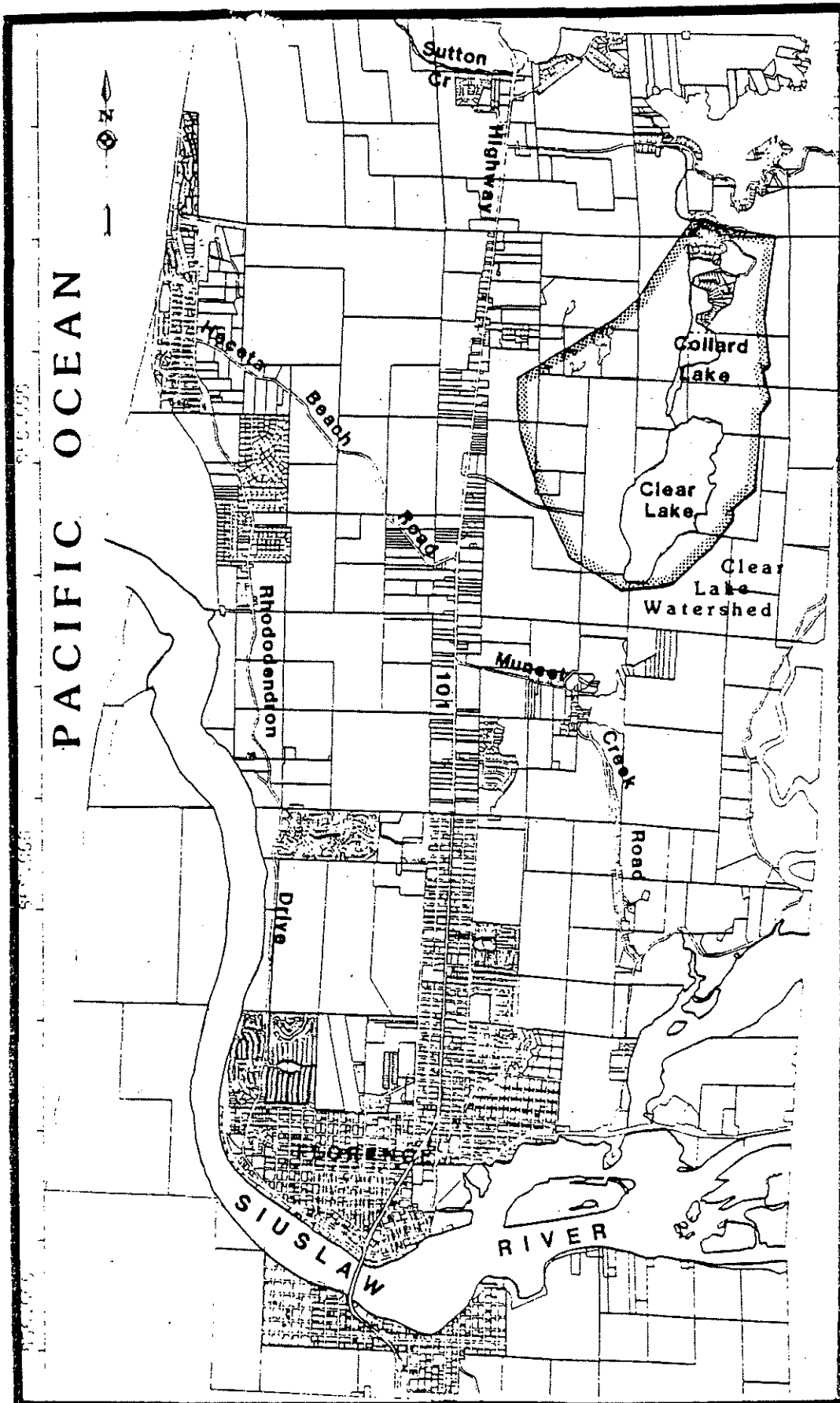
- | | |
|---------|---|
| 0 - 10 | Low algal productivity; high suitability for all recreational uses. Algal blooms are rare and water is extremely clear, with a Secchi-disk visibility that is usually 5 meters or greater. Summer chlorophyll <u>a</u> concentrations generally average less than 3 ug/l. |
| 10 -20 | Moderate algal productivity; generally compatible with all recreational uses. Algal blooms are occasional, but generally of low to moderate intensity. Oxygen depletion is common in bottom waters and cold-water fisheries may be endangered in some shallow lakes. In many lakes, however, fishery may be enhanced by increased productivity. Secchi-disk visibility is usually 3 to 5 meters; chlorophyll <u>a</u> averages 2 to 6 ug/l in most lakes. |
| 20 - 30 | Moderately high algal productivity; still compatible with most recreational uses, but algal blooms are more frequent and intense, and oxygen depletion is more serious. This can increase fisheries problems, though productivity may still be enhanced. Water clarity is reduced and Secchi-disk visibility is usually 2 to 4 meters. Chlorophyll <u>a</u> averages 4 to 10 ug/l. |

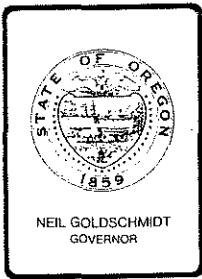
²³ Reproduced from Gilliom, Robert J., Estimation of Nonpoint Source Loadings of Phosphorus for Lakes in the Puget Sound Region, Washington, " U.S. Geological Survey Water-Supply Paper 2240, U.S. Government Printing Office: 1983, p4.

Greater than 30

High algal productivity; lake suitability for most recreational uses is often impaired by frequent and intense algal blooms which may form floating scums. The water often takes on a "pea soup" color and becomes extremely murky. Fish kills may be common, especially in shallow lakes. Secchi-disk visibility is generally less than 3 meters and chlorophyll a concentration is usually greater than 10ug/l.

FIGURE 11. Study Area Map Showing Maximum Boundary of the Clear Lake Watershed and Parcel Distribution.





Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: I
Division: MSD
Section: ADM

SUBJECT:

State Agency Coordination Program - Request for hearing authorization on rule adoption.

PURPOSE:

To conduct a public hearing on proposed rules. Under the Department of Land Conservation and Development statutes and rules, state agencies are directed to adopt a State Agency Coordination Program and the implementation procedures are to be adopted by administrative rule.

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 ___

DESCRIPTION OF REQUESTED ACTION:

The proposed rules contain the provisions within the following four program components:

1. Identification of rules, programs, actions affecting land use.
2. Procedures for assuring statewide goal consistency and acknowledged plan compatibility.
3. Cooperation with and technical assistance to local governments.
4. Coordination with federal and state agencies and special districts.

AUTHORITY/NEED FOR ACTION:

<input type="checkbox"/> Required by Statute:	_____	Attachment	_____
Enactment Date:	_____		
<input checked="" type="checkbox"/> Statutory Authority:	<u>ORS 197.180</u>	Attachment	_____
<input checked="" type="checkbox"/> Pursuant to Rule:	<u>OAR 660-340-30</u>	Attachment	_____
<input type="checkbox"/> Pursuant to Federal Law/Rule:	_____	Attachment	_____
<input type="checkbox"/> Other:		Attachment	_____
<input checked="" type="checkbox"/> Time Constraints:	An adopted State Agency Coordination Program is scheduled to be submitted to the DLCDC by September 1, 1990.		

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 checked="" type="checkbox"/> Prior EQC Agenda Items:			
EQC staff briefing provided at January, 1989 work session		Attachment	_____
<input checked="" type="checkbox"/> Other Related Reports/Rules/Statutes:			
(Proposed State Agency Coordination Document)		Attachment	<u>E</u>
<input type="checkbox"/> Supplemental Background Information		Attachment	_____

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The rules contain procedures the Department of Environmental Quality (Department) will employ in carrying out its rules, programs and actions that affect land use which may require city, county and agency participation and cooperation. The procedures also require that specific information be provided to the Department by any party applying for permits or related Department approvals or actions.

PROGRAM CONSIDERATIONS:

The rule adoption will require a determination of necessary Department staff resources for implementation. Minimal staff resources are currently available for land use-related participation and assistance purposes. The Department will assess program needs and provide implementation within the capabilities of Department resources. The Executive Summary, pages i - vi, highlights the key elements of the program and includes a list of Department actions determined to affect land use. Section III, pages 22 - 45, provides a description of the land use programs and procedures to assure land use compatibility.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

None. The adoption and implementation of the State Agency Coordination Program is required by state law.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends the EQC grant public hearing authorization.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed State Agency Coordination Program document and rules are an update of existing Department policy regarding the fulfillment of its statutory land use responsibilities. The program is consistent with Goal 2 of the Strategic Plan: "Aggressively identify threats to public health or the environment and take steps to prevent problems which may be created."

Meeting Date: June 29, 1990
Agenda Item: I
Page 4

ISSUES FOR COMMISSION TO RESOLVE:

Commission evaluation, revision or concurrence is necessary for the four components of the State Agency Coordination Program as identified under Description of Requested Action on page 2 of this report.

INTENDED FOLLOWUP ACTIONS:

1. Public hearing scheduled for July 17, 1990 in Portland.
2. The Department will provide the Commission with a report on the public hearing.
3. The Department will recommend Commission adoption of a State Agency Coordination Rule.

Approved:

Section:

Roberts Gaway

Division:

Pat A. Nalley

Director:

Pat Nalley

Report Prepared By: Roberta Young

Phone: 229-6408

Date Prepared: 6-12-90

OREGON ADMINISTRATIVE RULES
CHAPTER 340, DIVISION 18 - DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE AGENCY COORDINATION PROGRAM

PURPOSE

340-18-000 In accordance with ORS 197.180, this rule establishes Department policy and procedures to assure that Department activities determined to significantly affect land use are carried out in a manner that complies with the statewide land use goals and are compatible with acknowledged comprehensive plans. Notwithstanding possible land use effects, the Department is not responsible for local plan compatibility or goal compliance if the applicable statutory authority requires that the Department's actions be based exclusively on consideration of public health and safety. Division 18 shall control over any inconsistent rule provisions relating to land use compliance and compatibility in OAR 340 Divisions 20, 35, 52, 61, 71, and 120.

POLICY

340-18-010 It is the Commission's policy to coordinate the Department's programs, rules and actions that affect land use with local acknowledged plans to the fullest degree possible.

DEFINITIONS

340-18-020 As used in these rules,

(1) "Acknowledged comprehensive plan" means a city or county comprehensive land use plan that has been approved by the Land Conservation and Development Commission.

(2) "Affected local government" means a city or county government that has land use planning jurisdiction.

(3) "Commission" means the Environmental Quality Commission.

(4) "Department" means the Department of Environmental Quality.

(5) "Director" means the Director of the Department of Environmental Quality.

(6) "DLCD" means the Department of Land Conservation and Development.

(7) "Land use action" means a Department rule, program or activity which has been determined to affect land use as defined by OAR 660-30-005.

(8) "Land use dispute" means a difference of opinion between the Department and local government as to the compatibility of a Department action with the provisions of an acknowledged comprehensive plan.

(9) "Local government" means an incorporated city or county

(10) "LUBA" means the Land Use Board of Appeals.

(11) "LUCS" means a land use compatibility statement.

(12) "NPDES" means a wastewater discharge permit issued in accordance with requirements and procedures of the National Pollutant Discharge Elimination System.

(13) "SAC Program document" means the Department's State Agency Coordination Program document developed pursuant to ORS 197.180.

(14) "Statewide goals" means Oregon's Statewide Planning Goals adopted by the Land Conservation and Development Commission pursuant to ORS 197.222.

(15) "TMDL" means Total Maximum Daily Load, the sum of a wasteload allocation for point and nonpoint sources.

(16) "WPCF" means a state Water Pollution Control Facilities Permit.

APPLICABILITY

340-18-030 The provisions of this rule, 340-18-000 through 340-18-200 apply to Department programs and actions subsequently determined to have significant effects on land use pursuant to ORS 197.180 and OAR 660-30-075. Department land use actions are identified below:

(1) Air Quality Division

(a) Approval of Noise Impact Boundaries for Motor Racing Facilities,

(b) Approval of Airport Noise Abatement Program and Noise Impact Boundaries,

(c) Approval of Notice of Construction,

(d) Issuance of Air Contaminant Discharge Permit,

(e) Approval of Indirect Source Construction Permit,

(f) Approval of Parking and Traffic Circulation Plan, and

(g) Application of State Implementation Plan,

(2) Environmental Cleanup Division

(a) Issuance of Environmental Hazard Notice.

(3) Hazardous and Solid Waste Division

(a) Issuance of Solid Waste Disposal Permit,

(b) Issuance of Waste Tire Storage Permit, and

(c) Issuance of Hazardous Waste and PCB Storage, Treatment and Disposal Permit.

(4) Management Services Division

(a) Approval of Pollution Control Bond Fund Application.

(5) Water Quality Division

(a) Approval of Wastewater System and Facility Plans,

(b) Approval of Construction Grant Program Application,

(c) Approval of State Revolving Loan Application,

(d) Issuance of On-site Sewer Permit,

(e) Issuance of NPDES and WPCF Permits,

(f) Development of Water Quality Wetland Protection Criteria,

(g) Restrictions for Waste Load Allocations on Waterways

(TMDLS),

(h) Certification of Standards for Federal Projects,

(i) Declaration of Ground Water Management Area,

- (j) Development of Nonpoint Source Management Plan,
- (k) Development of Estuary Plans,
- (l) Development of Oil Spill Regulations,

COMPLIANCE WITH STATEWIDE PLANNING GOALS

340-18-040 (1) The Department shall to the fullest degree possible, achieve goal compliance for land use programs and actions identified in OAR 340-30-030 by assuring compatibility with acknowledged comprehensive plans, except as provided in Section 3.

(2) The Department shall consider a land use action to be in compliance with the goals when the action is determined compatible with the comprehensive plan.

(3) The Department shall assure statewide goal compliance when necessary through the adoption of findings pursuant to OAR 660-30-065 (3) through the following process:

- (a) The identification of applicable goals;
- (b) Request for advice from DLCD or the Attorney General's Attorney General's office when necessary;
- (c) Consultation with the affected local government; and
- (d) The adoption of necessary findings.

COMPATIBILITY WITH ACKNOWLEDGED COMPREHENSIVE PLANS

340-18-050 (1) Commission or Department actions under OAR 340-18-030 shall be compatible with local government acknowledged comprehensive plans to the fullest degree possible.

(2) The Department shall rely on the compatibility procedures described in Section III - subsection 3, and Section IV - subsections 2,3,and 4 of the SAC Program document to assure compatibility with an acknowledged comprehensive plan, which include but may not be limited to the procedures described below:

(a) An applicant's submittal of a LUCS which provides the affected local government's determination of compatibility.

(A) A LUCS shall be submitted with a Department application or required submittal information.

(B) The Department shall rely on an affirmative LUCS as a determination of compatibility with the acknowledged comprehensive plan.

(C) If the Department concludes a local government LUCS review and determination does not consider all relevant land use issues, the Department may require the applicant to provide a local government re-evaluation of the LUCS or other related appropriate action.

(D) If the Department receives a LUCS which states that the proposed action is incompatible with the acknowledged comprehensive plan, the Department shall notify the applicant that the application cannot be processed.

(E) If more than one local government has jurisdiction related to a Department action, a LUCS review will be required from each affected local government.

(F) If a local government land use compatibility determination is appealed subsequent to the Department's receipt of the LUCS, the Department shall continue to process the action unless ordered otherwise by LUBA or a court of law.

(b) An applicant's submittal of a LUCS is required for the renewal or modification of the permits identified in 340-18-030 if the Department determines the permit involves a substantial modification or intensification to the permitted activity.

(A) Renewal permits require a LUCS if a permit renewal involves a modification that requires a LUCS under (B) of this section.

(B) Modification permits require a LUCS if:

(i) The permitted source or activity relates to the use of additional property or a physical expansion on the existing property. The LUCS applies to the physical changes on the property and does not apply to existing permit conditions,

(ii) The permitted source or activity involves a significant increase in discharge to state waters or into the ground,

(iii) The permitted source or activity involves the relocation of an outfall outside of the source property.

(iv) For a major modification of an air contaminant discharge permit which means any physical change or change of operation of a source that results in a net significant emission rate increase as defined in OAR 340-20-225 (25).

(c) An applicant's submittal of evidence that a required Department action has been conducted with and is compatible with the local comprehensive plan.

(d) The Department provides notice to local governments prior to initiating land use actions of statewide application, or notice to affected local governments prior to initiating an action of site-specific or area-wide application. Dispute resolution procedures pursuant to OAR 340-18-060 are applied when the Department and local government disagree on plan compatibility.

(e) The Department provides notice to affected local government of a Department land use action, which may include a request for local government action to assure local plan compatibility with the Department's action.

LAND USE DISPUTE RESOLUTION

340-18-060 The Department's preference for resolving a dispute over land use compatibility is to work directly with local government until resolution is accomplished. In resolving a land use dispute, the Department shall consider one or more of the following mechanisms:

(1) Initiate meetings between the Department and affected local government to pursue resolution alternatives,

(2) Provide an application for a necessary local land use approval,

- (3) Initiate an appeal of the local government's denial of land use approval,
- (4) Submit a request for local land use approval at the local government's periodic review of its comprehensive plan,
- (5) Request informal LCDC mediation in accord with OAR 660-30-070, and
- (6) Proceed with an agency action and provide compliance with the statewide goals in accord with OAR 660-30-065 (3).

STATEWIDE GOAL COMPLIANCE AND ACKNOWLEDGED PLAN COMPATIBILITY FOR NEW OR AMENDED RULES AND PROGRAMS SIGNIFICANTLY AFFECTING LAND USE.

340-18-070 (1) New or amended rules and programs shall be evaluated in terms of compliance with ORS 197.180 and OAR Chapter 660, Division 30, with the exception of temporary rules.

(2) The Department shall determine if new or amended rules and programs affect land use pursuant to OAR 660-30-005 (2) and Section III, subsection 2 of the Department's State Agency Coordination Program document.

(3) Notice of new or amended rules and programs shall be provided to DLCD and shall include the following information:

(a) Evidence that the rule or program is a land use program; or,

(b) Evidence that the rule or program affects land use and is covered under the Department's certified State Agency Coordination Program; or

(c) Evidence that the rule or program is a land use program including an explanation of how goal compliance and plan compatibility will be assured.

COMPLIANCE WITH DLCD PERMIT COMPLIANCE AND COMPATIBILITY RULE

340-18-080 The Department's Waste Tire Storage Permit is classified a Class B permit pursuant to OAR 660 Division 31. This permit is subject to the procedures of OAR 340-18-040 and OAR 340-18-050 to assure statewide goal compliance and acknowledged plan compatibility.

COORDINATION WITH AFFECTED STATE AND FEDERAL AGENCIES AND SPECIAL DISTRICTS

340-18-090 The Department shall coordinate with the appropriate federal agencies and special districts on all rules and programs affecting land use as described in OAR 340-18-030.

COOPERATION WITH AND TECHNICAL ASSISTANCE TO LOCAL GOVERNMENT

340-18-200 The Department is committed to cooperate with and provide local government with environmental quality technical

assistance and data for local government land use planning purposes within Department funding and staffing capabilities.

(1) Cooperation and technical assistance may include but not be limited to the following:

(a) The provision of notice to local government of proposed rules and programs determined to affect land use.

(b) Participation in the periodic review, plan update or plan amendment process.

(c) The provision of environmental technical or scientific interpretative assistance and data.

(2) The Department's Intergovernmental Coordination Office is the initial contact point for local government. Department cooperation and assistance will be coordinated and provided as appropriate by the Department's division and region offices.

(3) The provisions and referenced provisions of this section shall apply to all local governments including those local governments recognized under the state's Coastal Zone Management Program.

RULEMAKING STATEMENTS

Statement of Need for Rulemaking.

Pursuant to ORS 183.335(7) this statement provides information on the Environmental Quality Commission intended action to adopt rules.

(1) Legal Authority.

Adoption of rules on state agency coordination is consistent with enabling legislation, ORS 197.180.

(2) Need for Rulemaking.

The Department of Land Conservation and Development Administrative Rule OAR 660-340-30 requires that state agencies adopt rules to implement procedures for assuring the agency's compatibility with acknowledged plans and procedures for the resolution of land use-related disputes.

(3) Principal Documents Relied upon:

- ORS 197.180
- OAR 660, Division 30
- Proposed DEQ State Agency Coordination Document

(4) The adoption of rules to direct the implementation of the Department's State Agency Coordination responsibilities is consistent with the Statement's Planning Goals, in specific, Goal 2, which states "is expected that required state and federal agency plans will conform to the comprehensive plans of cities and counties."

FISCAL AND ECONOMIC IMPACT STATEMENT

1. The update and rule adoption of the Department's State Agency Coordination Program does not anticipate increased staff resources in the current biennium.
2. The update and adoption of the Department's State Agency Coordination Program may result in an increase in requests by cities and counties for information and technical assistance. There may be a need for additional staff resources to carry out the responsibilities of the program for the 1991-93 biennium.

The proposed rulemaking is expected to present no measurable economic impact on the general public, small businesses or large business or cities and counties. The Department procedures for assuring its actions affecting land use are consistent with the statewide goals and acknowledged plans, are primarily an extension and update of existing procedure and policy.

A CHANCE TO COMMENT ON . . .

STATE AGENCY COORDINATION PROGRAM RULE PUBLIC HEARING

Date Prepared: June 13, 1990
Hearing Date: July 17, 1990
Comments Due: July 18, 1990

WHO IS AFFECTED:

Adoption by rule of the Department's State Agency Coordination Program update will continue to affect those individuals applying for permits and approvals of actions that affect land use.

WHAT IS PROPOSED:

The DEQ proposes to adopt rules OAR 340-18-000 through 340-18-200 to comply with ORS 197.180 and the Department of Land Conservation and Development Administration Rule OAR 660 Division 30.

Proposed rules direct the DEQ to carry out its state agency coordination land use responsibilities pursuant to the State Agency Coordination Program document.

WHAT ARE THE HIGHLIGHTS:

The proposed rules contain the following State Agency Coordination Program elements:

1. Identification of Department rules, programs and actions affecting land use.
2. Procedures to assure statewide goal consistency and compatibility with acknowledged plans.
3. Provisions for cooperation and technical assistance to local government.
4. Provisions for coordination with federal and other state agencies and special districts.



811 S.W. 6th Avenue
Portland, OR 97204

FOR FURTHER INFORMATION: D-1

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.

HOW TO COMMENT:

A public hearing will be held:

Tuesday, July 17, 1990
1:30 p.m.
DEQ Headquarters Bldg.
Room 10A
811 S.W. Sixth Ave.
Portland, Oregon

Written or oral comments may be presented at the hearing. Written comments may be sent to:

Department of Environmental Quality
Management Services Division
811 S.W. 6th Ave.
Portland, Oregon 97204

Written comments must be received no later than 5:00 p.m., July 18, 1990.

Copies of the proposed rules and program document can be obtained from:

Christie Nuttall
Management Services Division
811 S.W. Sixth Ave.
Portland, Oregon 97204
Telephone: 229-6484
Toll-free 1-800-452-4011

DRAFT ----- DRAFT ----- DRAFT

6-11-90

LAND USE COORDINATION PROGRAM

IN ACCORDANCE WITH ORS 197.180 and
OAR CHAPTER 660, DIVISION 30 and 31

APPROVED BY THE ENVIRONMENTAL QUALITY COMMISSION
(DATE)
CERTIFIED BY THE LAND CONSERVATION & DEVELOPMENT COMMISSION
(DATE)

DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND USE COORDINATION PROGRAM

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EXECUTIVE SUMMARY

Oregon Revised Statutes 197 requires state agencies to carry out their land use responsibilities in compliance with the statewide planning goals and compatible with acknowledged comprehensive plans. Agencies are required to develop and adopt a state agency coordination (SAC) program to fulfill these obligations. This document describes the Department of Environmental Quality's (Department) policies and procedures for state agency coordination on land use related matters. This is the Department's second update of its SAC program since its initial adoption in 1978.

By state law, state agency coordination programs must contain four elements:

1. Identification of agency rules and programs that affect land use.
2. Procedures to assure goal compliance and compatibility with acknowledged comprehensive plans.
3. Procedures to assure cooperation and technical assistance to local government.
4. Procedures to coordinate with federal agencies, other state agencies and special districts.

The SAC must also include a description of all agency rules and programs, and procedures for the resolution of land use disputes. The key portions of an SAC such as the procedures for goal compliance plan compatibility and the determination of new or amended programs that affect land use must be adopted by administrative rule.

The following paragraphs provide an overview of each of the Department's SAC document sections.

Section 1 - Introduction

The Department is authorized to maintain, restore, and preserve the state's air and water resources and to manage hazardous and solid waste. These authorities are vested in a five member Environmental Quality Commission (the Commission) appointed by the Governor and responsible for overseeing Department policy.

The SAC Program document reflects the Department's view of the federal, state and local government roles regarding environmental quality. The federal and state roles primarily consist of the development of environmental standards, and their implementation and enforcement. Local governments generally focus on the prevention of environmental pollution or degradation through comprehensive planning or other development mechanisms.

The Commission supports an increasing emphasis on the prevention of environmental degradation at the state level. The Commission and Department believe this focus should be well coordinated with local government, most appropriately through the land use planning process. As resources permit, it is the Department's intent to identify and pursue opportunities within its program areas to further state or local efforts to prevent environmental degradation through more effective planning.

Section II - Overview of Department Programs

This section summarizes all agency programs according to the seven Department divisions: Air Quality, Environmental Cleanup, Hazardous and Solid Waste, Laboratory and Applied Research, Management Services, Region Operations, and Water Quality (see Figure 1).

Section III - Rules, Programs and Actions Affecting Land Use

The Department's rules, programs, and actions that affect land use may relate to any of the nineteen statewide land use goals, but the two goals that most directly relate to the Department's activities are: Goal 6 - Air, Water and Land Resource Quality and Goal 11 - Public Facilities and Services. Although these are the primary goals that relate to Department responsibilities, other goals may apply to Department land use actions and will be appropriately addressed when necessary. These goals may include Goal 5, the open space and natural resources goal, or the four coastal goals.

The Department of Land Conservation and Development's (DLCD) administrative rule OAR 660-30-005 considers an agency rule or program to affect land use if, (1) it is specifically referenced in the statewide planning goals, or (2) it is reasonably expected to have significant effects on resources, objectives or areas identified in the goals or in acknowledged comprehensive plans. Under DLCD's first criterion, the Department's Water Quality Nonpoint Source Program is referenced in Goal 16 - Estuarine Resources. These authorities are essential to maintaining water quality and to minimize man-induced sedimentation in estuaries. To provide assistance in evaluating DLCD's "significance" criterion, in the second criterion, the Department relied on two interpretive guidelines: a) the land use responsibilities of a program or action involving more than one agency, rests with the agency that has primary statutory authority. b) a determination of land use significance must consider the Department's mandate to protect public health and safety and the environment.

In applying the above factors, the Department has identified twenty-four actions that affect land use. The procedures for assuring comprehensive plan compatibility for these Department actions are summarized in Figure 2 (page vi).

Section IV - Procedures for Assuring Statewide Goal Compliance and Compatibility with Acknowledged Plans

Procedures for Compliance with Statewide Goals - It is the Department's intent to achieve goal compliance by relying on local government determinations of acknowledged comprehensive plan compatibility to the degree possible. DLCD's administrative rule OAR 660-30-065 describes circumstances that require an agency to directly comply with the statewide goals. When necessary, the Department will identify the applicable goal(s), seek advice from DLCD or the Attorney General's office when needed, consult with the affected local governments, and adopt appropriate findings to support goal compliance.

Procedures for Acknowledged Plan Compatibility - The Department has identified twenty-four actions that affect land use and has developed procedures for assuring statewide goal compliance and comprehensive plan compatibility.

The majority of Department actions affecting land use involve the requirement of a Land Use Compatibility Statement (LUCS). Through the use of the LUCS, the Department relies on a determination of comprehensive plan compatibility from the affected local government. Procedural provisions involving a LUCS include:

- A completed LUCS, acted upon by the affected local government must be submitted by an applicant with an approval request or permit application. If an affirmative LUCS is not received the Department will not process the application.
- The Department relies on an affirmative LUCS as a determination of local plan compatibility. If a negative LUCS is received the application will not be processed.
- If the Department concludes that a LUCS review may not have considered all land use implications, it may require the applicant to obtain an additional review by the local government before proceeding on the permit.
- If more than one local government has jurisdiction for an activity the LUCS must be reviewed by each affected jurisdiction.
- If a LUCS is appealed after the Department has determined an application complete, the permit will be processed and may be issued except when the LUCS has been stayed by the Land Use Board of Appeal (LUBA), or other court of law. The Department will not take action to withhold permit issuance or to revoke a permit until ordered by a court, or until the appeal process is exhausted.

- A LUCS is not required for a permit renewal unless the renewal also involves a substantial modification that would in itself require a LUCS.
- A LUCS is required for a permit modification when conditions exist that constitute a substantial modification or intensification of the permitted activity as determined when: the permitted source or activity will be expanded or use additional property; the modification involves any new or increased discharges related to changes in products or services rendered; the modification involves the relocation of an outfall outside of the source property; or, any physical or operational change that would result in a net significant emission rate increase.

Procedures for Dispute Resolution - In efforts to resolve a land use dispute the Department will consider several options: 1) meetings and discussions with affected local government; 2) alternatives or modifications of the Department's SAC Program; 3) applying for necessary local land use approval; 4) appealing local government action; request approval during periodic review; or 5) requesting Land Conservation and Development Commission (LCDC) mediation.

Goal Compliance and Plan Compatibility Procedures for New or Amended Rules - The Department will evaluate all proposed rules using the factors in Section III for determining if rules and programs affect land use. The DLCD will receive a notice of all proposed rulemaking.

State Permit Compliance and Compatibility Rule - The Department proposes one SAC program change that affects DLCD's OAR 660 Division 31. One new permit, the Waste Tire Storage Permit, has been included in the SAC program. The permit should be classified a Class B permit. The Department relies on an affirmative LUCS for a determination of plan compatibility before a permit is issued.

Section V - Cooperation and Technical Assistance to Local Government

The Department provides information and technical assistance through all of its program areas. The Department will coordinate its activities affecting land use with local governments to prevent potential conflicts between local and state planning. Coordination and assistance may involve periodic review, technical assistance and plan amendments. Local requests should be initiated through the Intergovernmental Coordination office.

Involvement in Periodic Review - The Department will provide periodic review guidelines to local government upon request. As resources allow, Department staff will evaluate periodic review

related plan or plan amendments upon request. The Department will participate in periodic review through the establishment of priority environmental concerns that relate to land use planning. This may involve emphasis on geographic areas or issue areas of high environmental priority.

The above provisions for cooperation, coordination and technical assistance also apply to coastal areas with a specific emphasis on Goal 16, Estuarine Resources and Goal 19, Ocean Resources.

Coordination with State Agencies, Federal Agencies and Special Districts

The Department's authorities and areas of responsibility require on-going coordination with other agencies, particularly natural resource agencies and special service districts. In response to DLCD's rule requirement of agency coordination for providing services necessary for economic development, the Department shall coordinate with the Departments of Economic Development, Land Conservation and Development, Transportation, and Water Resources in the implementation of federal grant and state loan applications for wastewater pollution control and treatment facilities.

FIGURE 1

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY
1989 - 1991

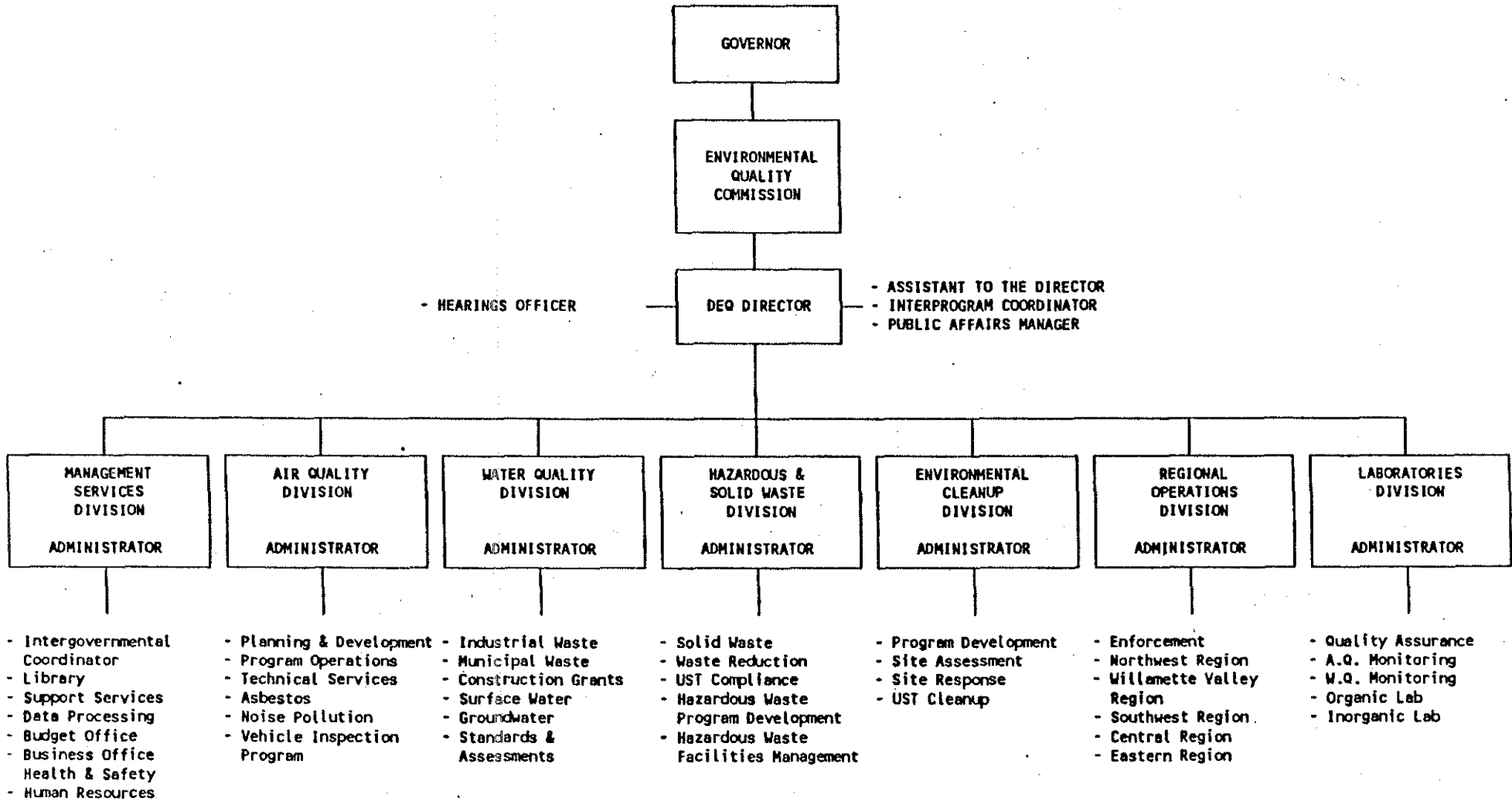


Figure 2

DEPARTMENT PROGRAMS/ACTIONS AFFECTING LAND USE
Goal Compliance/Plan Compatibility Procedures

Actions Affecting Land Use

Consistency/Compatibility Mechanisms

1. Approval of Noise Impact Boundaries for Motor Racing Facilities
2. Approval of Airport Noise Abatement Program/Noise Impact Boundaries
3. Approval of Air Quality Notice of Construction
4. Issuance of Air Contaminant Discharge Permit
5. Issuance of Indirect Source Construction Permit
6. Approval of Parking and Traffic Circulation Plan
7. Issuance of Solid Waste Disposal Permit
8. Issuance of Waste Tire Storage Permit
9. Issuance of Hazardous Waste & PCB Storage, Treatment and Disposal Permits
10. Issuance of Environmental Hazard Notice
11. Approval of Pollution Control Bond Fund Application
12. Approval of Construction/Expansion Plans for Waste Treatment Facilities and Sewer Systems
13. Certifying Applications for Federal Construction Grants for Water Pollution Control Facilities
14. Approval of State Revolving Loan Fund Applications for Water Pollution Control Facilities
15. Issuance of On-Site Sewage Disposal Permit
16. Issuance of Federal and State Water Quality Discharge Permits
17. Certification of Water Quality Standards for Federal Permits or Licenses

The Department relies on a local government determination of plan compatibility before approving these permits or plan approvals.

An applicant is required to submit a Land Use Compatibility Statement (LUCS) with a permit application or plan approval material. It is the applicant's responsibility to provide the LUCS to the local government of jurisdiction for review and sign off. With actions 2. and 6., other written evidence of compatibility may be provided.

The Department will not proceed with these actions until a completed LUCS is submitted. If the Department determines that a LUCS review did not consider all relevant land use issues, the applicant may be required to provide additional compatibility information.

-
18. Air Quality State Implementation Plan (SIP)

Local governments receive notice and opportunity for input when the SIP is amended or updated. The actions in SIP identified as affecting land use are implemented through the specific action procedure (e.g., permitting process).

-
19. Application of Water Quality Wetland Protection Criteria

Compatibility for point sources is achieved through the discharge permit process (LUCS). Rules have not been developed for nonpoint application.

-
20. Establishment of Total Maximum Daily Load for Water Quality Limited Waterways

Written evidence that the locally developed implementation plan is compatible with all affected local comprehensive plans is required before plan approval.

-
21. Declaration of Groundwater Management Area; Development of Action Plan
 22. Water Quality Nonpoint Source Planning
 23. Development of Estuary Water Quality Plans
 24. Regulation of Oil Spills

All affected local governments receive notice prior to Department initiation of actions. Opportunities provide for local government participation and coordination on land use issues.

SECTION I
INTRODUCTION

1. AUTHORITY FOR LAND USE COORDINATION

Oregon's land use laws mandate state agency responsibilities which include the submittal of a State Agency Coordination (SAC) program to the Land Conservation and Development Commission (LCDC) for approval. In 1986, LCDC revised its administrative rules to strengthen and clarify state agency coordination requirements. Under the revised rules, all agencies, including those with previously approved coordination programs, must submit a coordination program for LCDC approval by September, 1990. The current Department State Agency Coordination program was approved by LCDC in January 1983 as being in compliance with the requirements of ORS 197.180. This is the Department's second update of its SAC program.

2. STATUTORY ROLE OF DEQ

The Department of Environmental Quality evolved from the State Sanitary Authority by legislative direction in 1969. The agency reports to a Governor-appointed five member citizen commission, the Environmental Quality Commission (Commission).

The role of the Commission is to establish Department operational policies and to adopt rules and standards essential to the Department's functions.

The Department has broad authorities related to the maintenance, restoration, and preservation of the quality of Oregon's air and water resources and to the management of hazardous and solid wastes. These authorities are carried out by seven Departmental divisions.

The Director serves at the pleasure of the Commission and is responsible for overall agency management. The Director's office houses the agency's Public Affairs and Hearings sections. Agency divisions report to the Director and include:

Air Quality
Environmental Cleanup
Hazardous and Solid Waste
Laboratory & Applied Research

Management Services
Regional Operations
Water Quality

3. LAND USE PLANNING AND ENVIRONMENTAL QUALITY

Environmental quality may be narrowly interpreted as applying to our natural environment or, interpreted to include virtually every aspect of our living environment. The federal and state authorities governing environmental quality encompass the natural environment classifications such as air, water, sewage, solid waste and hazardous waste. From a local land use perspective, however, the environment may be perceived more expansively to include elements such as recreation, housing, transportation, and energy.

There are three governmental levels of control and regulation of environmental quality...federal, state, and local. The federal and state roles focus on the establishment of environmental quality standards and regulation and enforcement, with growing emphasis on the prevention of environmental degradation. Local government regulation to prevent environmental pollution and degradation is accomplished through a variety of mechanisms which may include the local comprehensive plan, related development ordinances and building codes.

State environmental regulation is continually changing in response to growth pressures on the state's natural resource assimilative capacity. The state can assist local government in furthering a local emphasis on prevention of environmental degradation. This can be most directly accomplished by providing current monitoring, assessment or other technical data to assist local government in managing future growth with accurate environmental-based decision making.

SECTION II

OVERVIEW OF DEPARTMENT PROGRAMS

1. ORGANIZATION

The Department's program areas are organized under its seven divisions. The information in this section is presented in accord with the agency's organization structure. Division management sections are established for each major program area; within each section there are a number of sub-programs, actions, or activities necessary for program implementation.

2. OFFICE OF THE DIRECTOR

The Director provides agency leadership and guidance in carrying out policy direction established by the Commission. The Office of the Director includes the Assistant to the Director, Public Affairs, Hearings Officer, and Administrative Support staff.

3. AIR QUALITY DIVISION

The Department is the designated agency responsible for the establishment and implementation of state air quality requirements under the federal Clean Air Act as well as state requirements. These responsibilities have been delegated by the Department to the Lane Regional Air Pollution Authority which assumes jurisdiction over most sources of air pollution in Lane County. The Air Quality Division oversees the development and implementation of state programs for the restoration and maintenance of the state's air resources, to facilitate cooperation among local government, and, to provide the means for air quality control through pollution abatement and prevention. The Division is also responsible for the development, implementation and enforcement of noise emission standards. These statutory responsibilities are carried out through the following programs:

Administration. Provides management and administrative support services to the various air quality program areas, and assists in obtaining federal funding for program areas.

Asbestos Control. Asbestos abatement is defined as any work which involves the handling, removal or disposal of any materials with potential of releasing asbestos fiber into the air. The Department regulates building owners and contractors through work practices, disposal requirements, training, and licensing of workers and contractors for all types of asbestos

abatement. Notification to the Department is required prior to any asbestos abatement project.

Fieldburning Smoke Management. Air emissions from agricultural burning practices are regulated by the Department in the Willamette Valley. Registration permits are issued yearly which identify the amount of acreage to be open burned in accord with burning criteria. The permit fees support the research and development of feasible alternatives to fieldburning. In 1990, the Department transferred some of its program responsibilities, through a Memorandum of Understanding, to the Oregon Department of Agriculture. The transferred responsibilities include assistance, monitoring and compliance, registration, and fee collection. The Department is responsible for enforcement activities.

Motor Vehicle Inspection. Vehicle emission testing program involves testing and inspection certification of motor vehicle emission control systems. A Certificate of Compliance is required in order to renew a vehicle's registration in the Portland and Medford areas. Vehicle inspection may be required if needed in any area that is not in compliance with carbon monoxide standards.

Noise Control. Develops and administers noise emission standards and regulations. Technical assistance, training, and equipment loans to local governments and other affected agencies are also provided. Specific noise control regulations apply to the following:

- o Sale of new motor vehicles.
- o New and existing industrial and commercial facilities.
- o Motor sports vehicles and (racing) facilities. The data and analysis used to determine the environmental noise impact boundaries for new facilities must be submitted to the Department for approval. Facilities located more than two miles from noise sensitive land uses are exempt from this requirement.
- o Noise abatement plans are required for airports which encompass noise sensitive property within the noise impact boundary. The submittal of noise impact contours for Department evaluation and approval is also required when a new airport master plan is developed.

Program Operations. The Program Operations role is to achieve and maintain a high level of sources operating in compliance with federal and state air quality rules, regulations, and permit conditions. The Section is responsible for the issuance

of all new and renewed permits, permit modifications, and provides technical assistance to the regulated sources and communities. This is accomplished through the administration and enforcement of ambient air emission standards as follows:

- o Submittal of a Notice of Construction (NC) to the Department is required before commencement of any construction or modification of an air contaminant source, unless an Air Contaminant Discharge Permit (ACDP) is required. The NC applies primarily to sources that emit less than 10 tons of any pollutant per year and to sources that do not have significant toxic air pollutant emissions.
- o An ACDP is required before the construction, major modification and operation of all significant air contaminant sources. Specific criteria requirements for an ACDP are determined by the amount of emissions per year or the type of source on pollutant emissions.

Permit criteria vary depending upon the type and level of emissions involved which may include: federally-based criteria for new sources that emit over 250 tons/year; growth increment strategies; state criteria governing the highest and best treatment and control practices; and, criteria for sources located in air quality nonattainment areas.

- o An emission permit is required for any activity in a wilderness area other than emergency or recreational which causes the emission of air contaminants, water pollutants or noise in excess of specified environmental standards. This permit is required in addition to other Department permit requirements.
- o The Department will, in response to new federal requirements, develop and implement air toxic controls for new and existing sources.

Planning and Development. Develops, plans, monitors and implements appropriate procedures to achieve and maintain compliance with air quality standards; and coordinates federal requirements with the state air quality programs. These are principally accomplished through the development and implementation of control strategies for attainment areas and nonattainment areas (Nonattainment areas include Portland-Vancouver, Salem, Eugene-Springfield, Medford-Ashland, Klamath Falls and Grants Pass). Specific actions are stated below:

- o Indirect Source Construction Permits (ISCP) are required for the construction and operation of certain types of parking facilities, airports,

highways, and for other types of attractors of motor vehicles in certain parts of the state. Threshold levels vary according to the amount of parking or other indicators.

- o Parking and Traffic Circulation Plans (PTCP) may be required for the control of motor vehicle emissions located in or projected to be in noncompliance areas. The plan requirement is based on the Department's or a regional air authority determination that the control of parking spaces and traffic circulation is necessary to ensure attainment of state and federal air standards.
- o The State Implementation Plan (SIP) is the Department's plan to implement provisions of the federal Clean Air Act. The Act requires that all states develop such plans for attaining and maintaining national ambient air quality standards. The SIP contains statewide air quality regulatory provisions; control strategies for nonattainment and attainment areas; an ambient air monitoring program; criteria for the prevention of significant deterioration; an emergency action plan; information on intergovernmental cooperation; and public involvement procedures. The portions of the plan that affect land use are implemented through the discharge permitting process.
- o The certification of new woodstoves offered for sale is required statewide for the control of air pollutants, including fine particulate emissions (PM₁₀). Retail stores are inspected for compliance with federal and state woodstove labeling regulations.
- o A visibility impact analysis is required of major air contaminant sources or major source modifications to prevent significant visual impairment in federal wilderness areas and national parks. These requirements are implemented through the ACDP process.
- o Open burning regulations prohibit industrial burning and regulate other classes of open burning statewide. Letter approvals may be issued for exceptions to prohibited burning activities. In areas and under circumstances where open burning is allowed, the local fire control entity has authority to issue a local burning permit. The Department coordinates with the Department of Forestry to assure slash burning regulations comply with state and federal air standards.

- o The Department regulates agricultural field burning in the Willamette Valley through the implementation of statutory limits on the maximum number of acres that can be open burned. These responsibilities are closely coordinated and shared with the Department of Agriculture.
- o Air contaminant sources with emissions of toxic air pollutants not currently regulated as standard criteria pollutants are subject to an interim policy regarding risk evaluation. The policy is implemented through the standard ACDP process.

4. ENVIRONMENTAL CLEANUP DIVISION

The Environmental Cleanup Division is authorized to eliminate or minimize adverse impacts to public health and the environment by cleanup of hazardous substances that have been released or improperly disposed. Program implementation is carried out through the Division's five sections:

Administration. Consists of the Division Administrator, an environmental toxicologist, and division administrative support staff. The toxicologist provides technical assistance which includes the review of studies involving environmental risk analysis. The section is responsible for the coordination of cleanup activities associated with illegal drug labs and spills of hazardous substances.

Site Assessment. Responsible for developing a statewide list of facilities with a confirmed release of hazardous substances; establishing an inventory of facilities where a confirmed release may pose a significant threat to public health and safety of the environment; and, conducting preliminary assessments of facilities to determine the extent of a release and an appropriate course of action regarding further investigation and cleanup.

Site Response. If a preliminary assessment determines that a site poses a significant threat to the public health or environment, the site is transferred to the Site Response Section for further investigation and selection of a remedial action.

Investigations are typically referred to as "remedial investigations" and "feasibility studies." A remedial investigation is conducted to characterize the hazardous substances, determine the extent of contamination, and, to evaluate the potential or actual hazard to public health or the environment.

The next step involves a feasibility study to develop and evaluate remedial action options for site cleanup. Department rules direct that sites be cleaned up to background level or to the lowest concentration level feasible using the highest and best technology available. Remedial action may include removal of contaminants for off-site management or selection of an on-site cleanup action.

The cleanup level and remedial action for each site is, by law, determined by the Director. The remedial action must protect present and future public health, safety and welfare and the environment. To the extent possible, the remedial action must be cost effective and implementable, and must use permanent solutions and alternative technologies or resource recovery technologies.

In cases where cleanup technology is not feasible, measures other than cleanup may be necessary such as fencing, designed to prevent or minimize exposure by the public or wildlife.

The section also administers the state Hazardous Substance Remedial Action Fund which provides a state match for federal Superfund monies to clean up federally authorized hazardous substance sites.

Underground Storage Tank (UST) Cleanup. This section is responsible for the identification of sites, investigation, and cleanup oversight of leaking underground storage tanks containing petroleum. The federal Leaking Underground Storage Tank Trust Fund is used to investigate and clean up sites where the responsible parties are unknown. Of the approximately 19,000 underground storage tanks at 6,000 facilities in Oregon, there is an estimated 75% contamination rate. In comparison to the cleanup of sites with hazardous substance contamination, the cleanup of USTs is often relatively inexpensive and simple. In the majority of cases, cleanup involves soil excavation and disposal, and the cleanup and/or disposal of tanks.

Policy and Program Development. This section is responsible for development of the Division's rules, policies, budget, and data information systems. Other administrative functions include contractor procurement, management of federal Superfund assistance agreements, and development of coordination procedures for cleanup activities with other Department divisions.

- o The Commission is authorized to issue a Notice of Environmental Hazard to the affected local government for a disposal site that contains potential hazards to human health or the environment. The notice identifies the site, describes the contamination, states the use restrictions of the site, and contains

findings supporting the decision to issue a notice. The affected local government is required by statute to include the notice in the comprehensive plan, in appropriate land use regulations, and on zoning maps.

5. HAZARDOUS AND SOLID WASTE DIVISION

The Hazardous Waste Program regulates the transportation, treatment, reduction, and disposal of hazardous wastes; the disposal of polychlorinated biphenyls (PCB); and the management of hazardous wastes by generators.

Solid waste responsibilities apply to the minimization, management and disposal of solid waste. The Department encourages the reuse of materials, the recycling of materials that cannot be reused, the recovery of energy from wastes that cannot be reused or recycled, and the proper disposal of wastes that cannot be reused, recycled, or recovered as energy by approved and regulated methods.

The Division carries out its responsibilities through eight program areas:

Administration. Provides division policy, management and administrative support services.

Hazardous Waste Program Development. Responsible for development and maintenance of the hazardous waste database, providing technical assistance to the regulated community, developing hazardous waste policy and rules, coordinating and negotiating with the EPA, and for the development and monitoring of the hazardous waste biennial and operating budgets.

Hazardous Waste Facilities Management. Implements federal hazardous waste legislation in Oregon to ensure proper management from generation to disposal through the following mechanisms:

- o Hazardous waste permits are required for the storage, treatment, or disposal of hazardous waste, or for the modification of such practices.
- o A closure permit and plan is required for the closure of any hazardous waste disposal site.
- o Registration with the Department is required of all fully regulated and small quantity generators of hazardous waste. Field staff inspect generators for compliance with appropriate standards and regulations.

Underground Storage Tank (UST) Compliance. Responsible for assuring the underground storage of oil and hazardous materials is accomplished in a manner which prevents groundwater contamination or tank leakage into the environment. The following mechanisms are used to meet these responsibilities:

- o Department registration permits are required for tanks containing petroleum or other hazardous materials.
- o Any tank removal, modification, leak testing or detecting, or contaminated soil cleanups must receive prior approval from the Department.
- o Companies working on UST systems are required to be licensed and to employ Department certified supervisors.
- o The Department approves state grants and guaranteed loan funds to underground storage tank owners for tank testing, pollution control upgrades, and soil cleanups which are required by the EPA.

Hazardous Waste Reduction. This program ensures that hazardous wastes generated in Oregon are reduced, reused, and recycled to the extent possible in line with statutory priorities. Regulations also require planning by businesses to reduce the quantity of toxic chemicals used and the amount of hazardous waste generated. Technical assistance is provided to businesses for development of reduction plans.

Beginning in 1991, every toxics user must submit an annual progress report to the Department on the status of its reduction plan and goals.

Solid Waste. This program ensures that municipal and industrial solid waste is properly disposed. These responsibilities are accomplished through the following mechanisms:

- o Engineering and design plans for the construction or modification of solid waste disposal facilities and/or sites must be reviewed for compliance with regulations, permit conditions and approved by the Department.
- o A solid waste disposal permit is required for the disposal of solid waste anywhere in the state.
- o A disposal site closure permit is required and must be initiated five years before anticipated closure of a site.

Solid Waste Reduction

Statutory priorities for the management of solid waste in Oregon are: reduce, reuse, recycle, recover energy, and landfill. These objectives are carried out through the following activities:

- o Approval of recycling grants and technical assistance to local government and the public.
- o The Department approves a required recycling report submitted by each designated watershed in the state.
- o Communities that ship more than 75,000 tons of solid waste per year to a regional disposal site must submit a waste reduction plan to the Department for approval.
- o The Department certifies carriers of recycled materials as eligible for special Public Utility Commission trucking rates.

Waste Tire Management

This Program was established to address the generation and disposal of approximately two million waste tires annually in Oregon. The program regulates the collection, transport or storage of waste tires, and has established a state fund to partially reimburse businesses for using waste tires and to fund cleanup of existing disposal sites. Program implementation includes:

- o A waste tire permit is required for the transport and storage of waste tires. Persons transporting more than 5 waste tires for the purpose of storage or disposal must obtain a carrier permit. A permit is also required of a person who stores more than 100 waste tires at a site.
- o A fee is required on the sale of every new tire in the state. The fee revenue is placed in a waste tire recycling account to provide financial assistance for cleaning up waste tire disposal sites. The Department has authority to clean up these sites when the owner is unable or unwilling, and is authorized to seek reimbursement of cleanup costs from the site owner.

6. LABORATORY AND APPLIED RESEARCH DIVISION

This Division provides chemical, biological and microbiological analysis, and sampling and monitoring services to the Department. The Division analyzes samples collected by its own

monitoring groups, regional and program staff, and other state or federal agencies. It also provides analytical expertise to evaluate methods submitted for review or to develop such methods. The Division consists of the following program sections:

Administration. Provides division guidance, management and administrative support services, including data filing and distribution to users.

Air Monitoring. Maintains and operates a statewide ambient air sampling network for airborne particulate and meteorology, including wind speed, direction, and temperature; and a gaseous pollutant monitoring network for carbon monoxide, ozone, nitrogen oxides, and sulfur dioxide. Real-time monitoring and meteorology data is transmitted to the Laboratory via phone lines to a computer Data Acquisition System.

Water Monitoring. Collects water samples as part of statewide ambient and special monitoring projects. Groundwater monitoring is conducted at landfills, hazardous waste disposal sites, and for regional groundwater assessment studies. The section conducts Comprehensive Monitoring Evaluations on sources required to perform self-monitoring under federal law. Samples are collected to identify sources and determine extent of contamination in Superfund actions, and to evaluate environmental impact of hazardous substance spills. Water monitoring includes biomonitoring which conducts bio-assessment of streams, laboratory bioassays on effluents, and biological characterization of water quality.

Organic Analysis. The Organic Laboratory section performs quantitative analyses for organic chemicals (volatiles, semi-volatiles, PCBs, polynuclear aromatics, pesticides, herbicides, phenols, cyanide) in air, water, waste, tissue and soil samples collected during ambient monitoring, complaint investigation, compliance monitoring, split samples, special studies, spill and superfund investigation and cleanup. Analytical data is used for strategy planning, measuring quality of environment, evaluating compliance, enforcement, identifying spills, determining need for and effectiveness of cleanup.

Inorganic Analysis. The Inorganic Laboratory section performs quantitative analysis for minerals, trace metals, non-metals and nutrients in air, water, waste, tissue, and soil samples collected during ambient monitoring, complaint investigation, compliance monitoring, split samples, special studies, spill and superfund investigation and cleanup, etc. Analytical data is used for strategy planning, measuring quality of environment, evaluating compliance, enforcement, identifying spills, determining need for and effectiveness of cleanup.

Quality Assurance. This section ensures Department laboratory data is documented and meets high data quality standards for precision and accuracy; provides sampling and analytical expertise and support to region personnel, sources, and other government agencies; evaluates results of split samples and audits regulated source labs; and audits emission self-monitoring activities by stationary sources. The section also annually inspects and evaluates laboratories participating in the Drinking Water Laboratory Certification Program for inorganic, trihalomethane and volatile organic analyses. This work is performed for the Oregon Health Division, which administers the program.

7. MANAGEMENT SERVICES DIVISION

This Division provides budgetary oversight, human resource services and administrative support services for the Department. Program areas and activities are organized into five sections:

Administration. This section consists of library services, employee health and safety, and intergovernmental coordination. Other responsibilities include the following:

- o The State Agency Coordination Program is administered through the Intergovernmental Coordination Office.
- o The Pollution Control Tax Credit Program is administered by the section for all divisions. This includes legislative oversight, rulemaking, the review and approval of division review reports, and the preparation of tax credit reports to the Environmental Quality Commission.

Tax relief is provided under this program to industry and businesses which have installed pollution control equipment in accordance with environmental requirements, or voluntarily installed equipment exclusively for pollution control or material recovery purposes.

Business and Finance Services. These sections are responsible for payroll and accounting services, and financial program management which includes the Pollution Control Bond Fund. The fund supports loans to local government for financing water or solid waste facility projects, or may be used to clean up hazardous substance orphan sites.

Budget. The Budget Section is responsible for the agency's budget, and provides budget-related assistance to the Department divisions.

Support Services. This section provides word processing, mail processing, photocopying, supplies, and messenger services.

Information Systems. This section provides department-wide information systems planning and programming services.

8. REGIONAL OPERATIONS DIVISION

Regional Operations is the primary compliance assurance and enforcement arm of the agency. It carries out its responsibilities through a network of five region offices, two branch offices, and an enforcement section. The Division consists of the following organizational structure.

Administration. Oversees division management and policies. Administrative support services are not provided centrally, but within each region office.

Enforcement. Responsible for processing most formal enforcement actions taken by the Department, including warning letters, civil penalties, and orders. There is ongoing interface between the region offices and the Enforcement Section.

Region Offices. Five region and two branch offices are responsible for drafting most air, water, and solid waste permits; the inspection and enforcement of air, water, solid waste, and hazardous waste facilities; complaint response; and, oil and hazardous spill response. The field administration of the underground storage tank preventative program, and, regulatory elements of the leaking underground storage tank program are included in the region responsibilities. The region offices also provide technical assistance to the public, local government and regulated community.

9. WATER QUALITY DIVISION

This Division is responsible for the development and implementation of state programs to maintain, protect, and improve the quality of the state's surface and subsurface waters. Program priorities focus on public health and safety, and the protection of recognized beneficial uses of the state's waterbodies. Department mandates and policies are carried out through public awareness and cooperation, and through the regulation and enforcement of waste treatment and discharge practices through several program areas:

Administration. Provides management and administrative support services to the various program areas. This includes development of internal program plans, program budgets,

negotiation of federal funding assistance, allocation of program components and coordination of program activities.

Municipal Waste Sewage. This program is responsible for regulating sewage collection and treatment/disposal systems, other than individual on-site systems, through the following:

- o All facility and engineering plans for the construction or expansion of domestic wastewater treatment facilities and sewer systems must be reviewed and approved by the Department prior to facility construction or modification.
- o A federal National Pollutant Discharge Elimination System (NPDES) permit is required of all systems that propose to discharge domestic sewage wastewater to public surface waters. The permit review includes the evaluation of sites for new or relocated effluent outfalls.
- o A state Water Pollution Control Facility (WPCF) permit is required prior to the construction of all new or modified systems that propose to dispose of sewage effluent on land, or injected into the ground with no direct discharge to surface waters.
- o Wastewater treatment systems that receive industrial waste subject to federal or state pretreatment standards are required to develop and implement a pretreatment program. The requirement is designed to control the discharge of certain industrial wastes such as heavy metals, and to prevent treatment system impacts such as process upsets or the pass through of toxics or sludge contamination. This requirement is implemented through the water discharge permitting process.
- o A Sludge Management Plan is required of all wastewater treatment facilities that generate sludge. This plan is part of an overall sewerage facility plan and is administered through the water discharge permit process.
- o All owners of collection and treatment systems are required to have a certified operator at a grade level equal to or higher than the classification of the wastewater treatment system.
- o The Department provides technical assistance and training to sewage treatment plant operators.

Construction Grants. This section provides financial services through grants and loans for the construction of municipal treatment works. Program activities include:

- o The current construction grant priority list was developed in 1989 to govern the distribution of remaining federal construction grant funds. When necessary, the EPA prepares an environmental impact statement for proposed municipal treatment facilities. Environmental assessments are prepared by the Department when needed. The section also certifies that all requirements have been met through grant application review, and provides oversight of all construction management activities.
- o The State Revolving Fund provides loans to municipalities for water pollution control construction projects which include: sewage transportation and treatment facilities, infiltration and inflow correction, and nonpoint source control projects. This fund was created by the state Legislature to replace the federal construction grant program which is being phased out. A needs priority list is developed annually to govern the distribution of state loans.
- o Assessment deferral loans are available to cities where residents are required by a state order to connect to sewers. A city in turn provides loans to low income property owners for payment of sewer assessments.

Industrial and On-Site Waste. This section manages industrial wastewater sources and on-site sewerage systems to assure compliance with federal and state water quality regulations.

Point source water quality regulation is accomplished through the evaluation of treatment and disposal systems or discharge of pollutants, the issuance of water discharge permits, the review of construction and design plans, the provision of technical assistance, enforcement action, and response to reported spills and complaints. Nonpoint discharge water quality control is primarily accomplished through Best Management Practices (BMP) or other management practices for the minimization of water quality impacts. Specific program implementation activities consist of the following:

- o A site evaluation and permit is required for all on-site sewage disposal systems. The permit approves the construction of an on-site system (septic tank), or standardized alternative system, to dispose of sewage without discharge to public waters. The Department contracts with 23 counties to conduct

these evaluations and to issue permits for on-site systems.

- o An NPDES permit is required prior to construction of new or modified industrial waste treatment facilities that discharge into public waters. A WPCF permit is required for the discharge of wastes on land or injected into the ground.

Either permit may be issued as a general permit without reference to a specific source. The general permit is used for certain categories of minor sources where individual NPDES or WPCF are not necessary to adequately protect the environment. The sources involve the same or similar types of operation, discharges, and require the same monitoring requirements.

- o The Department coordinates with the Department of Agriculture in implementing the Confined Animal Feeding Operations waste management requirements. The location, construction, operation and maintenance of confined animal feeding or holding operations requires the use of best practical waste control technology. The requirements are implemented through the issuance of the WPCF discharge permit.
- o Water Quality strategies will be developed to eliminate water quality problems such as runoff from container nurseries which may be implemented through the discharge permit process or stipulated consent order.

Standards and Assessments. This Section has overall responsibility for development of Department water quality standards, preparation of the state Water Quality Assessment Report, water quality planning which includes the protection of beneficial uses, and development of the ambient monitoring network. Program implementation activities include the following:

- o The state Instream Water Rights Program was established to maintain and support public users within natural streams and lakes. The Department of Water Resources is the responsible agency for program administration. Agencies authorized to submit instream water rights applications include State Parks, Fish and Wildlife, and Environmental Quality. These agencies are required to adopt rules describing their procedures, and methodologies for determining instream water rights. The Department will develop rules for the Department's approach in determining instream water rights for water quality protection.

- o The development of Total Maximum Daily Loads (TMDLS) restrictions are required for those waterways determined to be water quality limited. The capacity of a waterway is defined and an allocated waste load is distributed among point and nonpoint sources. The load restrictions translate into regulations relating to stormwater control and changes in agricultural or forestry practices. The TMDL restrictions are implemented through a management plan.
- o A Department certification for meeting state water quality standards is required for a federal license or permit to conduct any activity which may result in any discharge into the navigable waters of the state as required under Sections 401 and 404 of the Clean Water Act. This includes activities such as hydroelectric, and fill and dredge projects. The certification assures that designated beneficial uses in or adjacent to a waterway will not be adversely affected.
- o Ambient monitoring is conducted to assess basic water quality, water quality trends, waste characteristics, compliance, and to identify and assess problem areas. Due to limited Department resources, only the highest priority streams in the state are routinely monitored.
- o Individual water quality control strategies are to be developed for determining when toxics are causing violation of water quality standards. Strategies may involve additional treatment or controls at industrial point sources and will be implemented through the WPCF or NPDES permits.
- o The management of a Geographic Information System provides computerized mapping capabilities for geographic data analysis, and management of the water quality data.
- o Appropriate water quality standards for wetlands will be developed by the Department and a policy for the use of existing or constructed wetland for wastewater or stormwater treatment.
- o The completion of on-site system performance audits to assure proper protection of the ground and surface water where these systems are used.
- o The setting of program priorities with the use of the state Clean Water strategies.

Groundwater. Consistent and coordinated groundwater management is provided to ensure that preventive actions are considered before groundwater problems from point or nonpoint sources occur. The section coordinates all groundwater related regulations with other sections in Water Quality, the Hazardous and Solid Waste Division and the Environmental Cleanup Division, and the Water Resources Department. The section carries out groundwater protection activities required by the 1989 Groundwater Act; adopts rules establishing numerical reference levels for contaminants in groundwater; and develop and operates a statewide monitoring and assessment program. Specific activities include the following:

- o Groundwater monitoring is conducted to identify background water quality, trends in quality and critically impacted areas.
- o. Appropriate groundwater protection requirements are included in the NPDES and WPCF permitting process which include monitoring requirements and concentration limits. When monitoring indicates a violation at a compliance point, a remedial investigation and feasibility study is required of the permittee and remedial action is determined.
- o The Department has groundwater protection responsibilities under the 1989 Groundwater Protection Act which establishes a state comprehensive groundwater management program. The Act defines groundwater protection goals and policies with regard to groundwater quality; creates a Strategic Water Management Group (SWMG) responsible for systemic coordination of state agencies in responding to groundwater management issues; and requires the development and implementation of preventative groundwater protection programs, with an emphasis on non-regulatory programs. Department responsibilities under the Act include: the provision of staff support for SWMG activities, adoption of rules for the designation of "areas of groundwater concern", and "groundwater management areas", and establishment of a statewide groundwater assessment program. Rules have not yet been developed.

Surface Water. The primary purpose of this program is the development and implementation of the nonpoint source program responsibilities that relate primarily to forestry and agriculture practices and urban runoff. The section also provides oil spill planning, water quality assessments, and special projects involving public lakes restoration, estuaries, wetlands, and surface waters. Specific activities and implementation mechanisms include:

- o The development and maintenance of a statewide Nonpoint Source Assessment Management Plan. The plan contains strategies to achieve implementation of land management practices to control nonpoint source pollution resulting primarily from forestry, agriculture and range practices, and urban runoff. The plan emphasizes a voluntary, locally controlled, and incentive based implementation approach, but also focuses on interagency priorities and resources through agreements and action plans. The Department's role in management planning is to identify issues and problems; develop solutions and priorities; assist with funding of projects; and evaluate implementation efforts. Administrative rules to guide program implementation are currently being developed.
- o The Surface Water Section supports designated management agencies in writing and implementing watershed management plans in conjunction with critical basin and TMDL activities.
- o Section 319 of the federal Water Quality Act provides a grant fund to assist state efforts in controlling nonpoint source pollution. Projects are designed to reduce erosion, increase moisture-holding capacity of the soil, encourage native vegetation, or to encourage land management practices to improve the natural watershed productivity. These funds are available to cities, counties, state agencies and others subject to federal and state water quality regulations.

The federal funds are targeted at high priority sites or tributaries listed in the state nonpoint source assessment plans and, to projects that demonstrate committed local support and multi-agency coordination.

- o The Department is responsible for water quality monitoring and assessment of the state's twenty-one major estuaries and nearshore environments. The EPA has initiated a pilot program to develop and implement innovative ways of managing water quality in estuary and ocean waters. Oregon was one of three states to participate in the federal project. The Coquille Estuary was selected as a demonstration project because of water quality and habitat concerns. The project has assisted the Department in developing a water quality plan for near coastal waters that can be a model for similar areas. The development of estuary plans for the rest of Oregon's estuaries like Yaquina, Coos and Columbia estuaries

are contingent upon the availability of Department resources.

- o The development of an Emergency Oil Spill Contingency Plan for the Oregon Coast and its estuaries, the Columbia River and the Willamette River from its mouth to Oregon City. The plan will include strategies for the prevention of spills in coastal and ocean waters and will identify sufficient resources to oil spill contingency equipment and training activities. The planning is expected to be completed by July 1, 1991.

- o Continue coordination of federal clean lakes grants for lake assessment and restoration projects; continue the development of the voluntary clean lakes monitoring program.

SECTION III

DEPARTMENT RULES, PROGRAMS AND ACTIONS AFFECTING LAND USE

1. INTRODUCTION

The Department has broad regulatory authorities to ensure the protection of the public health, safety and welfare of the citizens, and to preserve the state's natural resources which contribute to a high quality of life, a healthy environment, and a stable economic base. These authorities address air and water quality, noise, solid and hazardous waste. The Department's responsibilities are carried out through a variety of implementation strategies which include the application of regulatory and enforcement action, incentive based programs, the encouragement of voluntary cooperation, the provision of technical and advisory assistance, and intergovernmental coordination efforts. These strategies are utilized dependent upon the Department's mandate, health and safety implications, and the role and responsibilities of other agencies or local government.

The Department's programs directly relate to two of the statewide planning goals: Goal 6 - Air, Water and Land Resource Quality; and Goal 11 - Public Facilities and Services. However, other goals may be applicable to certain programs or actions such as the four coastal goals or Goal 5 - Open Spaces and the Protection of Natural and Scenic Resources. The Department will address other goals when determined necessary or required.

2. PROGRAMS AND ACTIONS THAT AFFECT LAND USE

In accordance with the DLCD Administrative Rule 660-30-005, state agency rules and programs affect land use if they are:

- Specifically referenced in the statewide planning goals;
or
- Reasonably expected to have significant effects on
 - a.) resources, objectives or areas identified in the statewide planning goals, or
 - b.) on present or future land uses identified in acknowledged comprehensive plans.

Exceptions identified in the DLCD rule apply:

- If an applicable statute, constitutional provision or appellate court decision expressly exempts the requirement of compliance or compatibility; or
- If a program is not reasonably expected to have a significant effect on resources, objectives or areas identified in the goals or present or future land uses identified in acknowledged plans; or
- Agency property transactions that do not involve change in the use or area of the property.

Programs Referenced in the Goals

Goal 16 - Estuarine Resources, references the Department's nonpoint source discharge water quality program under implementation requirement 3: "State and federal agencies shall review, revise, and implement their plans, actions, and management authorities to maintain water quality and minimize man-induced sedimentation in estuaries. Local governments shall recognize these authorities in managing lands rather than developing new or duplication management techniques or controls."

Programs Reasonably Expected to Have Significant Effects

All Department programs and actions have been evaluated against DLCD's "significant effects" criterion. As part of the evaluation, the following two Department guidelines were also relied upon to assist in defining land use programs and in interpreting "significance":

- The land use responsibilities of a program or action that involves more than one agency, are considered the responsibilities of the agency with primary authority.
- A determination of land use significance must consider the Department's mandate to protect public health and safety and the environment.

3. DEPARTMENT ACTIONS AFFECTING LAND USE

The following identifies Department actions determined to affect land use in accord with OAR 660-30-005, and includes a brief analysis of each action and description of the compatibility mechanism.

AIR QUALITY DIVISION

Noise Control Program - OAR 340 Division 35

1. Action: Approval of Environmental Noise Impact Boundaries for new motor racing facilities.

Authorities: ORS 467.030 and 035; OAR 340-35-040.

Analysis: Department approval of noise impact boundaries is required for new motor sports facilities with the exception of those located more than two miles from noise sensitive land uses. These facilities, if inappropriately located, may pose significant noise impacts for adjacent land uses and activities. Prior to construction, the facility owners must submit noise impact boundary information to the Department such as the data and analysis used to determine the boundary.

Land Use
Compatibility
Mechanism:

The facility owner is required to provide a Land Use Statement of Compatibility (LUCS) or written evidence that the local government has determined the proposed facility is compatible with the local plan. This information is to be provided to the Department as part of the noise impact boundary submitted information. The Department will conduct an evaluation of the boundary and will provide the local government with a copy of the Department's decision.

2. Action: Approval of Airport Noise Abatement Program/Noise Impact Boundaries.

Authorities: ORS 467.030; OAR 340-35-045.

Analysis: The Department reviews and approves a required noise abatement program and noise impact boundaries for all air carrier airports that include noise sensitive property. The abatement plan includes measures to prevent the creation of new noise impacts or the expansion of existing noise impacts. An analysis is conducted on the effects of aircraft noise emission regulations and land use controls.

Prior to construction, all new airports must also receive Department approval of the airport's Noise Impact Boundary. The Department has authority to require approval of the Noise Impact Boundary of non-air carrier airports in efforts to resolve an identified noise problem.

Land Use
Compatibility
Mechanism:

Within 12 months of the designation of an air carrier airport, the proprietor must submit the data and analysis used to determine the noise impact boundary to the Department for evaluation. For new air carrier airports, this information must be submitted prior to the construction, operation or local land use approval. After the Department conducts its evaluation, it notifies the affected local government of the evaluation results.

If an airport's noise impact boundary includes noise sensitive property, the proprietor is required to submit a proposed Airport Noise Abatement Program for Commission approval within 12 months of notification by the Director. A submitted airport noise abatement program must contain the following elements:

- Maps of the airport and supplemental information, including zoning and land use plan permitted uses and policies.
- An airport operational plan.
- A proposed land use and development control plan.

The airport proprietor must provide written evidence that the affected local government has participated in and has approved the airport related land use plan in terms of compatibility with the local comprehensive plan. The Department shall consult and coordinate with the Department of Transportation (Aeronautics Division) prior to the issuance of a notification for revision of a noise abatement program and regarding other airport noise related problems.

Operations Program - OAR 340 Divisions 14 and 20

3. Action: Approval of Notice of Construction (NC) for Air Pollution Sources.

Authorities: ORS 468.325; OAR 340-20-030.

Analysis: An NC is required before the construction of new minor sources or major alteration or modification of air contaminant emissions that are too small to require an Air Contaminant Discharge Permit (ACDP) or, for

the modification of an existing source. These sources may have significant impacts on local plan policies and surrounding land uses if not sited in appropriately designated areas.

Land Use
Compatibility
Mechanism:

The permit applicant is required to submit a LUCS which contains the local government's determination of land use compatibility with the NC application. A LUCS is not required in cases where pollution control equipment is being added or substituted to an existing source and there is no operational change. An NC approval will not be granted without an affirmative LUCS.

4. Action: Issuance of Air Contaminant Discharge Permit (ACDP).

Authorities: 40 CFR Parts 51 and 55; ORS 468.310 through 315; OAR 340-20-140 through 276.

Analysis: An ACDP is required of all air contaminant sources and modification of sources that emit significant air contaminants. The permit regulates the level and type of emissions. Permits may also specify emission monitoring and testing requirements, reporting requirements, emission control equipment requirements, and production limitations. The ACDP is also issued for sources with emissions of toxic pollutants that are not regulated as criteria pollutants. These sources may present significant impacts to adjacent land uses if not sited in appropriately designated areas.

Major new sources or major sources within designated attainment or unclassified areas are also subject to federal New Source Review, Prevention of Significant Deterioration (PSD) and Visibility Impact requirements as part of the ACDP procedure. The New Source Review evaluates the air quality impacts of new air contaminant sources. PSD standards are applied to prevent significant deterioration of air quality in areas that have cleaner air quality than the minimum national ambient air standards require; and, visibility impact standards are applied to new major sources to ensure that the source will not contribute to

significant impairment of visibility within any clean air area.

Land Use
Compatibility
Mechanism:

The applicant is required to submit a LUCS which contains the local government's determination of land use compatibility with the permit application.

Planning Development Program - OAR 340 Divisions 14 and 20

5. Action: Issuance of Indirect Source Construction Permit (ISCP).

Authorities: ORS 468.020 and 468.310; OAR 340-20-100 through 135.

Analysis: An ISCP is required to reduce and control mobile source emissions from certain indirect air pollution sources such as highways, parking facilities, airports, recreation/activities, etc. The need for an ISCP is based on the type, location, size and operation of the indirect source.

There are potentially significant short-term and long-term impacts of indirect sources on adjacent land uses and/or local comprehensive plan policies relating to present and future land uses.

Land Use
Compatibility
Mechanism:

The applicant is required to submit a LUCS which contains the local government's determination of land use compatibility with the permit application.

6. Action: Approval of Parking and Traffic Circulation Plan (PTCP).

Authorities: ORS 468.020 and 320; OAR 340-20-120.

Analysis: Parking and Traffic Circulation Plans may be required of local governments located in geographic areas determined or projected to be in noncompliance with federal air quality standards. The plan identifies parking space capacity and other necessary measures to provide for the attainment of required standards.

Land Use
Compatibility
Mechanism:

Administrative rule 340-20-120 requires that a PTCP be developed in coordination with the local and regional comprehensive planning process. The Department requires written evidence that plan development was coordinated with the local comprehensive plan. The approved plan is to be implemented and annually reviewed by local government to determine if it continues to be adequate for the maintenance of air quality in the planning area.

7. Action: The State Implementation Plan (SIP) for Air Quality.

Authorities: 40 CFR 51.11; ORS 468.020; OAR 340-20-047.

Analysis: The SIP provides Division directives in managing and implementing the state's air quality program pursuant to the Federal Clean Air Act. The plan contains control strategies, ambient air standards emission limitations and enforcement procedures. The majority of the air quality rules are in the SIP.

Land Use
Compatibility
Mechanism:

The Department provides notice through the state clearinghouse process and to an interested party mailing list when the SIP is updated. Most of the programs in the SIP that relate to land use are implemented through the air quality permitting process.

ENVIRONMENTAL CLEANUP DIVISION

8. Action: Issuance of Environmental Hazard Notice.

Authorities: ORS 466.360-385; OAR 340-130-001 through 035.

Analysis: An environmental hazard notice is intended to ensure that a potentially hazardous site is not altered by land development without consideration of the impacts of the activity on public health, safety and the environment.

The condition of a site after the cleanup of hazardous substances may have land use implications. If a site is not cleaned up to levels protective of human health and the environment, the site may not be suitable for certain uses. This situation may significantly affect land use if the site poses health or safety implications for some land uses.

Land Use
Compatibility
Mechanism:

OAR Chapter 340 Division 130, requires that the Department provide public notice of a hazardous site to the affected city or county which includes model language for amending the comprehensive plans to incorporate procedures to implement the environmental hazard notice.

The local government is required within 120 days of the receipt of a notice, to amend the comprehensive plans and land use ordinances, including adjoining maps, in accordance with ORS 466.385 and the rule requirements.

A local government cannot approve a proposed use for a site under an Environmental Hazard Notice until the Department has been notified and has provided comments to the jurisdiction.

HAZARDOUS AND SOLID WASTE DIVISION

Solid Waste Program - OAR 340 Divisions 14, 61 and 64

9. Action: Issuance of Solid Waste Disposal Permit.
- Authorities: ORS 459.205; OAR 340-61-020 and 025.
- Analysis: A Solid Waste Disposal Permit is required to establish, operate, maintain, substantially alter, expand or improve a disposal site. Approval of engineering plans and specifications are required as part of the permitting process. Solid waste disposal sites must be appropriately sited to minimize impacts to adjacent land uses.

Land Use
Compatibility
Mechanism:

Division 61 requires that a permit application include recommendations of the local government in addition to a LUCS which contains a determination of compatibility with the local plan. A permit will not be issued without affirmative LUCS.

10. Action: Issuance of Waste Tire Storage Permits.
- Authority: ORS 459.715; OAR 340-62-015 and 020.
- Analysis: A Waste Tire Storage Permit is required for the storage of more than 100 tires at a site, with exceptions. The inappropriate storing of waste tires may violate local plan policies or zoning requirements.

Land Use
Compatibility
Mechanism:

Division 62 requires that an application contain the site's zone description and a LUCS which includes the local government's determination of compatibility with the permit. A permit will not be issued without and affirmative LUCS.

Hazardous Waste Facilities Management Program - OAR 340 Divisions 14, 120 and 130

11. Action: Issuance of Hazardous Waste and PCB Storage, Treatment and Disposal Permits.
- Authorities: Title 40 CFR 260-266, 27 and Subpart A of 124; ORS 466.005 - 350; OAR 340-120-001 through 025.
- Analysis: A three-step permitting procedure is required for permitting off-site hazardous waste and PCB treatment and disposal facilities which includes those that are located on-site more than 15 days per year.

Land Use
Compatibility
Process; Goal
Compliance
Mechanism:

A Request for Authorization to proceed is initially required to allow the Commission to determine whether there is a need for a new

facility. Secondly, the applicant must submit a LUCS which contains a determination by the local government of land use compatibility with the local plan. The final step involves the actual submittal of an application.

The LUCS must include an affirmative determination of compatibility with written findings as specified in Division 120 which addresses: population density; site distances from sensitive land uses; site distances from historical and national resources; input on adjacent land uses; the provision of emergency services; and transportation access. If the local government chooses not to act on a LUCS, the Department will prepare findings for determining compliance with the statewide goals.

MANAGEMENT SERVICES DIVISION

Business & Financial Services - OAR 340 Divisions 81 and 82

12. Action: Pollution Control Bond Fund Applications
- Authorities: ORS 468.195 through 225; OAR Division 82
- Analysis: State financial assistance is provided through the Pollution Control Bond Fund to finance municipal water treatment or solid waste facility projects. Projects are evaluated using criteria which includes technical feasibility, the replacement of existing inadequate facilities, and a demonstrated need for state assistance.

Division staff is responsible for processing project applications; however, program oversight is provided by the Management Services Division Finance Section.

Land Use Compatibility Mechanism:

A project application submittal must include a LUCS which contains a local government determination of land use compatibility with the proposed project.

WATER QUALITY DIVISION

Municipal/Sewage Program - OAR 340 Divisions 14, 15, 41, 45, 49, 50 and 52

13. Action: Plan approval for construction or expansion of waste treatment facilities and sewer systems.

Authority: ORS 468.742; OAR 340-41-030 through 120 and Division 52.

Analysis: Engineering reports and construction plan approval is required prior to the construction, installation, or modification of disposal systems and sewage works.

Land Use
Compatibility
Mechanism:

The submittal of proposed construction plans must include a LUCS which involves a determination of the project compatibility with the local comprehensive plan.

If a jurisdiction submitting plans is the sole jurisdiction responsible for determining plan compatibility, the Department considers the submittal of plans as adequate evidence of compatibility with the local plan.

Construction Grant Program - OAR 340 Divisions 53 and 54

14. Action: Development of Sewerage Works Construction Grant Priority List and certification of applications for federal grants.

Authorities: 40 CFR 35.415; OAR 340-53-005.

Analysis: On an annual basis, the Department develops and adopts a project priority list to rank grant applications which govern the distribution of federal construction grant funds.

The Department is responsible for preparing environmental assessments for grant applications and must certify that state and federal requirements are met. The Department also monitors the distribution of grant funds to a community.

Grant applications may be submitted for funding after a project is on the priority list. This federal program is phasing out and will be replaced by the State Revolving Loan Fund.

Land Use
Compatibility
Mechanism:

The applicant must submit a LUCS with the final grant application which includes a local government determination of plan compatibility with the grant application. Funding will not be approved until an affirmative LUCS is received.

15. Action: Approval of State Revolving Fund Loan Applications.

Authorities: ORS 423.440; OAR Division 54.

Analysis: The State Revolving Fund was established to provide state financial assistance through loans to municipalities to plan, design, and construct water pollution control facilities. The facility projects should be identified in the local government's public facility plan. An annual priority list is maintained to govern the distribution of loan funds.

Land Use
Compatibility
Mechanism:

A loan application for construction or design and construction projects must include a LUCS which provides a local government determination of plan compatibility with the loan application. Loan approval will not be provided without the approved LUCS which demonstrates project compatibility with the local comprehensive plan.

Industrial and Commercial Waste Program - OAR 340 Divisions 14, 15, 44, 45 and 71

16. Action: Issuance of On-site Sewage Disposal Permit.

Authorities: PL 92-500 Sec. 401; ORS 468.020, 035, 615; OAR Division 71.

Analysis: The Department or contract counties issue permits for the construction of sewer systems on the site where the waste is generated and

where there is no discharge to public waters. Permits can be issued for conventional septic tank systems or for selected alternative or experimental systems. The permits are issued for disposal systems of land use activities compatible with the local comprehensive plan.

Land Use
Compatibility
Mechanism:

Division 71 requires that a permit application include a LUCS which includes a local government determination of compatibility with the local plan.

17. Action: Issuance of Industrial Waste Discharge Permit.

Authorities: ORS 468.065 through 740; OAR 340 Divisions 14, 15 and 45.

Analysis: An NPDES or WPCF is issued for the construction and operation of new or modified industrial waste treatment facilities or, for the treatment and related disposal of sludge. The permits are only issued for industrial sources that are located in properly zoned areas.

Land Use
Compatibility
Mechanism:

An application for a NPDES or WPCF permit must include a LUCS which includes a local government determination of compatibility with the local plan.

Standards and Assessments Program - OAR 340 Divisions 40, 41 and 48.

18. Action: Application of Water Quality Wetland Protection Criteria.

Authorities: PL 92-500, Sections 303, 305(b), 319 and 401; ORS 468; OAR 340 Divisions 41 and 48.

Analysis: The development of water quality wetland protection criteria is a cooperative effort with the Division of State Lands and Department of Fish and Wildlife and will focus on the development of water quality standards and assessment procedures applicable to state

wetlands. The Division of State Lands is the primary state agency responsible for the overall policy regarding state wetlands. These strategies will include an inventory of the state's wetlands in relation to water quality; the incorporation of cumulative impact assessment techniques into the 404 certification process; and, the development of guidelines for constructed wetlands in wastewater treatment.

Land Use
Compatibility
Mechanism:

The implementation of wetland criteria for point sources will be conducted through the permitting process. Rules for implementation have not been developed.

19. Action: Establishment of Total Maximum Daily Loads (TMDLS) for Water Quality Limited waterways.

Authorities: PL 92-500 Sec. 303; ORS Chapter 468; OAR 340 Division 41.

Analysis: To improve water quality in subbasins that are identified as water quality limited, the Commission adopts special requirements for TMDLS stream allocations and requires the development of an implementation plan. The load restrictions may necessitate a change in land use activities or practices. The standards are implemented for point sources through the permitting process.

Land Use
Compatibility
Mechanism:

A Commission designated local government is generally responsible for coordinating the development of an implementation plan with the affected local comprehensive plans.

Evidence that the implementation plan is compatible with or will be compatible with the affected local comprehensive plans must be provided before the Commission approves the plan.

20. Activity: Certification of Water Quality Standards for Federal Permits or Licenses.

Authorities: PL 92-500, Section 401; OAR 340 - Division 48.

The Department is directed to provide a certification of compliance with water quality standards of all federal license or permit applications for facilities that may discharge into the state's waters. The review criteria is based on water quality standards, however, land use factors which relate to water quality may be considered.

Land Use
Compatibility
Mechanism:

OAR 340, Division 48 requires that an application for certification contain provisions from the affected local comprehensive plan and implementing regulations that are applicable to the proposed project. If land use findings of the local jurisdiction are not included in the application, the Department will forward the application's land use information to the local government for review and comment within 60 days. If no response is provided within 60 days, the Department will continue to seek information from the jurisdiction but will deem the application complete.

Groundwater Program

21. Action: Declaration of a Groundwater Management Area/
Development of Action Plan.
- Authorities: 1989 Groundwater Management Act - ORS Chapter
466.
- Analysis: The 1989 Groundwater Management Act created a comprehensive statewide groundwater management program. This program provides an overall framework for existing programs of state agencies that affect the management and protection of groundwater. A Strategic Water Management Group (SWMG) oversees the program and is responsible for coordinating interagency management. The Department provides general staff support for SWMG, and when designated, will take the lead in developing action plans for declared Groundwater Management Areas. These involve geographic areas where contaminants in the groundwater exceed allowable levels.

Land Use
Compatibility
Process:

The Department shall provide written notice to affected local government of its planning activities for "groundwater management areas," under the direction of SWMG. As a lead agency for the development of an action plan, the Department will work with a SWMG designated local groundwater management committee. Local land use issues and plan compatibility will be addressed through the committee's involvement. Rules governing these actions have not been developed.

Surface Waters Program

22. Action: Water Quality Nonpoint Source Management Planning.

Authorities: PL 92-500 9; ORS 468.705 through 730.

Analysis: The Nonpoint Source Management Plan is a statewide framework plan for the prevention and control of nonpoint source pollution used for the development and implementation of statewide, regional and local projects. Nonpoint source pollution results from activities such as grazing, transportation, construction, timber harvesting, chemical application, irrigation practices, streambank erosion, and urban runoff. Coordination with designated management agencies and local government is an essential component in the identifying of problems, development of solutions and project prioritization.

Statewide Goal 16 -- Estuarine Resources directs local governments to recognize the Department's nonpoint source program authorities to maintain water quality and minimize non-induced sedimentation in estuaries rather than developing duplicatory management controls.

Land Use
Compatibility
Mechanism:

The Nonpoint Source Management Plan is developed for a five year planning period. Cities and counties are notified in writing at the time the Department reviews or updates the plan and provided an opportunity for input to the planning process.

The Department will provide written notice to affected local governments of nonpoint program actions. Local issues and concerns will be coordinated and accommodated by the Department to the fullest degree possible.

23. Action: Development of Estuary Water Quality Plans.

Authorities: PL 92-500 Section 303; OAR 340 Division 41.

Analysis: As a participant in a federal pilot program, the Department developed the Near Coastal Waters Pilot Project for the Coquille Basin. Plans will be developed for other estuaries and near coastal waters that fail to meet water quality standards. Through these plans a basin wide approach will be used to manage point and nonpoint sources.

Land Use
Compatibility
Mechanism:

Affected local governments will be notified of proposed estuary planning and asked to provide relevant information from the comprehensive plan and participate in the planning process. If local governments do not respond to the notice, the Department will assume there are no land use incompatibilities or issues.

24. Action: Regulation of Oil Spills into Public Waters.

Authorities: ORS 468.780-833; OAR 340 Division 47

Analysis: The Department's regulation of oil spills and spill cleanup are integrated with the Oregon Emergency Operations Plan which is administered through the Emergency Management Division.

Land Use
Compatibility
Mechanism

In the development and revision of oil spill regulations and related planning, the Department shall request input and participation from affected cities and counties and affected state agencies. If the local government does not respond to the notice, the Department shall assume there are no land use incompatibilities or issues.

SECTION IV

PROCEDURES FOR ASSURING STATEWIDE GOAL COMPLIANCE AND COMPATIBILITY WITH ACKNOWLEDGED PLANS

1. INTRODUCTION

This section provides an overall discussion of the Department's procedures for assuring that actions that affect land use are in compliance with the statewide goals and compatible with local comprehensive plans.

2. PROCEDURES FOR COMPLIANCE WITH STATEWIDE GOALS

OAR 660-30-065 describes the circumstances for a state agency to directly determine compliance with the goals. Generally, the Department relies on acknowledged local plan compatibility to assure goal compliance. However, agencies are directed to adopt goal findings when one or more of the following applies:

1. The agency's program/action relates to an area that is not subject to an acknowledged plan.
2. The agency takes an action that is not compatible with the acknowledged plan after exhausting the agency's compatibility procedures.
3. The acknowledged plan does not contain:
 - Provisions applicable to the agency's land use program; or
 - General provisions which would be substantially affected by the agency's action.
4. A statewide goal or interpretative rule adopted under OAR Chapter 660 establishes a compliance requirement directly applicable to the agency.
5. The acknowledged plan permits a use contingent upon case-by-case goal findings by an agency.
6. The agency action is exempt from compatibility with local acknowledged plans.
7. An agency carries out goal compliance requirements on behalf of local government.

When it is necessary for the Department to demonstrate compliance with the statewide goals for Department actions, the following procedure will be followed:

1. Identification of applicable goals;
2. If necessary, request advice from DLCD and/or Attorney General's office.
3. Consultation with affected local government.
4. Adoption of goal findings.

3. PROCEDURES FOR ACKNOWLEDGED PLAN COMPATIBILITY

Section III contains a description of Department programs and actions that affect land use pursuant to OAR 660-30-005. Figure 3 lists the actions that affect land use and provides a summary of the compatibility mechanism.

A. Local Government Compatibility Determinations through the LUCS.

The LUCS is the key mechanism the Department uses to assure local comprehensive plan compatibility with Department-issued permits and other site-specific actions that affect land use which include:

- Approval of Noise Impact Boundaries for Motor Racing Facilities
- Approval of Airport Abatement Plan/Noise Impact Boundaries
- Notice of Construction for Air Contaminant Source approval
- Air Contaminant Discharge Permit
- Air Indirect Source Construction Permit
- Solid Waste Disposal Permit
- Waste Tire Storage Permit
- Hazardous Waste and PCB Storage, Treatment, and Disposal Permit
- Pollution Control Bond Fund Application Approval
- Waste System Facility/Sewer System Plan Approval
- Municipal Waste Water Treatment Construction Grant Priority List
- State Revolving Loan Application Approval for Municipal Waste Water Treatment Systems
- Certification of WQ standards for Federal Permits
- On-site Sewer Permit
- Water Discharge Permits (NPDES/WPCF/General)

1) Procedures for submitting the LUCS include:

- (a) An applicant must provide a LUCS that has been acted on by the affected local government before the Department can accept the application as

complete for processing. The completed LUCS must state if the proposed project is compatible with the acknowledged local comprehensive plan.

If the Department does not receive an affirmative LUCS with a permit application the applicant will be notified that the Department is unable to process the application.

- (b) When the Department receives an affirmative LUCS and determines it complete, the Department will rely on it as a determination of compatibility with the acknowledged local comprehensive plan.
- (c) If the Department concludes that a LUCS review may not have considered all related land use issues or land use related issues or issues addressed to the Department subsequent to the LUCS submittal, the Department may require through the applicant, a local government evaluation of its compatibility review.
- (d) If a negative LUCS is submitted to the Department stating that the project is incompatible with the acknowledged plan, the Department will notify the applicant that a permit cannot be issued.
- (e) Where more than one local jurisdiction has planning authority regarding a specific action, the Department will require a LUCS from each jurisdiction (e.g., city and county in urbanizing area).
- (f) If a local government land use compatibility determination is appealed after the Department has determined the LUCS complete, the permit process will proceed and a permit may be issued except when the LUCS has been stayed by the Land Use Court of Appeals or other court of law. If a LUCS is appealed on a permit that has already been issued, the Department will take no action on the permit until otherwise ordered by a court or, until there is a final decision on all appeals.

2) Procedures for the renewal or modification of permits

(a) Permit Renewals:

Department permits are generally renewed every five years. Discharge or emission limits are not normally increased in a permit renewal. However, the emission limits may be reduced. The exception may be a circumstance where proposed changes that typically would

be addressed through a permit modification coincide with the permit renewal. Permit renewals require a LUCS for renewals that involve substantial modification or intensification of the permitted activity as required under OAR 660-31-040 and as defined through the Department's permit modification criteria.

(b) Permit Modifications:

A permit modification applies to the revision of a permit for a source or activity to reflect a significant change in the nature of the activity that results in increased emission or discharge of pollutants, or the initiation of discharge of new pollutants. This might involve an expansion of production capacity, or a change in product or production methods that require major construction, significant changes in the raw materials used, or increases in the discharge of existing pollutants above existing permitted levels. A modification would not include maintenance replacement, modernization of production equipment with no increase in contemplated discharges, or increases in production that are possible with the current installed production capacity and within current permit limits.

A permit modification constituting a substantial modification or intensification of the permitted activity as defined in OAR 660-31-040 requires a LUCS when one or more of the following conditions exist:

- The permitted source or activity will be expanded or use additional property. The LUCS would only apply to the physical changes on the land, not to already approved permit conditions.
- The modification involves any new or increased discharges related to changes in products or services rendered.
- The modification involves the relocation of an outfall outside of the source property.
- Any physical change or change of operation of an air contaminant source that should result in a net significant emission rate increase.

B. Procedures for Planning Actions of Area-Wide Application that Affect Land Use.

There are a number of Department actions or planning activities that affect land use which have individual compatibility procedures:

- 1) Air Quality State Implementing Plan. Under Department notice procedure, cities and counties are provided notice when the SIP is updated and revised. This allows the Department to consider and coordinate local land use issues in the SIP planning process. Local concerns are addressed to the fullest degree possible and dispute mediation procedures are used when appropriate. Land use compatibility for air quality actions that affect land use are implemented through the requirement of a specific LUCS.
- 2) Application of Water Quality Wetland Protection Criteria. The application of water quality wetland protection criteria is coordinated with the Department of State Lands which has primary authority over state wetlands which includes responsibilities for local land use compatibility.
- 3) Establishment of TMDLS on Water Quality Limited Waterways. The Department requires written evidence that a locally developed TMDL implementation plan is coordinated with affected local planning entities to assure compatibility.
- 4) Planning Activities. The Department provides notice to affected local governments prior to planning activities that affect a region or geographic area. The notice requests relevant comprehensive plan policy or processing regarding the proposed activity. The Department will work with local government to accommodate local concerns to the degree possible. When necessary, dispute resolution procedures will be used to resolve conflicts.

This procedure applies to:

- Declaration of Groundwater Management Area; Development of Action Plan.
- Water Quality Nonpoint Source Planning.
- Estuary Water Quality Planning.
- Development of Regulations for Oil Spills.

4. PROCEDURES FOR RESOLUTION OF LAND USE DISPUTES

OAR 660 Division 30 requires state agencies to adopt procedures to resolve conflicts or disputes that may develop between state agencies and local governments.

The potential for conflict exists in part because of a lack of definition in the statutory authorities relating to land

use and environmental protection. The Department and local government share to some degree, the management responsibilities for air, water, and land resources. The Legislature established the Department for the purpose of administering and enforcing the state's (and federal) environmental quality laws and, carrying out statewide policy on environmental quality. Comprehensive planning responsibilities require cities and counties to prepare comprehensive plans to regulate the development of land within local jurisdictions, and to coordinate the plan with the needs of other levels of government. This creates the potential for conflicts.

The Department's dispute resolution process requires that the following be considered by the Department in efforts to resolve disputes with local government:

1. Initiate a meeting between the Department and the affected local government to discuss resolution options of both parties.
 2. Seek compatibility through an application for necessary local land use approvals.
 3. Appeal the local government's denial of the requested action.
 4. Submit a request for local land use approval or necessary plan amendment at the time of the local government's periodic review of the comprehensive plan.
 5. Request informal LCDC mediation in accord with OAR 660-30-070.
 6. Proceed with agency action and provide compliance with the statewide goals if action is justified by the Department's statutory responsibilities.
5. STATEWIDE GOAL COMPLIANCE AND ACKNOWLEDGED PLAN COMPATIBILITY FOR NEW OR AMENDED RULES OR PROGRAMS AFFECTING LAND USE.

New or amended rules will be evaluated to determine if they affect land use using the DLCD guidelines pursuant to OAR 660-30-005(2). The Department will provide DLCD notice and the Department's land use mailing list of new rules, amended programs or actions that affect land use.

6. DIVISION 31 - STATE PERMIT COMPLIANCE COMPATIBILITY

In addition to the requirements of the LCDC State Agency Coordination Rule, state agencies must also address

procedures and standards under OAR 660 Division 31 prior to approving state permits. The rule classifies state agency permits based on public notice and public hearing requirements. The rule's Class A permits include the Department's Hazardous Waste Disposal collection or storage permit.

The permit consistency rule allows state agencies to rely on local government compatibility determinations with acknowledged plans. A local government determination of goal compliance is also acceptable if affirmative findings are provided.

The Department proposes to classify the only permit addition to the SAC Program, the Waste Tire Storage Permit, as a Class B permit under OAR 340 Division 31.

Figure 3

Division Actions Affecting Land Use

Goal Compliance/Plan
Compatibility Procedures

<u>Action</u>	<u>Procedure Mechanism</u>
<u>AIR DIVISION</u>	
1. Approval of Noise Impact Boundaries for Motor Racing Facilities	LUCS required with the submitted boundary data.
2. Approval of Airport Noise Abatement Plan/Noise Impact Boundaries	LUCS or written evidence submitted with plan that local government has participated in and determined plan compatibility.
3. Notice of Construction Approval	LUCS required with application.
4. Air Contaminant Discharge Permit	LUCS required with application.
5. Indirect Source Construction Permit	LUCS required with application.
6. Parking and Traffic Circulation Plan Approval	LUCS written evidence of local government participation and local plan compatibility.
7. State Implementation Plan	Notice of rulemaking affecting land use provided to all cities and counties. Compatibility assured through LUCS process.
<u>ECD DIVISION</u>	
* 8. Environmental Hazard Notice	Notice provided to local government and information on land use requirements or restrictions.

Action

Procedure

HSW DIVISION

- | | | |
|------|---|---------------------------------|
| 9. | Solid Waste Disposal Permit Issuance | LUCS required with application. |
| *10. | Waste Tire Storage Permit | LUCS required with application. |
| 11. | HW & PCB Storage, Treatment Disposal Permit | LUCS required with application. |

MSD DIVISION

- | | | |
|-----|--|---------------------------------|
| 12. | Pollution Control Bond Fund Application Approval | LUCS required with application. |
|-----|--|---------------------------------|

WQ DIVISION

- | | | |
|------|--|---|
| 13. | Waste System Facility/Sewer System Plan Approval | LUCS required with plans. |
| 14. | Construction Grant Program Applications Approved | LUCS required with application. |
| *15. | State Revolving Loan Application Approval | LUCS required with application. |
| 16. | On-site Sewer Permit Issuance | LUCS required with application. |
| 17. | NPDES/WPCF Issuance | LUCS required with application. |
| *18. | Wetland Protection Criteria | Compatibility for point sources achieved through LUCS process. Rulemaking not completed. |
| *19. | TMDL Restrictions | Requires written evidence that TMDL implementation plan and comprehensive plans are compatible. |
| 20. | Certification of WQs standards for Federal Permits | Requires LUCS with application. |

Action	Procedure
*21. Declaration of Ground Water Management area	Provide notice to affected local governments prior to Department action. Coordinate with local government on land use issues.
*22. Nonpoint Source Management Plan	Provide notice to affected local governments prior to Department action. Coordinate with local government on land use issues.
*23. Estuary Water Quality Planning	Provide notice to affected local governments prior to Department action. Coordinate with local government on land use issues.
*24. Oil Spill Planning Water Management area	Provide notice to affected local governments prior to Department action. Coordinate with local government on land use issues.

* New SAC Programs

SECTION V

Cooperation and Technical Assistance to Local Government

Cooperation with and technical assistance to cities and counties is instrumental in fulfilling the agency's environmental responsibilities and furthering the state's environmental objectives. Local government participation is necessary in fostering public awareness of the quality of the state's environment, promoting educational efforts aimed at the prevention of environmental pollution, and for assuring that local governments and the Department are striving towards the same environmental objectives.

Provision of Information/Technical Assistance

Participation in local land use planning is only one aspect of Department's coordination with local government. As staffing and funding resources allow, the Department provides technical assistance or information for land use planning purposes through the following:

1. Department publications, studies and planning documents are available to the public upon request. Each division maintains a local government mailing list for the distribution of new publications.
2. Technical data and assistance on a jurisdictional basis may be available for:
 - Noise control/airport standards.
 - Air quality monitoring data.
 - Air quality standards and regulations.
 - Noise impact boundary regulations for airports.
 - Hazardous Substance contamination sites/inventory of confirmed releases.
 - Hazardous waste generators.
 - Solid waste disposal standards and regulations.
 - Hazardous waste facilities management standards and regulations.
 - Waste tires regulations for storage permits.
 - Pollution Control Bond Fund application process.
 - Municipal waste sewage collection, treatment, disposal requirements.
 - Financial assistance information for loans to construct municipal treatment works.
 - Nonpoint source/groundwater water quality problems.
 - Total maximum daily local restrictions on specific waterways.
 - Ambient water quality monitoring data.

3. Provide copies of Department statutes and administrative rules.
4. Notice of proposed rules affecting land use for non-site specific items such as statewide plans, grants, programs or other issues affecting local government will be sent to all affected cities and counties. Notice of rulemaking which affects specific jurisdictions or geographic areas will be provided to the affected cities and counties.

Technical assistance should be requested of the Department's Intergovernmental Coordination Office. Division or Region staff will assist in coordinating the delivery of local government requests. Requests for informational material or publications should also be directed to the Intergovernmental Coordination Office of the Management Services Division.

Involvement in Periodic Review

The Department is committed to an active role in the periodic review process, within the constraints of the Department's resources. The assistance and information that may be provided to local governments consist of the following:

1. Periodic Review Guidelines will be prepared and provided to local governments upon request. The following information will be provided in the guidelines:
 - Summary of existing Department programs/actions affecting land use and recommendations on how they should be addressed in local plans;
 - New programs, rules, or actions that affect land use and recommendations for addressing them in local plans.
 - List of Department publications and technical data available upon request.
 - New revisions to the Department Land Use Coordination Program.
 - The identification of priority Department activities that may affect local planning such as upcoming studies or plans.
 - Recommendations for city and county actions that would contribute to the prevention of environmental degradation or pollution.
2. Department staff will review local government periodic plan update or plan amendments upon request and within the Department's resource capabilities.
3. The Department will participate in DLCD's periodic review process through the establishment of "priority environmental concerns" that affect local planning. This

may involve emphasis on geographic areas or issue areas of high environmental priority.

Assistance to Coastal Jurisdictions

The above provisions for technical assistance and information apply as well to all coastal jurisdictions. However, specific emphasis will be placed on technical assistance to coastal jurisdictions - issues that relate to Goal 16, Estuarine Resources; and Goal 19, Ocean Resources. Specific Department program areas include estuary plans, the regulations of oil spills, participation in Oregon Coastal Zone Management Program process and Ocean Management Planning process.

SECTION VI

COORDINATION WITH STATE AGENCIES, FEDERAL AGENCIES AND SPECIAL DISTRICTS

The Department strongly believes that ongoing interagency involvement and cooperation is essential to effectively carry out Department mandates. This involvement is an integral element of all agency activities. The basis for the Department's commitment to interagency involvement is multi-fold. There are obvious overlaps and interrelationships between the Department's responsibilities with those of other federal and state agencies. Many of the Department's statutory directives require specific intergovernmental efforts. It is also the agency's firm conviction that accomplishments are heavily influenced by the amount of effort placed on intergovernmental relations.

Intergovernmental coordination as applicable to programs and actions that affect land use is implemented through each of the agency's divisions. From an administrative and organizational perspective, the coordination of land use matters is integrated throughout the Department's structure.

In an effort to improve agency coordination as it relates to improving opportunities for economic development pursuant to ORS 197.712, the agency shall provide the Department's of Economic Development, Transportation, and Water Resources notice of all Department's proposed priority list of potential eligible projects for wastewater collecting disposal and treatment facilities.

When appropriate, land use issues involving more than one division or involving multiple agencies, are coordinated through the Intergovernmental Coordination Office in the Management Services Division. Most of the Department's coordination, however, is conducted through the responsible program area.

Notice of all Department proposed rulemaking that relates to other agency authorities is provided to the appropriate agency or special district.

A list of those federal and state agencies and special districts that the Department coordinates with on an on-going basis follows:

1. Air Quality Division

Federal Agencies

Bureau of Reclamation

Program Area

Rules/actions involving impacts to Forest Service lands.

Environmental Protection Agency

Rules/programs involving federal mandates.

Forest Service

Actions involving impacts to Forest Service lands.

State Agencies

Agriculture

Field/slash burning.

Division of State Lands

Sand and gravel removal operations from streams.

Economic Development

Air Quality programs affecting land use.

Forestry

Slash burning.

Land Conservation & Development

All rules affecting land use; site specific issues.

Marine Board

Motorboat racing noise enforcement.

Transportation

Noise Abatement for airports.

ISCP permits; parking and traffic circulation plans.

Special Service Districts/Other Agencies

Lane Regional Air Pollution Authority

All major air quality sources except field/burning and motor vehicles.

Metro

Participates in carbon monoxide and ozone control strategy development.

Councils of Governments

Participates in carbon monoxide and ozone control strategy development.

2. Environmental Cleanup Division

Federal Agencies

Program Area

Environmental Protection Agency

Rules/programs involving federal mandates.

State Agencies

Land Conservation & Development

All rules/actions affecting land use; site specific issues.

3. Hazardous and Solid Waste Division

Federal Agencies

Program Area

Army Corp of Engineers

Siting of solid waste. Disposal sites.

Bureau of Land Management

Siting of solid waste disposal sites.

Environmental Protection Agency

Rules/programs involving federal mandates.

Forest Service

Siting of solid waste disposal sites.

State Agencies

Agriculture

Hazardous waste
pesticide program

Applicable Agencies

Siting of solid waste
disposal sites on
public lands.

Land Conservation & Development

All rules affecting
land use; site specific
issues.

Water Resources

Siting of new
facilities.

4. Management Services Division

Federal Agencies

Program Area

State Agencies

Executive (Intergovernmental
Relations)

Review of projects
involving federal
funds.

5. Regional Operations Division

Federal Agencies

Program Area

State Agencies

Applicable Agencies

Site-Specific actions
that affect state
agencies.

Special Service Districts

Applicable Special Districts

Site-Specific actions that affect special service districts.

6. Water Quality Division

Federal Agencies

Program Area

Bureau of Land Management

Nonpoint source rules/actions.

Coast Guard

Rules/actions involving oil spills.

Corps of Engineers

Section 401 permits.

Environmental Protection Agency

Rules/programs involving federal mandates.

Forest Service

Rules/nonpoint source site-specific actions.

State Agencies

Agriculture

Nonpoint source rules/actions.

Columbia Gorge Bi-State Commission

Rules/issues Columbia Gorge National Scenic Area.

Columbia South Slough Commission

Nonpoint/groundwater rules/actions.

Division of State Lands

Fill and removal activities.

Fish and Wildlife

Water quality rules/actions that affect fish; instream water rights; oil spill planning.

Forestry

Nonpoint source
rules/actions.

Land Conservation and Development

All rules affecting
land use; site-specific
issues; ocean resources
planning issues.

Parks

Rules/actions involving
scenic waterways;
instream water rights.

Regional Response Team

Oil spills.

Transportation

Nonpoint source
rules/actions.

Water Resources

Rules/issues relating
to groundwater
protection;
instream water rights.

Special Service Districts

Water Improvement Special Districts

Rules/actions
affecting land use;
planning studies.

Department procedure for site-specific intergovernmental coordination is basically determined on a case-by-case basis. All affected agencies are invited to review proposed rulemaking that affects land use. Many agencies are involved through Task Forces, Advisory Committees, or assist DEQ in developing rules/programs.

Other

Northwest Power Planning Council

Section 401 permits.

Strategic Water Management Group

Water policy issues.

SECTION VII

APPENDICES

STATE LEGAL AUTHORITIES

STATE AUTHORITIES

The Department of Environmental Quality carries out its statutory authorities under Oregon Revised Chapters 448, 453, 454, 459, 465, 466, 467, and 468.

Chapter 448: 448.410 - 415 provides the EQC with authority to classify sewage treatment works and certify operators of all sewage treatment works.

Chapter 453: 453.510 - 527 directs the establishment of the Interagency Hazard Communication Council. The role of the Council is to develop a state comprehensive emergency response plan. The Director of DEQ is a designated member of the 21-member Council.

Chapter 454: This chapter provides DEQ regulatory authority over sewage treatment works; provides municipalities authority to finance, construct and own sewage disposal systems; authorizes EQC review and approval of proposed construction of sewage treatment works; establishes a State Sewage Treatment Works Construction Account; and, provides DEQ authority to regulate subsurface sewage disposal.

Chapter 459: This chapter provides DEQ's regulatory authorities for the control of solid waste: Directs the planning, development and operation of recycling programs; establishes Oregon Solid Waste Regional Policy Commission; requires counties to develop solid waste management plans; requires permitting of landfill disposal sites; provides for local governments to enter into intergovernmental agreements in carrying out solid waste control provisions; directs EQC to adopt rules on waste disposal and recycling; establishes statewide mandatory recycling opportunities; directs DEQ regulations of landfill site closures; provides for enforcement authority; regulates disposal of infectious waste; establishes pilot project for household hazardous waste; regulates disposal of lead-acid batteries; directs regulation of the storage and disposal of waste tires; and, directs the EQC to

promote the use of reusable containers in the state.

- Chapter 465: ORS 465.003 - 037 provides authorities for the reduction of use of toxic substances and hazardous waste generation through the development of user waste reduction plans. ORS 465.200 - 980 contains authorities to undertake hazardous substance removal or remedial action; provides state financial assistance through Hazardous Substance Remedial Action Fund; establish Orphan Site Account for removal or remedial action of sites where the responsible party is unknown.
- Chapter 466: This chapter contains DEQ's authorities relating to hazardous waste and hazardous materials. Through these authorities, the DEQ is directed to regulate the storage, treatment and disposal of hazardous waste and PCB; the EQC is authorized to give local government notice of potential hazardous waste conditions on sites; enacts the Pacific States Agreement on Radioactive Materials Transportation Management; directs remedial action or removal to clean up contaminated sites; directs EQC policy for the cleanup of oil or hazardous materials; directs EQC to adopt a state program for the prevention, reporting of releases, and corrective action from releases from underground storage tanks; provides financial assistance for remedial action; provides authority to establish a loan guaranty program for compliance and corrective action on underground storage tanks; and, provides authorization for civil penalties.
- Chapter 467: The Environmental Quality Commission is provided with authority to adopt standards for noise emissions and to enforce compliance. Cities and counties are authorized to regulate noise sources including agricultural operations and forestry operations which are exempt from state regulation.
- Chapter 468: Chapter 468 contains the bulk of the statutory authorities on pollution control. ORS 468.005 - 468.272 provides general administrative provisions for the EQC and Department; provides the Department with enforcement and investigation authorities; provides the EQC authority to adopt rules for issuance of pollution control tax credit certification; establishes pollution control fund and provides

EQC authority to grant funds for eligible projects; provides counties bonding authority for purpose of emergency installation of antipollution devices.

ORS 468.275 - 468.655 provide broad authorities for restoration and protection of air resources and directs development of a state program of air quality control; requires certification of motor vehicle pollution control systems and inspection of motor vehicles; directs the Department to regulate fieldburning and conduct a smoke management plan; provides for the formation of regional air quality control authorities; prohibits the use of aerosol sprays containing certain propellants; controls the use of chlorofluorocarbons and halons; directs EQC to establish emissions performance standards for woodstoves and to develop a woodstove certification program.

ORS 468.423 - 440 establishes a Water Pollution Control Revolving Fund to provide state financial assistance for treatment works and the management of nonpoint sources of pollution.

468.686 - 883 provides EQC authorities for the prevention, abatement and control of new or existing water pollution; requires regulation of discharge from confined animal feeding operations; requires certification of federally licensed or permitted activity related to hydroelectric power development; and prohibits entry of oil into state waters from ship, fixed or mobile/activity located on shore or off shore.

ORS 468.659 - 685 establishes a Resource Conservation Trust Fund to support projects relating to habitat conservation and waste reduction. The DEQ would oversee the waste reduction responsibilities if the Legislature provides support funding.

ORS 468.850 - 871 directs Department to conduct a public education program on benefits of collecting and recycling used oil. ORS 468.875 - 899 requires the licensing for asbestos abatement. ORS 468.925 - 965 authorizes the EQC to provide tax credit certification for capital investments to manufacture a reclaim/plastic product. ORS 468.970 establishes the Assessment Deferral Loan Program to provide assistance to

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340-71-430	Variance Hearings		
340-71-435	Variance Permit Issuance, Inspections, Certificate of Satisfactory Completion		
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DEPARTMENT OF ENVIRONMENTAL QUALITY**

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- 340-104-056 Emergency Procedures
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- 340-104-143 Financial Assurance for Facility Closure
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- 340-104-147 Liability Requirements
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**OREGON ADMINISTRATIVE RULES
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**UNDERGROUND STORAGE TANK RULES
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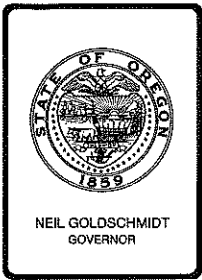
- 340-150-010 Definitions
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Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: J
Division: H&SW
Section: Waste Tire

SUBJECT:

Waste Tire Pile Cleanup: Approval of Funds From the Waste Tire Recycling Account to Assist Coos County.

PURPOSE:

To allow use of funds from the Waste Tire Recycling Account to expedite cleanup of approximately 200,000 waste tires at a permitted waste tire storage site.

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

Meeting Date: June 29, 1990
Agenda Item: J
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Allow Waste Tire Recycling Account cleanup funds to be made available to partially pay for immediate cleanup of approximately 200,000 waste tires from Coos County's (the County) permitted waste tire storage site, pursuant to OAR 340-64-150(1)(a); 340-64-155(1), (2), and (3); and 340-64-160.

DESCRIPTION OF REQUESTED ACTION:

The Waste Tire Recycling Account is funded by a \$1 fee on new replacement tires. The account may be used to help clean up waste tire piles.

The statute (ORS 459.780(2)(a)) requires the Environmental Quality Commission (EQC, Commission) to make a finding before the Department of Environmental Quality (Department) may use funds to assist a permittee in removing waste tires. The Commission must find that special circumstances allow for use of the funds. The special circumstances for the County's site are:

The 200,000 automobile waste tires are in two piles on flat land at the landfill and pose an environmental threat; a waste tire fire would be difficult to extinguish and could result in toxic air and ground emissions that could contaminate the atmosphere, groundwater and neighboring sloughs, Coos River and the Pacific Ocean.

The Department may use cleanup funds in the Waste Tire Recycling Account to partially pay to remove or process waste tires from a permitted waste tire storage site pursuant to OAR 340-64-150(1)(a). OAR 340-64-155(3) allows the Department to financially assist a waste tire storage permittee which is also a local government with up to 80% of the total costs of the cleanup as long as the following criteria are met: the County must have collected no fees on the waste tires accepted, and the waste tires must have been collected before January 1, 1988. The County's site meets both of these conditions.

This site is the third municipal waste tire storage site permittee that has requested and qualifies for financial assistance. The County submitted a letter dated April 2, 1990, to the Department requesting financial assistance (Attachment A).

The County's landfill facility was opened in the early 1970s. Waste tires were collected without a fee to help alleviate the waste tire problems of illegal disposal and

X Time Constraints: (explain)

The permit allows the permittee until October 31, 1992, to remove the waste tires. It is environmentally desirable, however, to have the permittee remove the tires as quickly as possible because the site is adjacent to the South Slough National Estuary and Preserve.

DEVELOPMENTAL BACKGROUND:

<u> </u> Advisory Committee Report/Recommendation	Attachment	<u> </u>
<u> </u> Hearing Officer's Report/Recommendations	Attachment	<u> </u>
<u> </u> Response to Testimony/Comments	Attachment	<u> </u>
<u> </u> Prior EQC Agenda Items: (list)		
	Attachment	<u> </u>
<u> </u> Other Related Reports/Rules/Statutes:		
	Attachment	<u> </u>
<u>X</u> Supplemental Background Information	Attachment	<u> </u>
- Letter from the County	Attachment	<u> A</u>
- The County-proposed waste tire cleanup plan	Attachment	<u> B</u>

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The County inherited the waste tire storage problem when a prior user (Mr. Richard Knutson) stored tires on the land and defaulted on the lease. The current statute of limitations has passed on the County's course of action against Mr. Knutson. Therefore, the County acquired a waste tire storage site permit and requested financial assistance.

The County monies budgeted for this purpose, approximately \$35,000, will be taken from their general fund budget and are not extra available funds. The County cannot allocate further funds without negative financial impact to their operational budgets. If timber revenues decrease, as expected, the County will be financially hard hit. The County could remove the waste tires over a period of three and a half years or longer without financial assistance from the Waste Tire Recycling Account.

PROGRAM CONSIDERATIONS:

The program currently has about \$2 million available for reimbursement to users of waste tires and for site cleanup. We anticipate having adequate funds to meet requests for financial assistance to remove tires.

Meeting Date: June 29, 1990
Agenda Item: J
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As required by OAR 340-64-160(1)(b), the permittee has submitted to the Department a waste tire removal plan describing the proposed action with a time schedule and cost estimate of \$200,000 (Attachment B).

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Removal of the tires over a period of three and a half years or longer by the permittee without financial assistance from the Waste Tire Recycling Account. This is the timetable requested by the County if no financial assistance is available.
2. Removal of all waste tires by December 31, 1990, or earlier with assistance from the Waste Tire Recycling Account, basing assistance on the existing rule and Department guidelines.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

Alternative 2. This is the third permitted local government that has completed a request for financial assistance to remove waste tires. We recommend proceeding immediately with financial assistance for the following reasons:

1. The site is located close to populated areas (Coos Bay, Charleston) and is adjacent to the South Slough National Estuary and Preserve. A waste tire fire would negatively impact the communities' air quality, and resulting pyrolytic oils could also enter surface and ground waters. This would harm agricultural habitats in the sloughs.
2. The Waste Tire Recycling Account has an adequate fund balance that can reasonably be used for financial assistance. Use of funds now would fulfill legislative intent to clean up tires piles as quickly as possible.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The permittee meets statutory and regulatory criteria for receiving financial assistance to clean up the waste tires. The action would follow agency policy and legislative intent in getting the site cleaned of waste tires as quickly as possible, thus eliminating the potential environmental problems associated with tire piles.

Meeting Date: June 29, 1990
Agenda Item: J
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ISSUES FOR COMMISSION TO RESOLVE:

The Commission adopted rules establishing criteria for financial assistance to local governments, allowing assistance of up to 80% of the cost. This site is eligible for financial assistance.

INTENDED FOLLOWUP ACTIONS:

The County will arrange for the cleanup; the Department will inspect and approve the cleanup operation, and then issue a dual-party check to the County and the contractor for 80% of the net cost.

The Department intends to incorporate the Guidelines for Determining the percentage of 80% Financial Assistance to Local Governments into rule. We intend to request a hearing authorization for redrafted rules at the August EQC meeting.

The Department will submit a draft of rule revisions to delegate approval of requests for financial assistance to the August EQC meeting.

Approved:

Section:

She Greenwood

Division:

Stephanie Hallock

Director:

Bill Hawn

Report Prepared By: Bradford D. Price

Phone: 229-6792

Date Prepared: May 29, 1990

BDP:k
WT\SK2787
June 8, 1990



ATTACHMENT A, COUNTY LETTER

COOS COUNTY OFFICE OF LEGAL COUNSEL
Coos County Courthouse
Coquille, Oregon 97423
(503) 396-3121, Ext. 215
Facsimile 396-5932

April 2, 1990

RECEIVED
MAY 01 1990

Brad Price
Waste Tire Program
Dept. of Environmental Quality
811 S.W. Sixth
Portland, OR 97204

Hazardous & Solid Waste Division
Department of Environmental Quality

Re: Joe Ney Waste Tire Site

Dear Brad:

Enclosed is the final signed application for a waste tire permit as we have discussed. Also enclosed is a check in the amount of \$500 to cover the application fee.

Per our conversations, I request that the permit, when signed, show two options regarding management plans. The options should be as follows:

Option A:

Coos County will contract with a certified waste tire hauler to remove the tires to authorized recyclers or end users. Under this option, since no new tires are being accepted and all current tires would be removed, the County requests waiver of the technical requirements regarding tire pile height, width, ricking and financial responsibility. These waivers are allowed under OAR 340-64-020(3) and 340-64-025(4).

Option B:

In the event that Coos County is unable to remove all tires within six months, all storage and technical requirements will apply.

It is our intention to clean the site out entirely. It will be necessary for the County to apply for financial assistance from D.E.Q. to accomplish this. It is my understanding that this permit application may be put on the E.Q.C. agenda of June 29, 1990. Assuming approval, the County could theoretically begin cleanup on July 1, 1990. From that date we expect the cleanup to be completed in 3 to 4 months.

Brad Price
April 2, 1990
Page Two

By this letter, Coos County is requesting waiver of the financial assurance requirement under the authority of OAR 340-34-020(3). The Joe Ney site has been in existence since before January 1, 1988. It is closed and no longer accepting tires. The permit application contains a closure schedule in that it is the County's intent to remove all tires as quickly as possible.

Based on our anticipated quick cleanup schedule and that the site is closed, and, further, based on the D.E.Q. rules, it is my opinion that waiver of the above-noted provisions would be in the best interest of the both the County and the D.E.Q. and would serve to allow Coos County to put its efforts into cleaning out the site in a more expeditious manner.

Please place this letter with the attached application for consideration by the Department. I appreciate your assistance and cooperation in this matter.

Sincerely yours,


David A. Cameron

Enclosures

cc: Skip Sumstine

DAVID R. RIS
County Counsel



DAVID A. CAMERON
Assistant County Counsel

COOS COUNTY OFFICE OF LEGAL COUNSEL

Coos County Courthouse
Coquille, Oregon 97423
(503) 396-3121, Ext. 215
Facsimile 396-5932

June 14, 1990

Brad Price
D.E.Q.
FAX Transmission

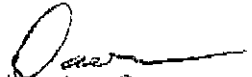
Re: Joe Ney Tire Disposal Project

Dear Brad:

This is to inform you that the Coos County Board of Commissioners have considered the bids submitted by various tire carriers and have selected the bid submitted by Cemenergy of Sacramento, California. We will be formalizing the contract as quickly as possible.

Thank you for your assistance in this matter.

Sincerely Yours,


David A. Cameron

BID SHEET

BIDDER: CEMENERGY

I, the undersigned, submit the following bid for furnishing waste tire removal from the Joe Ney Solid Waste Site in Coos County to a processing/recycling facility approved by the D.E.Q. as shown in the Tire Removal Plan attached hereto.

Enclosed are:

1. Copy of the Bid Form
2. Copy of the Tire Removal Plan for the site
3. Copy of the Bidder Qualifications and Reference Form

The below listed bidder submits the following bid for removal of approximately 200,000 waste tires from the Joe Ney Solid Waste Site:

TOTAL PRICE: \$96,000.

*I, the undersigned further certify that I am currently certified by the Oregon Department of Environmental Quality as a waste tire carrier.

Date: _____

Signature: *Michael Bergery*

Name: (please print) _____

Title: _____

Address: _____

Telephone Number: (_____) _____

* Since all tires are being processed on site and will be removed in the form of "finished goods", Cemenergy has been advised by Oregon DEQ that there is no requirement for an Oregon Waste Tire Carrier Certification.

Cemenergy

IMPLEMENTATION PLAN/PROJECT SCHEDULE

Transforming the Cemenergy proposal into a production operation will be accomplished in three phases. Each phase will have a specific time frame and scope of work attached. Tire removal will commence upon completion of Phase III (see below).

Phase I (30 days) Systems Acquisition and Construction

- a. Field grade crumb system to be configured and constructed for mobil application.
- b. Modification to TDF processing plant to complete mobil configuration.
- c. Acquisition of mobil generator and related switch gear.
- d. Site/parts and maintenances trailer purchased and prepared for on-site delivery.
- e. Purchase and delivery of complete mobil Terra-Mat system.
- d. Acquisition of any related systems or support equipment relative to project.

Phase II (10 days) On-Site Assembly

- a. All systems and related equipment delivered to site.
- b. Configuration, placement of equipment in appropriate areas, and necessary production testing accomplished during this period.
- c. Production staff indoctrination and preliminary training.

Cemenergy

- d. Development and implementation of production and maintenance procedures and familiarization of integrated systems.
- e. Completion of all necessary site preparation and systems placement.

Phase III (5 days) Monitored Operation - Start-up

Since remote cleanup facilities often encounter hostile working environments, all production equipment and support systems must be closely monitored for the purpose of exposing initial operating problems, system weaknesses and other related start-up problems. During this period of time, all system will be operated at full capacity prior to official commencement of project upon completion of Phase III project will be in a full operational mode.

Project Time Frame

Completion scheduled within 180 days of start-up.

PROJECT DESCRIPTION/WORK PLAN

The Coos County Tire Disposal site contains, in our estimation, approximately 200,000 passenger equivalent scrap tires. Truck tires are equivalent to approximately five passenger tires and large off-road tires to about ten passenger tires by weight. Through an assessment of estimated truck, large off-road and passenger tires, we arrive at a total of 200,000.

The project goal is clearly to process and remove all tires from the site within the time frame and economic parameters provided in this proposal.

The proposal centers around five principal activities: 1. Extraction and separation of tires into processing lines; 2. TDF production; 3. Tread rubber removal and processing; 4. Terra Mar processing and manufacture; and 5. Distribution into individual markets. Fully implemented, whole scrap tires will flow from pile storage into individual work streams and then be distributed to end users. Supply agreements are already in place for the sale of each component at outflow volumes matched with production capacity.

All producing systems will be operated in mobil configuration allowing for relocation to different areas within the site as required. The project will be implemented in three phases. Each phase and its relative time frame is detailed in the Implementation Plan/Job Schedule. The plan also employs a unique concept of production management. The end users for all products except TDF will provide supervisory personnel/lead men on each production line. Safety, productivity and product quality then become key factors in the manufacture of each product. As stated earlier, five (5) independent activities will take place surrounding three (3) processing systems and one (1) front end loader.

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

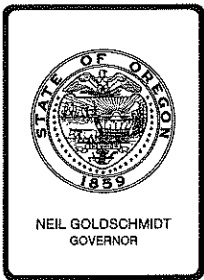
DATE: June 18, 1990

TO: Environmental Quality Commission

FROM: Bradford Price, Waste Tire Specialist *BDP by AVE*

SUBJECT: Changes to Agenda Item K: Waste Tire Pile Cleanup
for Klamath County

The staff report has been modified to include Klamath County's request that the Department pay the full amount of the cleanup, estimated at this time to be \$596,800, and allow the county to repay its share of \$119,360 to the Department in payments of \$30,000 per year until full payment is received.



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: K
Division: H&SW
Section: Waste Tire

SUBJECT:

Waste Tire Pile Cleanup: Approval of Funds From the Waste Tire Recycling Account to Assist Klamath County.

PURPOSE:

To allow use of funds from the Waste Tire Recycling Account to expedite cleanup of approximately 750,000 waste tires at a permitted waste tire storage site.

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

Meeting Date: June 29, 1990
Agenda Item: K
Page 2

Allow Waste Tire Recycling Account cleanup funds to be made available to partially pay for immediate cleanup of approximately 750,000 waste tires from Klamath County's (the County) permitted waste tire storage site, pursuant to OAR 340-64-150(1)(a); 340-64-155(1), (2), and (3); and 340-64-160(1).

DESCRIPTION OF REQUESTED ACTION:

The Waste Tire Recycling Account is funded by a \$1 fee on new replacement tires. The account may be used to help clean up waste tire piles.

The statute (ORS 459.780(2)(a)) requires the Environmental Quality Commission (EQC, Commission) to make a finding before the Department of Environmental Quality (Department) may use funds to assist a permittee in removing waste tires. The Commission must find that special circumstances allow for use of the funds. The special circumstances for the County's site are:

The 750,000 waste tires are in two piles, each in a 10-foot or greater deep pit, and pose an environmental threat; a waste tire fire would be difficult to extinguish and could result in toxic air and ground emissions that could contaminate the atmosphere, groundwater, a river and neighboring habitat.

The Department may use cleanup funds in the Waste Tire Recycling Account to partially pay to remove or process waste tires from a permitted waste tire storage site pursuant to OAR 340-64-150(1)(a). OAR 340-64-155(3) allows the Department to financially assist a waste tire storage permittee which is also a local government with up to 80% of the total costs of the cleanup as long as the following criteria are met: the County must have collected no fees on the waste tires accepted, and the waste tires must have been collected before January 1, 1988. The County's site meets both of these conditions. There have been some additional waste tires collected at this site for a fee and the removal of these waste tires will not be funded by the Waste Tire Program.

This site is the second municipal waste tire storage site permittee that has requested and qualifies for financial assistance. The County submitted a letter dated March 7, 1990, to the Department requesting financial assistance (Attachment A).

The County's waste tire storage site is located approximately 19 miles east of Klamath Falls, Oregon, adjacent to Lost River. Waste tires have been collected at the site for approximately 15 years, dating back to 1975. Waste tires have been stored at the site rather than at local landfills, with the idea of using the tires as a future energy source. Currently, the site is composed of three storage pit locations, containing approximately 750,000 waste automobile tire equivalents. Pit #1 contains approximately 650,000 tires, and Pit #2 contains approximately 100,000 tires. The waste tires collected after January 1, 1989, are stored separately in a series of rows in accordance with DEQ waste tire storage standards, and are not eligible to be included in the Department's cleanup funding.

OAR 340-64-155(3) allows the Department to assist a local government up to 80% of the cleanup costs. With assistance from the Waste Tire Advisory Committee, the Department developed guidelines for determining the percentage of 80% financial assistance that could be allocated to a local government. The guidelines suggest percentages of eligible costs which the Department will pay based on an index relating county population to the number of waste tires. A county with an index of less than one will receive the full 80% of the net cost of cleanup. The County's index is 0.08 (population: 58,630 divided by 750,000 waste tires). Therefore, the County would receive financial assistance equaling 80% of the net cost of the waste tire cleanup. The cleanup will be conducted by the County. Waste tires will be removed by a permitted waste tire carrier and will be properly processed, recycled, reused or incinerated as fuel.

The County requests that the Department pay the contractor the complete cost of the waste tire cleanup (\$596,800). The County will sign an agreement to pay back to the Department the County's 20% share of the cleanup cost over the next four years. The County proposes to remit to the Department \$30,000 a year until their financial responsibility of \$119,360 is paid back, beginning repayment on July 1, 1991. The Department will issue payment to the contractor in installments based on completion of three phases of the cleanup, as follows:

- Payment 1, \$187,500, upon completion of removal of one-third of the largest pile by September 30, 1990;
- Payment 2, \$112,500, upon completion of removal of half of the largest pile by December 31, 1990; and

- Payment 3, \$296,800, upon completion of the entire site by July 1, 1992.

AUTHORITY/NEED FOR ACTION:

- | | |
|--|------------------------|
| <input checked="" type="checkbox"/> Required by Statute: <u>ORS 459.780(2)(a)</u> | Attachment <u> </u> |
| Enactment Date: <u>1987</u> | |
| <input type="checkbox"/> Statutory Authority: _____ | Attachment <u> </u> |
| <input checked="" type="checkbox"/> Pursuant to Rule: <u>OAR 340-64-150(1)(a);</u> | Attachment <u> </u> |
| <u>340-64-155(1), (2), and (3); and</u> | |
| <u>340-64-160(1)</u> | |
| <input type="checkbox"/> Pursuant to Federal Law/Rule: _____ | Attachment <u> </u> |
| <input type="checkbox"/> Other: _____ | Attachment <u> </u> |
| <input checked="" type="checkbox"/> Time Constraints: (explain) | |

The permit allows the permittee until June 30, 1994, to remove the waste tires. It is environmentally desirable, however, to have the permittee remove the tires as quickly as possible because of the potential environmental threat. This site stores a large number of waste tires in a fire-threatening, unsafe condition. The site is adjacent to Lost River and is 19 miles east of Klamath Falls, an air quality nonattainment area.

DEVELOPMENTAL BACKGROUND:

- | | |
|--|-------------------------|
| <input checked="" type="checkbox"/> Advisory Committee Report/Recommendation | Attachment <u> </u> |
| <input type="checkbox"/> Hearing Officer's Report/Recommendations | Attachment <u> </u> |
| <input type="checkbox"/> Response to Testimony/Comments | Attachment <u> </u> |
| <input type="checkbox"/> Prior EQC Agenda Items: (list) | Attachment <u> </u> |
| <input type="checkbox"/> Other Related Reports/Rules/Statutes: | Attachment <u> </u> |
| <input checked="" type="checkbox"/> Supplemental Background Information | Attachment <u> </u> |
| - Letter from the County | Attachment <u> A </u> |
| - County's proposed waste tire cleanup plan | Attachment <u> B </u> |

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The County acquired a waste tire storage site permit with the intention to dispose of the waste tires properly. The monies budgeted for this purpose, approximately \$30,000 annually, will be taken from their franchise fees and are not extra available funds. The County cannot allocate further funds without negative financial impact to their

Meeting Date: June 29, 1990
Agenda Item: K
Page 5

recycling program. The County could remove the waste tires over a period of ten years or longer without financial assistance from the Waste Tire Recycling Account.

PROGRAM CONSIDERATIONS:

The program currently has about \$2 million available for reimbursement to users of waste tires, and for site cleanup. We anticipate having adequate funds to meet requests for financial assistance to remove tires.

As required by OAR 340-64-160(1)(b), the permittee has submitted to the Department a waste tire removal plan describing the proposed action with a time schedule and cost estimate of \$600,000 (Attachment B).

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Removal of the tires over a period of ten years or longer by the permittee without financial assistance from the Waste Tire Recycling Account. This is the timetable requested by the County if no financial assistance is available.
2. Removal of all waste tires in Pit #1 by July 1, 1991, and Pit #2 by July 1, 1992, or earlier with assistance from the Waste Tire Recycling Account, basing assistance on the existing rule and Department guidelines.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

Alternative 2. This is the second permitted local government that has completed a request for financial assistance to remove waste tires. We recommend proceeding immediately with financial assistance for the following reasons:

1. The site is located close to populated areas (Klamath Falls, Bonanza) and is adjacent to Lost River. A waste tire fire would negatively impact the communities' air quality, and resulting pyrolytic oils could also enter surface, ground waters and Lost River. This would harm agricultural habitat at Lost River.
2. The Waste Tire Recycling Account has an adequate fund balance that can reasonably be used for financial assistance. Use of funds now would fulfill legislative intent to clean up tires piles as quickly as possible.

Meeting Date: June 29, 1990
Agenda Item: K
Page 6

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The permittee meets statutory and regulatory criteria for receiving financial assistance to clean up the waste tires. The action would follow agency policy and legislative intent in getting the site cleaned of waste tires as quickly as possible, thus eliminating the potential environmental problems associated with tire piles.

ISSUES FOR COMMISSION TO RESOLVE:

1. The Commission adopted rules establishing criteria for financial assistance to local governments, allowing assistance of up to 80% of the cost. This site is eligible for financial assistance.
2. Should the Department pay the entire cost of the cleanup to the contractor and sign an agreement with the County to remit to the Department \$30,000 annually until the County's 20% share of the cleanup cost is paid? (The County is unable to acquire more than \$30,000 annually. The contractor is unwilling to accept partial payment for this size of contract.)

INTENDED FOLLOWUP ACTIONS:

The County will arrange for the cleanup. The County will sign an agreement with the Department to pay back to the Department \$30,000 annually beginning July 1, 1991, until its entire 20% financial responsibility (\$119,360) is paid back. The Department will inspect and approve the three stages of the cleanup operation, and then issue dual-party checks to the County and the contractor for a total of 100% of the cleanup cost (\$596,800).

The Department intends to incorporate the Guidelines for Determining the percentage of 80% Financial Assistance to Local Governments into rule. We intend to request a hearing authorization for redrafted rules at the August EQC meeting.

Meeting Date: June 29, 1990
Agenda Item: K
Page 7

The Department will submit a draft of rule revisions to delegate approval of requests for financial assistance to the August EQC meeting.

Approved:

Section:

Jeanne Mueller-Cisyn

Division:

Robert S. Hallock

Director:

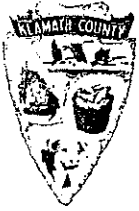
John Hamer

Report Prepared By: Bradford D. Price

Phone: 229-6792

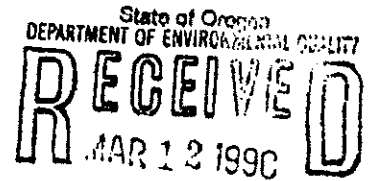
Date Prepared: May 29, 1990

BDP:k
WT\SK2780
June 15, 1990



Klamath County - Board of Commissioners

COURTHOUSE ANNEX — 503-882-2501 — KLAMATH FALLS, OREGON 97601-6391



OFFICE OF THE DIRECTOR

March 7, 1990

Mr. Fred Hanson
Department of Environmental Quality
811 S.W. 6th Avenue,
Portland, Oregon 97204

Dear Mr. Hanson:

Klamath County is one of the counties that has made a site available for the disposal of tires. The County has used the Harpold site for approximately fifteen years and in doing so, has kept tires from being discarded onto Federal and private lands throughout the County. The County now has two large bulk piles containing 300,000 to 500,000 tires and a third that conforms to D.E.Q. Tire Storage Permit WTS1104.

Klamath County has submitted a fire plan; however, there is no solution to a fire in one of the bulk piles. If a fire were to start in one of the bulk piles, it would be extremely difficult to control and the impact on the local air and water quality would be great. The incorporated town of Bonanza is located approximately three and one half miles easterly from the tire disposal site.

Fire District No. 1, along with a number of other Fire Districts have been at the site for demonstration and feel this site is a danger in its present form. Klamath County is in agreement with the Fire Districts and is requesting assistance in alleviating the hazard.

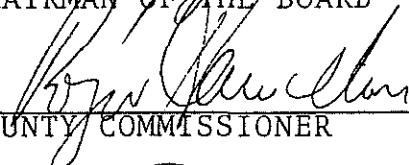
Mr. Fred Hanson
Department of Environmental Quality
Page 2 of 2

Please use this letter as a formal request for grant funds to aid Klamath County in removing these tires. The Commissioners are requesting a grant in the amount of \$450,000.00 for a three year program.

Your consideration of our request will be appreciated.



CHAIRMAN OF THE BOARD



COUNTY COMMISSIONER



COUNTY COMMISSIONER

Brack
Director's letter file



Department of Environmental Quality

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

March 21, 1990

Harry Fredricks
Roger Hamilton
Ted Lindow
- Klamath County, Board of Commissioners
Courthouse Annex
Klamath Falls, OR 97601-6391

Re: Request from
Klamath County

Harry, Roger & Ted
Dear Commissioners:

I appreciate your letter concerning the waste tire problem and the fire threat posed by the Harpold waste tire site.

The Department's Waste Tire Program may be able to provide financial assistance for the removal of tires from the Harpold site. To receive financial assistance from the Department, a local government such as Klamath County must meet certain conditions. I recommend that you work with Brad Price, DEQ Waste Tire Specialist, who will assist you in following the appropriate procedures. The Department would like very much to work with Klamath County to find a satisfactory solution to this problem.

I am enclosing a copy of the statute (ORS 459.780) and Department rules (OAR 340-64-150 and 340-64-155) which pertain to assistance to local governments.

If you have further questions, please call Mr. Price at (503) 229-6792, or toll free 1-800-452-4011.

Sincerely,

Fred Hansen
Director

FH:BDP:k
WT\SK2650
Enclosures



Klamath County - Public Works Department

VETERANS MEMORIAL BUILDING — 334 MAIN STREET — 503-883-4696 — KLAMATH FALLS, OREGON 97601
ROAD DEPARTMENT — PARK DEPARTMENT — SOLID WASTE DEPARTMENT — FAX 503-882-3046

June 6, 1990

RECEIVED
JUN 07 1990

Hazardous & Solid Waste Division
Department of Environmental Quality

Mr. Brad Price
Waste Tire Specialist
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204

Dear Mr. Price:

Included herein are copies of bids received for the Harpold Waste Tire Storage Site cleanup.

After examining these bids, it is the recommendation of the Public Works Department that the bid be awarded to the apparent low bidder, Cemenergy-Jespersen Edgewood Inc.

As per the advice of Klamath County Counsel (see attached memorandum), we are not able to consider the bid submitted by Tire Recyclers Inc.

Yours truly,

Earl E. Kessler
Public Works Director

Encls.

EEK/sp

PROPOSAL
FOR
REMOVAL OF SCRAP TIRES
FROM THE
HARPOLD WASTE TIRE
STORAGE SITE
KLAMATH COUNTY, OREGON

Prepared by:

Cemenergy
1711 9th Avenue
Sacramento, CA 95818
(916) 443-8416

May 31, 1990

Cemenergy/Michael H. Bungay
1711-9th Avenue
Sacramento, CA 95818
(916) 446-1814

May 31, 1990

Klamath County
Public Works Department
334 Main Street
Klamath Falls, Oregon 97601

Gentlemen:

The enclosed proposal represents an integrated scrap tire recycling program built around the Klamath County (Harpold) tire disposal site. The objective of this program is the complete elimination of all tires stored within the Harpold site using the most up-to-date disposal and processing techniques available. With primary consideration given to reuse or recycling, a significant amount of tread and sidewall rubber from truck and off-road tires, will be extracted, processed, and distributed to rubber goods producers within the state of Oregon. All passenger, light truck and an appropriate number of truck tires will be converted to fuel grade chips and delivered directly to an authorized energy recovery facility. The remaining truck tires will be processed, on site, into a unique product and distributed to end users, at the time of manufacture. The most difficult component of the Harpold site, large off-road tires, far too large to process with conventional equipment, will be disposed of in a unique process recently developed by Cemenergy.

We feel that the utilization of proven technology, combined with processing and industry experience second to none, and of new and unique cost reducing techniques provides Cemenergy with a superior scrap tire recycling program when applied to the Klamath site clean up.

The Cemenergy plan is practical, innovative and should serve as a model for other clean up projects throughout the state of Oregon.

Sincerely,


Michael H. Bungay

PROJECT DESCRIPTION/WORK PLAN

The Harpold Waste Tire Disposal site contains, in our estimation, somewhere between 650,000 and 800,000 passenger equivalent scrap tires. Truck tires are equivalent to approximately five passenger tires and large off-road tires to about ten passenger tires by weight. Through an assessment of estimated truck, large off-road and passenger tires, we arrive at a total of 650,000 - 800,000.

The project goal is clearly to process and remove all tires from the site within the time frame and economic parameters provided in this proposal.

The proposal centers around five principal activities: 1. Extraction and separation of tires into processing lines; 2. TDF production; 3. Tread rubber removal and processing; 4. Terra Mat processing and manufacture; and 5. Distribution into individual markets. Fully implemented, whole scrap tires will flow from pile storage into individual work streams and then be distributed to end users. Supply agreements are already in place for the sale of each component at outflow volumes matched with production capacity.

All producing systems will be operated in mobil configuration allowing for relocation to different areas within the site as required. The project will be implemented in three phases. Each phase and its relative time frame is detailed in the Implementation Plan/Job Schedule. The plan also employs a unique concept of production management. The end users for all products except TDF will provide supervisory personnel/lead men on each production line. Safety, productivity and product quality then become key factors in the manufacture of each product. As stated earlier, five (5) independent activities will take place surrounding three (3) processing systems and one (1) front end loader.

IMPLEMENTATION PLAN/PROJECT SCHEDULE

Transforming the Cemenergy proposal into a production operation will be accomplished in three phases. Each phase will have a specific time frame and scope of work attached. Start up will commence July 1, 1990.

Phase I (30 days) Systems Acquisition and Construction

- a. Field grade crumb system to be configured and constructed for mobil application.
- b. Modification to TDF processing plant to complete mobil configuration.
- c. Acquisition of mobil generator and related switch gear.
- d. Site/parts and maintenances trailer purchased and prepared for on-site delivery.
- e. Purchase and delivery of complete mobil Terra-Mat system.
- d. Acquisition of any related systems or support equipment relative to project.

Phase II (10 days) On-Site Assembly

- a. All systems and related equipment delivered to site.
- b. Configuration, placement of equipment in appropriate areas, and necessary production testing accomplished during this period.
- c. Production staff indoctrination and preliminary training.

Cemenergy

- d. Development and implementation of production and maintenance procedures and familiarization of integrated systems.
- e. Completion of all necessary site preparation and systems placement.

Phase III (5 days) Monitored Operation - Start-up

Since remote cleanup facilities often encounter hostile working environments, all production equipment and support systems must be closely monitored for the purpose of exposing initial operating problems, system weaknesses and other related start-up problems. During this period of time, all system will be operated at full capacity prior to official commencement of project upon completion of Phase III project will be in a full operational mode.

Project Time Frame

The entire cleanup project will be completed within eighteen months of startup. All processing lines will be fed from the largest pile with 1/2 volume reduction expected by September-October 1990. Depending on weather conditions during winter months, complete removal of tires in large pile expected by March 1991.

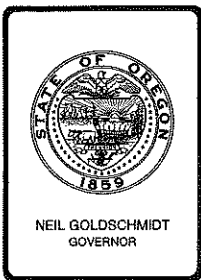
Entire project completion - December 1991. No requests for extensions are anticipated.

BID PRICE - HARPOLD TIRE REMOVAL

In accordance with Request for Proposal, Harpold Waste Tire Storage Site, Klamath County, Oregon Page 1-7.

Total Cost Bid (Cemenergy): \$596,800.00

This price quote represents the cost for removal of all existing tires at the Harpold site in accordance with the enclosed proposal. Any activities outside the scope of this proposal will be treated as such and will be bid accordingly.



Environmental Quality Commission

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

REQUEST FOR EQC ACTION

Meeting Date: June 29, 1990
Agenda Item: L
Division: H & SW
Section: Waste Tire

SUBJECT:

Waste Tire Pile Cleanup: Approval of Funds from Waste Tire Recycling Account to Assist Richard L. Mishler, Jr.

PURPOSE:

To allow use of funds from the Waste Tire Recycling Account to expedite cleanup of approximately 200,000 waste tires at a permitted waste tire storage site.

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

Meeting Date: June 29, 1990
Agenda Item: L
Page 2

Allow Waste Tire Recycling Account cleanup funds to be made available to partially pay for removal and processing of approximately 200,000 waste tires from Richard Mishler's permitted waste tire storage site in Willamina, Oregon, pursuant to OAR 340-64-150(1)(a); 340-64-155(1), (2) and (4); and 340-64-160.

DESCRIPTION OF REQUESTED ACTION:

The Waste Tire Recycling Account is funded by a \$1 fee on new replacement tires. The account may be used to help clean up waste tire piles.

The statute (ORS 459.780(2)(b)) requires the Environmental Quality Commission (EQC) to make a finding that strict compliance with a tire removal date set by the Department of Environmental Quality (Department) would result in "substantial curtailment or closing of the permittee's business or operation or the bankruptcy of the permittee."

The Department may use cleanup funds in the Waste Tire Recycling Account to partially pay to remove or process waste tires from a permitted waste tire storage site pursuant to OAR 340-64-150(1)(a). OAR 340-64-155(4) allows the Department to financially assist a waste tire storage permittee who is an individual and is financially unable to comply with the tire removal schedule and whose site ranks high in environmental risk.

The Department developed rules and guidelines to ensure equitable evaluation of a permittee's ability to pay for cleanup without causing "substantial curtailment" of the permittee's business or operation.

Mr. Mishler's application for financial assistance has been reviewed by staff (Attachment A). His adjusted income for 1988 was \$14,572, and his average income for three years was \$16,550, which is below the state median income of \$32,700 as established by Housing and Urban Development (HUD). His adjusted assets require a spend down of \$7,048, with the Department to pick up the remainder of the total cost, not to exceed 90% of the total cost of cleanup.

The Department's rule (OAR 340-64-155) outlines criteria for determining the amount of environmental risk created by a tire pile.

The Waste Tire Program developed a point system to quantify the environmental risk created by each waste tire site. The Mishler Wreckers site ranks very high

Meeting Date: June 29, 1990
Agenda Item: L
Page 4

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

Mr. Mishler acquired a waste tire storage site permit with the intention to dispose of the waste tires properly. He cannot afford the cost of an immediate removal. Removal of the tires over a longer period of time would still cause financial hardship. Bids for tire removal range from \$140,000 to \$250,000.

PROGRAM CONSIDERATIONS:

The program currently has about \$2 million available for reimbursement to users of waste tires, and for site cleanup. We anticipate having adequate funds to meet permittee requests for financial assistance to remove tires.

The permittee has submitted all financial documents requested by the Department.

As required by rule, the permittee has submitted to the Department a waste tire removal plan describing the proposed action, time schedule and cost estimate at this time of \$140,000.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Removal of the tires over a 5-year or longer period by the permittee without financial assistance from the Waste Tire Recycling Account.
2. Removal/processing of the tires by September 30, 1991, or earlier with assistance from the Waste Tire Recycling Account, basing assistance on the existing rule and Department guidelines. Department to pay 90 percent of cleanup costs; permittee to pay 10 percent.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

Alternative 2. We recommend proceeding immediately with financial assistance for the following reasons:

1. The site is located close to populated areas (Willamina); a tire fire would negatively impact the air quality for this community, and resulting pyrolytic oils could also enter surface and ground waters. A tire fire at this site would be difficult to control.

2. The permittee's financial situation meets the statutory requirement and Department rules, that strict compliance with the Department's cleanup schedule would cause substantial curtailment or closing of the permittee's operation or the bankruptcy of the permittee.
3. The Waste Tire Recycling Account has an adequate fund balance that can reasonably be used for financial assistance. Use of funds now would fulfill legislative intent to clean up tire piles as quickly as possible.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The permittee meets statutory and regulatory criteria for receiving financial assistance to clean up the waste tires. The action would follow agency policy and legislative intent in getting the site cleaned of tires as quickly as possible, thus eliminating the potential environmental problems associated with tire piles.

ISSUES FOR COMMISSION TO RESOLVE:

The Commission adopted rules establishing criteria for financial assistance to an individual permittee to clean up tires, up to 90% of the cost. This site is eligible for financial assistance.

INTENDED FOLLOWUP ACTIONS:

If the request for financial assistance is approved, the Department will notify the permittee to proceed with the cleanup, using a contractor approved in writing by DEQ.

The permittee will arrange for cleanup; the Department will inspect and approve the cleanup operation, and then issue a check for the Department's portion of the cost of cleanup.

Meeting Date: June 29, 1990
Agenda Item: L
Page 6

The Department will submit a draft of rule revisions to delegate approval of requests for financial assistance to the August EQC meeting.

Approved:

Section:

Stu Greenwood

Division:

Stephanie Hallock

Director:

Fell Hawn

Report Prepared By: Anne Cox

Phone: 229-6912

Date Prepared: May 30, 1990

AC:k
WT\SK2791
June 8, 1990

ATTACHMENT A

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

TO: Financial Assistance File

DATE: May 14, 1990

FROM: Anne Cox, Waste Tire Specialist

SUBJECT: Review of Richard L. Mishler's Application for Financial Assistance to Remove Tires

Situation

Richard Mishler is an individual and a waste tire storage site permittee who has requested financial assistance from the Department to remove about 200,000 waste tires from a site in Willamina, Oregon. The site ranks very high in "environmental risk" criteria under the Department's point system, making it potentially eligible to receive financial assistance. Mr. Mishler has submitted an application for financial assistance and a compliance/closure plan for removal of the tires, and tax returns for three years.

The site is a wrecking yard owned by Mr. Mishler. In 1988 Mr. Mishler entered a lease agreement with Ed Flater and Pierre Renaud, and their corporation, North West Tire Disposal Co. Inc. There were about 50,000 waste tires at the site at the time. The corporation added an estimated 150,000 waste tires during 1988. The corporation is inactive. Mr. Flater and Mr. Renaud have no further interest in the site. Mr. Mishler has obtained a waste tire storage site permit so that he can apply for financial assistance to close out the waste tire storage site.

Guidelines

Following the guidelines of the Waste Tire Advisory Committee, the Department drafted rules for determining financial hardship and for determining the amount of financial aid to be given. These rules became effective on 1/24/90. The wording is:

340-62-155 (4) (a) In the case of a permittee who is not a corporation or a local government, the cost of cleaning up the tires:

(A) would cause the permittee's annual gross household income to fall below the state median income as determined by the U.S. Department of Housing and Urban Development; and/or

(B) would reduce the permittee's net assets (excluding one automobile and homestead) to below \$20,000.

(5) The Department may assist a permittee with the cost of tire removal to the following extent:

(a) For a permittee whose income and/or assets are above the thresholds in section (4) of this rule: the permittee is required to contribute its own funds to the cost of tire removal up to the point where "financial hardship," as specified in section (4), would ensue. The Department may pay the remaining cost of the cleanup.

(b) For a permittee whose income and assets fall below the thresholds in section (4) of this rule, the Department may pay up to the following percentage of the cost of cleanup:

(a) For an individual or a partnership: up to 90 percent of the cost (plus any cost of waste tire storage permit fees paid by the permittee);

(b) For a corporation: up to 80 percent of the cost.

Discussion

DEQ guidelines state that the Department is to consider the personal income of the applicant from the previous 12 months. The Department asks for three years of tax returns to determine if the most recent return is comparable to other recent tax returns.

Mr. Mishler's average yearly income for the past three years is \$16,550, and his most recent income was \$14,572.

Mr. Mishler has tentatively selected the bid of Tire Recyclers Inc., who proposes to remove all of the tires by September 30, 1991, for \$140,000. Mr. Mishler will be responsible for his 10 percent share of removal costs. Changes in bidder selection, including tire removal plan, are subject to final written approval by the Department.

Analysis

Mishler - Sole Proprietorship - Financial Analysis

	<u>1988</u>	<u>1987</u>	<u>1986</u>
Business net profit	\$ 1,748	\$ 9,720	\$ 9,394
Depreciation	<u>7,019</u>	<u>3,758</u>	<u>3,574</u>
Adj. Business income	8,767	13,478	12,968
Wages	3,000	2,400	2,150
Interest	76	60	63
Business income	---	---	---
Capital gain	---	---	---
Unemployment	---	---	---
Social Security	---	---	---
Dividends	---	---	---
Tax refunds	---	---	---
Pensions	---	---	---
Rents (Mishler Towing)	1,896	1,307	---
Other gains	833	(sale of wrecker) ---	4,285 (sale of wrecker)
Subtotal:	<u>5,805</u>	<u>3,767</u>	<u>6,498</u>
Total gross income:	14,572	17,245	19,466
Adjustments:			
Medical	<u>---</u>	<u>---</u>	<u><1,632></u>
Adjusted Total Income:	\$14,572	\$17,245	\$17,834
Average Income:	\$16,550		

Assets:

Mishler Towing

Cash	\$ 1,000	
Accounts Rec.	5,000	
Stocks	---	
Real Estate	50,000	(land and blds. at 22750 bus. Rte. 18)
Other	<u>90,000</u>	(6 trucks) - exempt
Total assets	146,000	

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Liabilities

Loans (short term)	48,000	(vehicles) - loans for exempted vehicles
	18,967	(land, 22705 bus. Rte. 18)
(Beneficial finance)	14,967	(real estate)
(Werst Construction)	<u>4,000</u>	(building)
	18,967	
Accounts payable	<u>\$ 9,985</u>	
Total liabilities	\$78,952	

Adjusted:

Asset value + liabilities for the vehicles are exempt, since they are equipment necessary for Mr. Mishler to do business.

Assets:		Liabilities:	
Cash	1,000	Loans:	
Accts. Rec.	5,000	Real Estate	14,967
Real Est./blds	50,000	Building	4,000
		Accts. payable	9,985
Total	56,000	Total	28,952
Net Assets:	\$27,048		

Conclusions

The state median income as determined by HUD is \$32,700. Mr. Mishler's average household income for the 1986-88 period was \$16,550. His 1988 income was \$14,572. Mr. Mishler's net assets are \$27,048, which is \$7,048 above the \$20,000 threshold. DEQ rules require Mr. Mishler to contribute \$7,048 to the cost of the cleanup. The Department would pick up the balance of the removal costs, not to exceed 90 percent of the total removal cost. Since the estimated cost of cleanup is \$140,000, the Department will pay 90% or \$126,000. Mr. Mishler is responsible for the remaining \$14,000.

Under the proposed rule, Mr. Mishler is eligible for financial assistance for tire removal based on financial hardship. My recommendation is to proceed with a request for EQC approval of the amount of financial assistance determined below.

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Amount of Financial Assistance Recommended

The financial assistance guidelines apply to this case in the following manner:

Applicant: Individual

State median income as
determined by HUD: \$32,700

1988 Annual gross household income: \$14,572

Estimated cost of tire cleanup: \$100,000

Required applicant contribution to reach "financial hardship":

Income: \$14,572 - \$32,700 (state median) = 0
Assets: 27,048 - \$20,000 = \$7,048

Applicant contribution: 10% of \$100,000 or \$7,048, whichever is greater

DEQ contribution: remainder of cleanup costs, not to exceed a maximum of 90% of total cost of cleanup

Summary

Total est. cleanup cost:	\$140,000
DEQ contribution:	126,000
Applicant contribution:	14,000

AC:k
WT\SK2796

(Revised 4/28/89)

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
Application for
WASTE TIRE CLEANUP FUNDS/REDUCTION OF ABATEMENT COST RECOVERY
Authority: Oregon Revised Statutes 459.780

Please fill out the application completely. Place n/a for those answers that are not applicable.

I. CHECK ONE:

X I hold a Stage II Waste Tire Storage Site Permit. I hereby apply for waste tire cleanup funds from the Waste Tire Recycling Account to partially pay to remove or process waste tires stored under my permit.

I am submitting a plan to remove or process the waste tires on my site, including a proposed time schedule and estimated net cost of removal or processing.

~~_____~~ The Department of Environmental Quality (DEQ) has notified me of its intent to abate, or I believe that DEQ may wish to abate, the danger or nuisance caused by waste tires of which I have the care, custody or control, and/or which are stored on property which I own. I hereby request that DEQ reduce the amount of abatement costs which it could otherwise bring an action to recover.

II. TIRE SITE INFORMATION

1. Site name (if any) Mishler Wreckers
2. Site Location 22705 Bus Rt 18 Willamina Ore
Street, Road, or Junction
3. Legal Description 06 7 12 1400
TWP Range Section Tax Lot# Tax Acct#
County Polk
4. Site operator (if any) _____
Address Same as above
Street City ZIP
Telephone 876-2432
5. Property owner's name Richard L. Mishler, Jr.
Address 22705 Bus Rt 18 Willamina Ore 97346
Street City ZIP
Telephone 876-2432
6. Description of WASTE TIRES to be removed:
 - a. Approximate number of -
Car tires (off-rim): 50, etc.
" (on rim): _____
Truck tires (off-rim): _____

2. Audited current financial statement (Balance Sheet, Profit and Loss Statement) dated within 90 days of receipt by DEQ, signed in original with company title, dated, and certified "True & Correct." Statement must detail assets of business, including building(s) used for operating business, equipment, inventory, cash, investments, stock, real property, and accounts receivable. Statement should also detail liabilities (loans, wages payable to others than corporate officers, and accounts payable). Include copy of Federal and State corporate income tax return.

3. Current (within 90 days of receipt by DEQ) personal financial statements of principals, including owners and officers, signed and dated. If joint statement, both husband and wife must sign. Original signature and date as they appear on return are required on copies of income tax returns. SBA Form 413(10-86) or equivalent must be used. Personal property must include items listed under III.B.6.a above.

IV. SIGNATURE

PENALTY WARNING

Oregon law makes it a Class A misdemeanor (punishable by up to one year in prison or a fine of up to \$1,000) for a person to issue a false statement with intent to defraud (ORS 165.100). It is also a Class A misdemeanor for a person to obtain the execution of documents by deception with the intent to defraud or acquire a substantial benefit (ORS 165.102).

I understand the questions on this application and the penalty for withholding or giving wrong information or for breaking any of the rules listed in the Penalty Warning. My answers are correct and complete to the best of my knowledge.

Signature of applicant:

Date:

Robert M. [Signature]
 Witnessed by:

12-29-89
 Date:

Checklist: Have you included:

- Gross income figures for past 12 months for each member of the household (and of each member of each of the partners' and corporate owners'/officers' household)?

FITZPATRICK, COUNTRYMAN & McKENZIE

Certified Public Accountants

401 N. Evans

McMinnville, Oregon 97128

FITZPATRICK & COUNTRYMAN, CPA's, P.C.

STEVEN D. FITZPATRICK, C.P.A.

LINDA D. COUNTRYMAN, C.P.A.

MICHAEL G. McKENZIE, C.P.A., P.C.

PHONE (503) 472-0576

January 19, 1990

RECEIVED
JAN 19 1990

Department of Environmental Quality
Hazardous & Solid Waste Division
811 S. W. 6th Avenue
Portland, Oregon 97204
Attention: Ann Cox

Hazardous & Solid Waste Division
Department of Environmental Quality

Re: Richard L Mishler, Jr. and Mishler Towing, Inc.

Dear Ms. Ann Cox:

I have prepared income tax returns for Richard L Mishler, Jr. since 1985 and for Mishler Towing, Inc. since its inception in 1987. It appears to me that if these businesses were required to incur an additional \$50,000 in expenses, such as the removal of tires from their premises, the additional expenses would definitely disrupt their business finances and might force Mr. Mishler into bankruptcy. This conclusion is based on the following:

1. The total adjusted gross income of Mr. Mishler on his past 4 years' personal income tax returns (1985 through 1988, which includes the net income of both Mishler Wreckers and Mishler Towing, Inc.) totalled \$52,870. It would have therefore taken all of his income for these 4 years to pay an additional \$50,000 expense and he would have had only \$2,870 left to pay his personal and living expenses.
2. Mr. Mishler has calculated that as of December 28, 1989, his personal net worth, including Mishler Towing, Inc., is \$69,048. Incurring a liability for tire removal of \$50,000 would reduce his net worth to \$19,048, which is less than he would be allowed to retain if he declared bankruptcy.

Very truly,



Linda D. Countryman
Certified Public Accountant