

6/13/1986

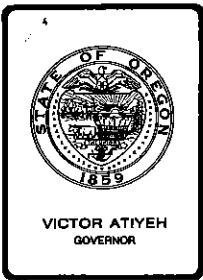
OREGON  
ENVIRONMENTAL QUALITY  
COMMISSION MEETING  
MATERIALS



State of Oregon  
**Department of  
Environmental  
Quality**

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## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item G, June 13, 1986, EQC Meeting

Request for Authorization to Hold Public Hearings to Consider Amendments to the Vehicle Program Operating Rules and Test Standards, OAR 340-24-300 through 24-350.

### Background and Problem Statement

The Oregon Department of Environmental Quality operates the vehicle emissions inspection/maintenance program (I/M) in the Portland and Medford-Ashland areas. The operating rules for this program are reviewed annually to insure that the standards and procedures remain appropriate and current. This process specifically provides for formal comment on the operating rules and standards.

On September 27, 1985, the EQC last adopted amendments to the Oregon I/M program. Those amendments included designating the Medford-Ashland air quality maintenance area as an inspection program area as required by ORS 468.397. The rule amendments proposed this year only affect the inspection program test standards for some light and heavy duty vehicles. Amendments to OAR 340-24-330 and 24-335 are proposed. They would simplify the listings of the inspection program's idle emission standards for the 1972 through 1974 group of light duty vehicles. This would eliminate over 40 different standards categories for 1972 through 1974 light duty vehicle listings. The addition to the heavy duty standards would incorporate a catalyst standard for the heavy duty gasoline-powered trucks that are manufactured with a catalytic converter.

The Statement of Need and Fiscal Impact are attached as Appendix A. The draft Notice of Public Hearing is attached as Appendix B. The proposed rule amendments are included as Appendix C.

### Alternatives and Evaluation

Two amendments to the Oregon I/M program's operating rules are proposed. They are amendments to OAR 340-24-330 and 24-335.

QAR 340-24-330

When a 1972-1974 vintage vehicle arrives at an inspection station for its I/M test, the inspector must look on a chart under the manufacturer's name for the proper inspection standards. It was suggested by inspector staff that since most of the standards were similar, that the standards be combined. The proposed simplification can be done without compromising emission benefit.

When these idle emission standards were first adopted, it was desirous to tailor the value to individual manufacturers' make. Now this age group of vehicles accounts for less than 18 percent of the vehicles on the road today. As such, the environmental impact of the condensation of idle emission standards should be very small. No attempt has been made to input this proposed change for 1972-74 vehicles into the computer model that predicts emission factors. The computer model would effectively show no impact due to these specific changes because of the way it models vehicles older than 10 years of age. Minor changes in the stringency vehicles classes in the model show only very minor impact in the whole population vehicle emission factor.

The proposed amendments would reduce the number of emission categories for the 1972 through 1974 model year passenger cars. The new idle emission standard for light duty motor vehicles in this age group (including pickup trucks and vans) would be 3.0 percent carbon monoxide (CO) and 350 ppm hydrocarbon (HC) for 6 and 8 cylinder vehicles; and 4.0 percent CO and 450 ppm HC for 4 cylinder vehicles.

The current idle CO standard for 6 and 8 cylinder vehicles in this age group ranges from 2.5 percent to 3.5 percent. All but the AMC makes have a current idle CO standard of 2.5 percent. The proposed standard would result in an estimated pass rate increase of under 5 percent for this class of vehicles. The hydrocarbon idle standard is not changed.

The general idle emission standards for 4 cylinder cars would be 4.0 percent CO and 450 ppm hydrocarbons. The current values range, depending upon make, from 2.5 percent CO to 7.5 percent CO, with the hydrocarbon standard set at 450 ppm. The standard for most all vehicles can be combined into the 4 percent idle CO number with no additional stringency. The proposed standard would result in an estimated pass rate increase of under 5 percent for this vehicle class.

The general standard would be slightly more stringent for 10 specific vehicle make and models. Specific standards that maintain the equivalent stringency of the current rules are proposed. The specific makes are listed in proposed rule amendment. While the total number of vehicles that might be affected is small, between 300 and 500, some vehicle owners might be unfairly penalized by this slightly stricter general CO standard. Most

of the owners of these specific vehicles will not need to utilize all of the allowance provided by the specific standards.

The revised CO and HC idle emission standards provide a less complex array of standards and still provide for specific standards based upon the technology that was used in the vehicle's manufacture. The condensed values are no more stringent than current values, and will provide the repair industry a simple value to remember for this age group of vehicles.

Attachment C contains the proposed standards change. In OAR 340-24-330(3) the 1972-74 vehicle class is shown condensed as proposed. The five vehicles makes are listed separately. Paragraph (4) is modified so that 72-74 light truck applications are consistent with the passenger car changes.

#### OAR 340-24-335

The staff is proposing that the heavy duty gasoline truck standards be modified. The proposal would add a catalyst idle emission standard for heavy duty gasoline trucks. During the 1986 model year, some manufacturers started to equip heavy duty trucks (8,500-10,000 lbs GVW) with light duty engines which included catalysts. These trucks are used in limited one ton pickup and van applications. The vehicle manufacturers did this under an EPA waiver.

In Attachment C, the proposed rule revision contains idle emission standards for these trucks. The values contained are the same values that are used for those engine packages in light duty (under 8,500 lbs GVW) applications. As such, the idle emission standards are not severe. As with the change suggested for the 72-74 vehicles, the computer model input for such a small subgroup would not show environmental effect. The equity of testing catalytic equipped trucks with a catalyst standard is evident.

Federal new truck standards for 1988 will effectively require the use of catalysts. So, the incorporation of a catalyst configuration idle emission test for heavy duty gasoline trucks is timely and appropriate.

#### Summation

1. Standards changes are proposed that simplify the I/M standards for 1972 through 1974 model year vehicles. The environmental impact of this change would be negligible.
2. Standards are proposed that will add a catalyst category for heavy duty gasoline vehicles that are built by the manufacturer as catalyst equipped.

3. Public comment on all aspects of the I/M program operating rules will be accepted.
4. Tentative dates for the public hearings are scheduled for July 22 and July 24.

Director's Recommendation

Based upon the Summation it is recommended that authorization for public hearings to gather testimony on the proposed changes to the I/M program test standards be authorized.

  
for  
Fred Hansen

Attachments:

- A. Statement of Need and Fiscal Impact
- B. Draft Notice of Public Hearing
- C. Proposed Rule Modifications, OAR 340-24-330 and 24-335.

William P. Jasper:s  
AS2918  
229-5081  
May 28, 1986

RULEMAKING STATEMENT

Pursuant to ORS 183.335, these statements provide information on the intended action to amend rules.

STATEMENT OF NEED

LEGAL AUTHORITY

This proposal amends OAR 340-24-300 through 350. It is proposed under the authority of ORS 468.370.

NEED FOR RULE

The proposed amendments are needed to simplify the emission test standards for 1972 through 1974 light duty motor vehicles and to establish standards for a new catalyst equipped heavy duty motor vehicle class. These proposals are considered housekeeping in nature.

PRINCIPAL DOCUMENTS RELIED UPON

1. Inspection Program Standards OAR 340-24-330 and 335.
2. In-house memorandum suggesting improvement in Administrative Rules.

FISCAL AND ECONOMIC IMPACT STATEMENTS

As these proposals are housekeeping in nature, there is no change in fiscal or economic impact predicted. Overall, some individual motorists will experience decreased operational costs (from increased gas mileage resulting from better maintained vehicles), while other motorists will experience increased operational costs. There should be no significant adverse impact on small businesses. Some small businesses will continue to economically benefit from the Department's operation of the inspection program.

LAND USE CONSISTENCY STATEMENT

This proposal does not affect land use as defined in the Department's coordination program approved by the Land Conservation and Development Commission.

*Oregon Department of Environmental Quality*

## **A CHANCE TO COMMENT ON...**

**Proposed Changes to the 1972-1974 Light Duty Vehicle and  
Heavy Duty Truck Idle Emission Standards for the Oregon I/M Program  
NOTICE OF PUBLIC HEARING**

Date Prepared: May 20, 1986  
Hearing Date: July 22 and 24  
Comments Due: July 25, 1986

**WHO IS  
AFFECTED:**

Motor vehicle owners and people engaged in the business of both selling and repairing vehicles and motor vehicle fleet operations in the Portland area Metropolitan Service District and the Jackson County/Medford-Ashland Air Quality Maintenance Area will be affected by this proposal.

**WHAT IS  
PROPOSED:**

The Department of Environmental Quality is proposing to amend OAR 340-24-300 through 350; specifically, 24-330 and 335, changing specific exhaust gas standards for 1972 through 1974 light duty motor vehicles and adding a standard for catalyst equipped heavy duty gas trucks.

**WHAT ARE THE  
HIGHLIGHTS:**

1. The DEQ is proposing changing the standards of the 1972 through 1974 light duty gasoline vehicles. This proposal summarizes some over 40 different categories into three simpler categories; HC hydrocarbon and carbon monoxide standard would be summarized for all cars.
2. These amendments also propose the establishment of catalyst standards for heavy duty gas trucks. This standard is necessary because some vehicle manufacturers are using catalyst technology in current heavy duty gas trucks.
3. The hearings provide an opportunity for public comment on all aspects of the I/M program operating rules.

**HOW TO  
COMMENT:**

Copies of the complete proposed rule package may be obtained from the the Department of Environmental at either 1) Vehicle Inspection Program in Portland (522 S.W. Fifth Avenue) or Rogue Valley Inspection/Maintenance Program in Medford (3030 Biddle Road, 97504). For further information contact William Jasper at 229-6235, 776-6140, (1-800-452-4011).



P.O. Box 1760  
Portland, OR 97207

8/16/84

**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:

10:00 a.m.  
July 22, 1986  
Department of Environmental Quality  
Hearing Room, Rm 1400  
522 SW Fifth Avenue  
Portland, OR

7:00 p.m.  
July 22, 1986  
Hoffman Room  
City of Beaverton Operations Center  
9600 SW Allen Boulevard  
Beaverton, OR

7:00 p.m.  
July 24, 1986  
Jackson County Courthouse Auditorium  
10 S. Oakdale  
Medford, OR

Oral and written comments will be accepted at the public hearing. Written comments may be sent to the DEQ Vehicle Inspection Program, P.O. Box 1760, Portland, OR 97207, or Rogue Valley Inspection/Maintenance Program, 3030 Biddle Road, Medford, OR 97504, but must be received no later than the close of business day, 5:00 p.m., July 25, 1986.

**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 may 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 on September 11, 1986, as part of the agenda of a regularly scheduled Commission meeting to be held in Bend.

A Statement of Need, Fiscal and Economic Impact Statement, and Land Use Consistency Statement are attached to this notice.

AS2982



OAR 340-24-330 LIGHT DUTY MOTOR VEHICLE EMISSION CONTROL  
 CUTPOINTS OR STANDARDS

- (1) Light Duty Diesel Motor Vehicle Emission Control CutPoints  
 All: 1.0% CO No HC Check
- (2) Light Duty Gasoline Motor Vehicle Emission Control CutPoints -  
 Two Stroke Cycle  
 All: 6.5% CO No HC Check
- (3) Light Duty Gasoline Motor Vehicle Emission Control CutPoints -  
 Four Stroke Cycle - Passenger Cars

Pre 1968 Model Year

4 or less cylinders All:	6.5% CO	1550 ppm HC
More than 4 cylinders All:	6.0% CO	1250 ppm HC

1968 - 1969 Model Year

4 or less cylinders All:	5.5% CO	850 ppm HC
More than 4 cylinders All:	5.0% CO	650 ppm HC

1970 - 1971 Model Year

All:	4.5% CO	550 ppm HC
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1972-1974 Model Year

[Alfa Romeo	3.5% CO	450 ppm HC
American Motors	3.5% CO	350 ppm HC
Audi	3.0% CO	450 ppm HC
BMW	3.5% CO	450 ppm HC
BL-Jaguar	3.5% CO	350 ppm HC
BL-MG	4.5% CO	450 ppm HC
BL-Triumph	4.0% CO	450 ppm HC
BL-Other	4.5% CO	450 ppm HC
Buick	2.5% CO	350 ppm HC
Cadillac	2.5% CO	350 ppm HC
Capri	3.0% CO	450 ppm HC
Checker	2.5% CO	350 ppm HC
Chevrolet	2.5% CO	350 ppm HC
Chrysler	2.5% CO	350 ppm HC
Colt, Dodge	5.5% CO	450 ppm HC

1972-1974 Model Year - Continued

Cricket, Plymouth-Single Carb Only	7.5% CO	450 ppm HC
Cricket, Plymouth - All Others	4.0% CO	450 ppm HC
Datsun	3.0% CO	450 ppm HC
Dodge	2.5% CO	350 ppm HC
Ferrari	3.5% CO	350 ppm HC
Fiat	4.5% CO	450 ppm HC
Ford	2.5% CO	350 ppm HC
Ford - 4 cylinder	2.5% CO	450 ppm HC
Honda Automobile - 1972	5.5% CO	450 ppm HC
Honda Automobile - All Others	3.5% CO	450 ppm HC
Jenson-Healy	5.0% CO	450 ppm HC
Lincoln	2.5% CO	350 ppm HC
Mazda - Piston Engine	4.5% CO	450 ppm HC
Mazda - Rotary Engine	3.0% CO	450 ppm HC
Mercury	2.5% CO	350 ppm HC
Oldsmobile	2.5% CO	350 ppm HC
Opel	3.5% CO	450 ppm HC
Peugeot	3.5% CO	450 ppm HC
Plymouth	2.5% CO	350 ppm HC
Pontiac	2.5% CO	350 ppm HC
Porsche 914 - 1974	5.5% CO	450 ppm HC
Porsche - All Other	3.5% CO	450 ppm HC
Renault	3.5% CO	450 ppm HC
Rolls Royce and Bentley	3.5% CO	350 ppm HC
SAAB	3.5% CO	450 ppm HC
Subaru	3.5% CO	450 ppm HC
Toyota	3.5% CO	450 ppm HC
Volkswagen - Type 4	4.5% CO	450 ppm HC
- Dasher	3.0% CO	450 ppm HC
- All Others	3.5% CO	450 ppm HC
Volvo	3.5% CO	450 ppm HC
All Vehicles Not Listed	3.5% CO	450 ppm HC]

General Standards

<u>4 or less cylinders</u>		
<u>All:</u>	<u>4.0% CO</u>	<u>450 ppm HC</u>
<u>More than 4 cylinders</u>		
<u>All:</u>	<u>3.0% CO</u>	<u>350 ppm HC</u>

Specific Standards

<u>BI-MG</u>	<u>4.5% CO</u>	<u>450 ppm HC</u>
<u>BI-Other</u>	<u>4.5% CO</u>	<u>450 ppm HC</u>
<u>Colt, Dodge</u>	<u>5.5% CO</u>	<u>450 ppm HC</u>
<u>Cricket, Plymouth--</u>		
<u>Single Cab Only</u>	<u>7.5% CO</u>	<u>450 ppm HC</u>
<u>Fiat</u>	<u>4.5% CO</u>	<u>450 ppm HC</u>
<u>Honda Automobile-1972</u>	<u>5.5% CO</u>	<u>450 ppm HC</u>
<u>Jensen-Healy</u>	<u>5.0% CO</u>	<u>350 ppm HC</u>
<u>Mazda--Piston Engine</u>	<u>4.5% CO</u>	<u>450 ppm HC</u>
<u>Porsche 914-1974</u>	<u>5.5% CO</u>	<u>450 ppm HC</u>
<u>Volkswagen--Type 4</u>	<u>4.5% CO</u>	<u>450 ppm HC</u>

1975 - 1980 Model Year

Catalyst Equipped Vehicles		
All:	0.5% CO	175 ppm HC
Non-Catalyst Equipped Vehicles		
All:	2.0% CO	250 ppm HC

1981 and Newer Model Year

All: At idle	0.5% CO	175 ppm HC
At 2500 rpm	0.5% CO	175 ppm HC

(4) Light duty gasoline Motor Vehicle Emission Control CutPoints -  
Light Duty Trucks.

(a) 6000 GVWR or less

Pre 1968 Model Year

4 or less cylinders		
All:	6.5% CO	1550 ppm HC
More than 4 cylinders		
All:	6.5% CO	1250 ppm HC

1968 - 1969 Model Year

4 or less cylinders		
All:	5.5% CO	850 ppm HC
More than 4 cylinders		
All:	5.0% CO	650 ppm HC

1970 - 1971 Model Year

All:	4.5% CO	550 ppm HC
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1972 - 1974 Model Year

4 or less cylinders		
All:	<u>4.0</u> [3.5]% CO	450 ppm HC
More than 4 cylinders		
All:	<u>3.0</u> [2.5]% CO	350 ppm HC

1975 - 1980 Model Year

Catalyst Equipped		
All:	0.5% CO	175 ppm HC
Non-Catalyst Equipped		
All:	2.0% CO	250 ppm HC

1981 and Newer Model Year

All: At idle	0.5% CO	175 ppm HC
At 2500 rpm	0.5% CO	175 ppm HC

(b) 6001 to 8500 GVWR

<u>Pre 1968 Model Year</u> All:	6.0% CO	1250 ppm HC
<u>1968 - 1969 Model Year</u> All:	5.0% CO	650 ppm HC
<u>1970 - 1971 Model Year</u> All:	4.5% CO	550 ppm HC
<u>1972 - 1974 Model Year</u> All:	<u>3.0</u> [2.5%] CO	350 ppm HC
<u>1975 - 1978 Model Year</u> All:	2.0% CO	250 ppm HC
<u>1979 - 1980 Model Year</u> Catalyst Equipped All:	0.5% CO	175 ppm HC
Non-Catalyst Equipped All:	2.0% CO	250 ppm HC
<u>1981 and Newer</u> All: At idle	0.5% CO	175 ppm HC
At 2500 rpm	0.5% CO	175 ppm HC

- (5) An enforcement tolerance of 0.5% carbon monoxide and 50 ppm hydrocarbon will be added to the above cutpoints.
- (6) There shall be no visible emission during the steady-state unloaded and raised rpm engine idle portion of the emission test from either the vehicle's exhaust system or the engine crankcase. In the case of diesel engines and two-stroke cycle engines, the allowable visible emission shall be no greater than 20% opacity.
- (7) The Director may establish specific separate standards, differing from those listed in subsections (1), (2), (3), (4), (5) and (6) for vehicle classes which are determined to present prohibitive inspection problems using the listed standards.

NOTE: A 1981 or newer Ford Motor Company Vehicle or a 1984 through 1986 Honda Prelude, which initially fails the test, will have the ignition key turned off, the engine restarted, and the test repeated.

Ref: OAR 340-24-310

340-24-335 HEAVY DUTY GASOLINE MOTOR VEHICLE EMISSION CONTROL  
EMISSION STANDARDS

(1) Carbon Monoxide idle emission values not to be exceeded:

	Base Standard <u>          %</u>	Enforcement Tolerance <u>          %</u>
<u>ALL VEHICLES</u>		
Pre-1970	6.0	0.5
1970 through 1973	4.0	1.0
1974 through 1978	3.0	1.0
1979 and later	2.0	1.0
<u>1985 and later with catalyst</u>	<u>0.5</u>	<u>0.5</u>

(2) Carbon monoxide nominal 2,500 RPM emission values not to be exceeded:

	Base Standard <u>          %</u>	Enforcement Tolerance <u>          %</u>
<u>ALL VEHICLES</u>		
Pre-1970	3.0	1.0
1970 and later	2.0	1.0
Fuel Injected	No Check	
<u>1985 and later with catalyst</u>	<u>0.5</u>	<u>0.5</u>

(3) Hydrocarbon idle emission values not to be exceeded:

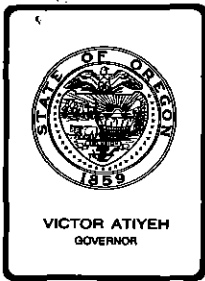
	Base Standard <u>          PPM</u>	Enforcement Tolerance <u>          PPM</u>
<u>ALL VEHICLES</u>		
Pre-1970	700	200
1970 through 1973	500	200
1974 through 1978	300	200
1979 and later	250	100
<u>1985 and later with catalyst</u>	<u>175</u>	<u>50</u>

(4) Hydrocarbon nominal 2,500 RPM emission values not to be exceeded:

	<u>Base Standard</u>	<u>Enforcement Tolerance</u>
	<u>PPM</u>	<u>PPM</u>
<u>ALL VEHICLES</u>		
<u>1985 and newer with catalyst</u>	<u>175</u>	<u>50</u>

(5) [(4)] There shall be no visible emission during the steady-state unloaded engine idle and raised rpm portion of the emission test from either the vehicle's exhaust system or the engine crankcase.

(6) [(5)] The Director may establish specific separate standards, differing from those listed in subsections (1), (2), (3), and (4) for vehicle classes which are determined to present prohibitive inspection problems using the listed standard.



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

TO: Environmental Quality Commission

FROM: Director

SUBJECT: Agenda Item No. H, June 13, 1986 EQC Meeting

Request for authorization to conduct public hearings on proposed amendments to the Water Quality Standards Regulation, OAR 340, Chapter 41: Antidegradation Policy, Mixing Zone Policy, and Toxic Substance Standards

### Background

OR 468.735 provides that the Environmental Quality Commission, by rule, may establish standards of quality and purity for waters of the state. Present water quality standards contained in Oregon Administrative Rules (OAR Chapter 340 Division 41) were adopted in December 1976. The Commission adopted revisions to these standards in September 1979, July 1985, and added nuisance aquatic growth standards in March 1986.

The Clean Water Act (Public Law 92-500, as amended) requires the state to hold public hearings, at least once each three years, to review applicable water quality standards. To comply with provisions of the Act, the Department conducted statewide hearings in Spring 1984 to solicit comments on a concept to modify the fecal coliform standard from year-round application to a seasonal application. In addition, the Department solicited suggestions for proposing amendments or modifications to the present standards.

At the July 19, 1985 Environmental Quality Commission meeting Agenda Item I, Proposed Adoption of Amendments to Water Quality Standards Regulation, was considered by the Commission. The report presented the public testimony from the 1984 public hearings. The Department received specific proposals from the public on changes to the water quality standards including mixing zones, antidegradation, dissolved chemical substances, pesticides and organic toxics, and nutrients.

While the public hearings were in progress to discuss whether the fecal coliform standard should apply year-round or just during the water contact recreation season, the Department received a microbiological criteria document from EPA discussing two bacterial indicator species that better relate human fecal contamination to bathing water quality. Based on that information, the Department chose to postpone consideration of specific changes to the fecal coliform standard. Instead, the Department will measure E.Coli or enterococci on a trial basis in addition to fecal coliform to determine their potential as indicator organisms. After sufficient data have been collected, the Department will re-evaluate the fecal coliform standard.

To address the specific proposals on the other water quality standards received from the public, the Department recommended that issue papers be prepared and circulated for public review. Based on this recommendation, the EQC directed the Department staff to prepare issue papers dealing with potential rule amendments for the following.

- a) Antidegradation Policy: Include reference to scenic waterways and more specific protection of existing uses.
- b) Mixing Zone Policy: Expand criteria for defining mixing zones for point source discharges.
- c) Dissolved Chemical Substances: Update the standards to include consideration of a hardness factor and incorporate the most recent EPA criteria.
- d) Pesticides and Other Organic Toxic Substances: Update the standards to reflect the latest scientific and technical information.
- e) Nutrient Standards: Add standards for surface waters to limit nuisance aquatic weed and algae growths.

Development of nuisance aquatic growth standards was the first issue paper to be completed and taken out for public hearing. After extensive review of the public testimony, the Department proposed adoption of a nuisance aquatic growth rule at the March 14, 1986, Environmental Quality Commission meeting. The Commission adopted the proposed rule as OAR 340-41-150.

The remaining issue papers are presented in this staff report. They include: a) Antidegradation Policy; b) Mixing Zone Policy; and c) Toxic Substance Standards. The Toxic Substances paper combines discussion of the standards for Dissolved Chemical Substances, and Pesticides and Other Organic Toxic Substances. Each of these issue papers are presented in Attachment A with descriptions of the current standard, analyses of the current standards, summaries of public and agencies' comments related to the individual standards, alternatives for revising the standards to address concerns and clarify the intent of the standards, and finally evaluation of the alternatives. A summary of each of the issue papers follows:

#### A. Antidegradation Policy

The purpose of an antidegradation policy is to limit activities or discharges to those that will not permanently affect water quality and threaten or impair the designated beneficial uses of all waters of the state. The policy allows some water quality degradation to accommodate necessary development, but uses must be protected. Special protection is provided for high quality and outstanding national resource waters to maintain and protect the water quality at the highest level possible and to preserve the value of the resources.



The Department is proposing to amend the current antidegradation policy OAR 340-41-026(1)(a). The proposed changes are summarized as follows:

1. Include language to protect the water quality necessary to support all designated beneficial uses in waters of the state. The current policy includes protection for only high quality and outstanding quality waters of the state.
2. Modify the language to include lowering water quality only where it is necessary to accommodate important and justifiable social or economic development. The current policy allows EQC to lower water quality standards for necessary and justifiable economic or social development. The proposed language change to include "important" would be more rigorous and emphasize "important and significant development" instead of only "justifiable development".
3. Add State Scenic Waterways, and areas of special ecological significance to the outstanding waterways list to provide the highest level of protection of water quality and beneficial uses for these waters.
4. Include a provision that is intended to prevent cumulative impacts from a series of permitted short-term water quality disturbances in high quality waters.

B. Mixing Zones

A mixing zone is a portion of a stream that serves as a zone of initial dilution where waste waters and receiving waters mix, and numeric water quality criteria can be legally exceeded. Chronic and acutely toxic conditions must be prevented in this zone and water quality standards must be met at the mixing zone boundary even under lowest flow conditions. The intent of the current policy is to state when a mixing zone is defined and how it is established, without delineating precise methodology. This approach has allowed the Department to set mixing zones on a site-specific basis but it has not provided clear enough guidance in defining mixing zones.

After evaluating the current policy and its implementation, the Department is proposing revisions and additions to clarify both the intent of the policy and the procedures used for establishing mixing zones. The policy is the same for each basin and the rule reference is included in Attachment F. The proposed changes are summarized as follows:

1. Re-organize the mixing zone policy to include these components:

Statement of Policy  
Methodology for Assessing Appropriate Mixing Zones  
Establishing Mixing Zone  
Applicant Responsibilities  
Monitoring Mixing Zones  
Modification of Mixing Zones

2. Include specific biological, chemical and physical factors to be considered in assessing receiving waters and effluent characteristics. Incorporating these factors in the standard would assist in determining where mixing zones should be located in fresh and marine waters. Alternative language is also proposed that would reference mixing zone guidance instead of incorporating the factors directly into the rule.
3. Include a statement that addresses how mixing zones are defined and what conditions must be met in the mixing zone. These conditions must be such that aesthetics, aquatic life, public health, and other beneficial uses are protected.
4. Add a provision that authorizes the Department to direct the permit applicant to submit the information on receiving water and effluent characteristics necessary to define mixing zones.
5. Add a provision for biological monitoring in the mixing zone to insure protection of all beneficial uses and water quality.
6. Add a provision that authorizes the Department to re-evaluate the mixing zone designation or outfall location if unforeseen adverse effects to beneficial uses occur before a permit expires.

C. Toxic Substances

The Department is proposing to combine the standards for "Pesticides and Other Organic Toxic Substances" with "Dissolved Chemical Substances" since the topics are closely related and criteria levels are based on many of the same EPA references. Until 1980, the standard reference for inorganic and organic toxic substances was the 1976 Quality Criteria for Water, published by EPA. Since then, a considerable amount of applied research in toxics has been completed and new information on toxicity has been published. The current standards on toxic substances should be amended to incorporate new and updated toxics criteria published by EPA.

The proposed language modifications for the new Toxic Substances standard is summarized as follows:

1. Include a general statement of policy that prohibits injurious levels of toxics in the water to protect beneficial uses, and a reference to the most recent EPA criteria values.
2. Include authorization for the Department to allow either more or less restrictive values for site-specific situations. Due to the unique nature of many waters within the state, established criteria values (or guide concentrations) may not always be set at the appropriate level to protect the designated beneficial uses of certain waterways. The Department should have the ability to make site-specific judgements based on the data from scientifically valid studies.
3. Include a provision for bioassessments to monitor situations where the toxic components or toxicity of an effluent is unknown. Due to the intricate chemical reactions within complex effluents, chemical analyses for known or suspected toxic substances may not sufficiently address the lethal potential of a wastewater. Through toxicity bioassays or in-stream monitoring, the effects of the effluent on aquatic communities can be assessed. If toxicity occurs, the Department may then initiate corrective actions.

The proposed language changes for each of the standards discussed are included within the issue papers of Attachment A, and the new proposed rule amendments are included in Attachment F. The Department will continue to evaluate proposals submitted and will propose future rulemaking actions as appropriate. Hearing testimony will undoubtedly raise additional issues which will be discussed as part of the hearing record evaluation and response.

#### Alternatives and Evaluation

The alternatives are as follows:

1. Authorize the Department to conduct public hearings on the proposed amendments.
2. Do not authorize public hearings.

The Department believes that public hearings are needed to solicit comments and to raise important issues involving water quality standards development. Public testimony assists the Department staff in preparing the proposed rule amendments to be presented for Commission consideration and possible adoption.

#### Summation

1. Water Quality standards are reviewed by Department staff and taken out to public hearing periodically to incorporate updated information.

2. During the 1984 public hearing process, several proposals for standards revision were received from the public.
3. The Commission has requested the Department to prepare issue papers for public review on the antidegradation policy, the mixing zone policy, and the toxic substances standards.
4. Issue papers are presented with proposed rule amendments to clarify the intent and application of the standards.

Director's Recommendation

Based on the summation, the Department requests authorization from the Commission to proceed to public hearing to take testimony on the proposed amendments for the Antidegradation Policy, the Mixing Zone Policy, and the Toxic Substances standards, as presented in Attachment F.

  
for  
Fred Hansen

Attachments:

- A. Issue Papers
- B. Hearing Notice
- C. Statement of Need for Rulemaking
- D. Fiscal and Economic Impact
- E. Land Use Consistency Statement
- F. Proposed Rule Amendments & Rule References

Krystyna U. Wolniakowski:c  
229-6018  
May 15, 1986  
WC532

ISSUE PAPERS

ANTIDegradation Policy

INTRODUCTION

This review evaluates the Oregon Antidegradation Policy and proposes revisions and addition to the language to clarify the intent of the policy.

The purpose of an antidegradation policy is to limit activities or discharges to those that will not permanently affect water quality and threaten or impair the designated beneficial uses of all waters of the state. The policy allows some water quality degradation to accommodate necessary development, but beneficial uses must be protected. Special protection is provided for high quality and outstanding national resource waters to maintain and protect the water quality at the highest level possible and to preserve the value of those resources.

ANTIDegradation Policy

Section 340-41-026(1)(a) under "Policies and Guidelines Generally Applicable to All Basins" states the policy as follows:

"Existing high quality waters which exceed those levels necessary to support the 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 continued planning process to lower water quality for necessary and justifiable economic or social development. The Director or his designee may allow lower water quality on a short-term basis in order to respond to emergencies or to otherwise protect public health and welfare. In no event, however, may degradation of water quality interfere with or become injurious to the beneficial uses of water within surface waters of the following areas:

- (A) National Parks;
- (B) National Wild and Scenic Rivers;
- (C) National Wildlife Refuges;
- (D) State Parks."

## ANALYSIS OF THE ANTIDegradATION POLICY

The three parts in the current antidegradation policy are 1) the provision for maintaining and protecting high quality waters, 2) the provision for lowering water quality for emergency situations, and 3) special protection for exceptional waters within the state.

- 1) "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 intergovernmental coordination and public provisions of the continuing planning process to lower water quality for necessary and justifiable economic or social development."

Existing high quality waters are defined as those waters that are above the set standards designed to protect designated beneficial uses. For example, if a stream is 100% saturated with dissolved oxygen, and is designated as a cold water fish stream, the stream would qualify as high quality water because the standard only requires a dissolved oxygen saturation of 90% to meet the cold water fish use. According to this provision, the water quality must be maintained and protected at the existing 100% level and cannot be degraded to the 90% level by any activities. However, this provision also allows some flexibility to accommodate development. If the public shows that the development is necessary and important through the public hearing process, and the EQC judges that the development will preserve the water quality to protect the beneficial uses, limited degradation may occur.

The definition of "necessary and justifiable economic and social development" is not clearly stated in the rules, and has been questioned as to what factors are considered in judging a development to be necessary, justifiable, economical or socially important enough to degrade water quality. No one definition or set of factors apply, but the language provides the Commission the opportunity to make individual site-specific decisions based on evidence presented by the persons seeking the change and the public. The benefits of the projects are always weighed against the costs to a community and the environment. This is not intended to be a license to degrade water quality.

The key is that a strong tie should be established between lower water quality and "significant" economic or social development.

The following criteria may be used as guidance in the decision making process. Demonstration of important economic and social development entails two separate tasks. First, the person seeking change should describe and analyze the current state of economic and social development in the area that would be affected. The purpose of this step is to determine the "baseline" economic status of the affected community, i.e., the measure against which the effect of the water quality downgrade is judged. The following factors should be included in the baseline analysis:

- population
- area employment (numbers employed, earnings, major employers);

- area income (earnings from employment and transfer payments, if known);
- manufacturing profile: types, value, employment, trends;
- government fiscal base: revenues by source (employment and sales taxes, etc.).

Second, the person seeking the change in water quality should then demonstrate the extent to which the sought-for level of water quality would create an incremental increase in the rate of economic and social development and why the change in water quality is necessary to achieve such development. The person should provide analysis, along with all supporting data used in its preparation, showing the extent to which the factors listed above will benefit from the change in water quality requested. The analysis should specially demonstrate why such economic and social development is contingent upon the water quality change. The following factors may be included in the analysis of incremental effects expected to result from the degradation in water quality.

- expected plant expansion;
- employment growth;
- direct and indirect income effects;
- increases in the community tax base.

The requirements for a given analysis will be site-specific, depending upon factors such as data availability, conditions specific to the relevant water body, and the area of impact (whether city, county, or State-wide.)

For example, if a community using septic systems was growing rapidly, a waste water treatment facility would soon be required to accommodate the growth, prevent possible groundwater contamination, and provide better services to the community. The treatment facility would need to discharge the effluent into a river, but in doing so may add BOD loading, lower the dissolved oxygen, or alter water chemistry in some way. The Commission would need to judge whether the project is truly needed, what the community costs and benefits are, and if groundwater quality or surface water quality would be threatened or beneficial uses impaired, based on testimony presented by the person seeking the change and the public.

2) The Director or his designee may allow lower water quality on a short-term basis in order to respond to emergencies or to otherwise protect public health and welfare.

Occasionally, a situation arises where temporary degradation of water quality must occur to accommodate a necessary project or to respond to emergencies. If a water supply line crossing a stream is broken and needs to be repaired or replaced, this provision allows the Director to set less stringent standards on a temporary basis, or permit activities that in the long-term would be a benefit to the community.

- 3) In no event, however, may degradation of water quality interfere with, or become injurious to the beneficial uses of water within surface waters of the following areas: (A) National Parks, (B) National Wild and Scenic Rivers, (C) National Wildlife Refuges, and (D) State Parks.

This provision allows for special protection for classified exceptional waters of the state. The Commission does not have the authority to allow any permanent degradation of these waters for any reason. The water quality and beneficial uses must be protected to preserve the unique resource values of these areas. Even though this is a very strict provision, it is not intended to be "non-degradation" clause. If, for example, development might be proposed upstream of an area classified as a State Park, the developer would need to show conclusively that the development would not in any way diminish the value of the State Park located downstream, although some temporary disturbance may occur during the construction activity. The Commission would then judge, based on technical evidence and public testimony, that the development would not only protect and maintain existing water quality, but all beneficial uses and unique resource values would be protected. If the provision was strictly a non-degradation statement, then even temporary disturbance would not be allowed under any circumstances.

Although temporary disturbances can be permitted to accommodate a short-term activity, the Department needs to consider the cumulative effects from numerous short-term disturbances in close proximity on a particular water way. It is possible that consecutive disturbance or degradation in water quality may impact aquatic life communities, or other beneficial uses to a point that recovery may not occur as predicted.

#### SUMMARY AND DISCUSSION OF 1984 PUBLIC TESTIMONY ON ANTIDegradation

Three respondents described their concerns as follows:

- 1) Oregon State Parks requested that the Antidegradation Policy be amended to include designated "State Scenic Waterways" (ORS 390.825) to ensure that scenic waterways remain unpolluted and the outstanding water quality and beneficial uses be maintained.

The Department also recommends including State Scenic Waterways in the policy since special protection of these waters is consistent with the scenic waterways statutes (ORS 390.835).

- 2) Oregon Shores Conservation Coalition expressed that the current Anti-degradation policy is not consistent with Oregon Public Law ORS 468.710(2) which declares that the public policy of the state is to "protect, maintain, and improve the quality of the waters of the state... beneficial uses." They contend that the provision for lowering water quality for "necessary and justifiable economic or social development", is inconsistent with the intent of the Oregon Public Law since the statute does not specifically include that provision.



The Attorney General for Oregon reviews and evaluates the Oregon Water Quality Standards to assure consistency between the statutes and the corresponding rules. The current water quality standards were certified by the Attorney General as consistent with the intent of public law when they were filed with EPA. In addition, that provision is consistent with a similar provision in the Federal EPA Anti-Degradation Policy.

3) EPA recommended that the current policy should be amended to reflect the 1983 revisions of the federal water quality regulations. The following changes were requested to provide more consistency between the federal and state antidegradation policies:

- a) Add a new paragraph which requires the protection of existing uses and the water quality necessary to ensure the preservation of those uses for ALL waterways:

"Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."

- b) Modify the first sentence of the policy "...for necessary and justifiable economic or social development." to read "where it is necessary to accommodate important economic or social development in the areas in which the waters are located." EPA stated that this phrase is intended to convey a general concept regarding what level of social or economic development could be used to justify a change in high quality waters. More exact meanings will only be possible on a case-by-case basis. EPA further stated that "necessary and justifiable.." was not as rigorous as "necessary to accommodate important...".

- c) Delete reference to specific outstanding waters and amend the last sentence to include all surface waters of the state.

The Department concurs with the first recommendation. Since existing water quality in all waterways should be maintained and protected, it should be explicitly stated in the policy. In response to the second recommendation, the Department agrees that including the word "important" would strengthen the language in the provision. For a development to be important, it would have to be significant, noteworthy, and carry a great deal of weight. Justifiable implies a well-founded or valid development. Instead of replacing justifiable with important, the Department proposes to include both in the language to insure that a development is necessary, significant and well-founded. The Department does not agree that adding "... in which the waters are located" is necessary. This phrase is vague and does not define just what the boundaries are or where the waters are located (i.e., communities near the waterway, in the same city, county, region or state). In response to the third recommendation, the Department prefers to specify the waters that should receive special protection for the information of the public, the regulated communities, and the resource developers.

In addition, the Department proposes to change the Director and "his designee" to "a designee" to make the provision gender neutral.

#### ADDITIONAL PROVISIONS

In analyzing the intent of the anti-degradation policy, and the language to support it, and evaluating public testimony, the Department recommends that three additional provisions be included in the policy:

- 1) Protection of existing water quality for all waters of the state, not just the high quality waters.

If water quality of a particular waterway is just above the standard, that water quality should be maintained and not allowed to be degraded down to the standard level without a review process. In addition, if water quality of a stream is below the standard, the goal should be to improve the water quality or at least maintain it at a minimum. This provision would align the antidegradation policy closer to the state statutes ORS 468.710 that define the policy of the state which is to conserve the waters of the state, and to protect, maintain, and improve the quality of the waters for designated beneficial uses.

- 2) Addition of other exceptional waters to receive special protection. State Scenic Waterways, and important ecological areas as designated by appropriate state agencies (i.e., South Slough Sanctuary, Salmon River Estuary, or Research Natural Areas) should also be included to encourage preservation.
- 3) Limit temporary disturbances in high quality waterways to prevent cumulative effects on the beneficial uses. This provision would allow the Department to consider cumulative effects from numerous short-term disturbances in water quality in the same stream segment.

#### PROPOSED MODIFICATIONS

If the public and EPA suggestions were incorporated into the Anti-degradation Policy, the following modifications would be necessary. The underlined phrases are new proposed language additions, or in some cases replacement of bracketed phrases.

340-41-026(1)(a) " Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. "

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, important and justifiable economic or social development.

The Director or [his] a designee may allow lower water quality on a short-term basis in order to respond to emergencies or to otherwise protect public health and welfare.

In no event, however, may degradation of water quality interfere or become injurious to the beneficial uses of water within surface waters of the following areas: (A) National Parks; (B) National Wild and Scenic Rivers; (C) National Wildlife Refuges; (D) State Parks; (E) State Scenic Waterways; and (F) other state designated exceptional waters of ecological or recreational significance.

The Department shall not approve any activities where it is determined that a series of temporary disturbances to water quality in the same stream system may cumulatively affect the beneficial uses in high quality and outstanding quality waters of the state.

#### OPTIONS

1) RETAIN THE CURRENT ANTIDEGRADATION POLICY AS WRITTEN

The intent of the policy is adequately set forth in the current language, and appears to be consistent with state law. However, EPA states that the current policy is not fully consistent with federal policy. The new regulations (40 CFR Section 131.12(a)(1) requires protection of existing uses and water quality necessary to ensure preservation of designated uses on all waterways. The Oregon policy only specifies high quality waters, and waters officially designated as exceptional. In addition, EPA strongly suggests strengthening the language on the provision for lowering water quality to assure that the development is important .

2) ADOPT THE REVISED ANTIDEGRADATION POLICY

The revised antidegradation policy as proposed would be consistent with state law and the federal EPA antidegradation policy, and would incorporate the suggested changes requested by the public. The intent for protecting and maintaining water quality and beneficial uses in all waterways, and provisions for lowering water quality in high quality waters is clearly stated. In addition, special waters are protected from any permanent degradation to water quality under all circumstances.

3) ADOPT THE REVISED POLICY AND INCLUDE A NON-DEGRADATION CLAUSE

The Commission and the public may wish to consider a non-degradation clause for the specially designated waters of the state to prevent any temporary disturbances or degradation of the water quality within those waters. This could be accomplished by modifying the last sentence to read "In no event, however may degradation of water quality occur [interfere with or become injurious to the beneficial uses of water]within surface waters...". Although the federal policy does not include a non-degradation clause, EPA allows the state to set more restrictive standards if the state decides to do so.

A non-degradation provision would assure non-degradation under any circumstances. For certain waters of the state, however, it may be so restrictive as to eliminate any necessary or desirable maintenance or development, and precludes any corrective action to protect public health and welfare.

## MIXING ZONES

### INTRODUCTION

This review evaluates the Oregon Mixing Zone Policy and proposes revisions and additions in language to clarify both the intent of the policy and the procedures used for establishing mixing zones.

A mixing zone, by definition, is a portion of a stream that serves as a zone of initial dilution where waste waters and receiving waters mix and where numeric water quality criteria can be legally exceeded. However, chronic or acutely toxic conditions must be prevented in this zone and water quality standards must be met at the mixing zone boundary even under lowest flow conditions to assure protection of the ambient receiving water quality and designated beneficial uses. The intent of the current policy is to state when a mixing zone is defined and how it is established, without precise methodology. This has allowed the Department to set mixing zones on a site-specific basis, but it has not provided clear enough guidance in defining mixing zones.

During the public review of the Oregon water quality standards in 1984, EPA commented on the Oregon Mixing Zone Policy and suggested that more detail on mixing zone methodology should be added to the standards. They recommended following the guidance available in the EPA Water Quality Standards Handbook (1983) on mixing zones. However, EPA also recognizes that specific mixing zone regulations should be a matter of state discretion to suit the water quality needs of each state. No other public comments were received on this topic.

### CURRENT MIXING ZONE POLICY

Although the Oregon Mixing Zone policy is the same for each basin, it is referenced separately as part of the specific basin standards. The rule references for each basin are included in the footnote (\*) on A-14. OAR 340-41- \_\_ (4) states the policy as follows:

#### Mixing Zones:

- (a) The Department may suspend the applicability of all or part of the water quality standards set forth in this rule, except those standards relating to aesthetic conditions, within a defined immediate mixing zone of specified and appropriately limited size adjacent to or surrounding the point of waste water discharge.
- (b) The sole method of establishing such mixing zones shall be by the Department defining same in a waste discharge permit.
- (c) In establishing mixing zones in a waste discharge permit, the Department:

- (A) May define the limits of the mixing zone in terms of distance from the point of the waste water discharge or the area or volume of the receiving water or any combination thereof;
- (B) May set other less restrictive water quality standards to be applicable in the mixing zone in lieu of the suspended standards;
- (C) Shall limit the mixing zone to that which in all probability will:
  - (i) Not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and
  - (ii) Not adversely affect other beneficial uses disproportionately.

#### ANALYSIS OF CURRENT MIXING ZONE POLICY

Analysis of the mixing zone policy follows:

1. Subsection (4)(a) states that the Department may suspend the applicability of all or part of the water quality standards set forth in this rule, except those standards relating to aesthetic conditions, within a defined immediate mixing zone of specific and appropriately limited size adjacent to or surrounding the point of waste water discharge.

In subsection 4(c)(B), the policy further states that the Department may set less restrictive water quality standards to be applicable in the mixing zone in lieu of suspended standards.

It appears unnecessary to have these two statements as two sections in the policy, since they both refer to applying less stringent criteria in the mixing zones. In addition, the term "applicability" is redundant since standards are applicable by definition. These two statements can be combined into one provision that would allow for either suspension of standards or setting less restrictive standards, as the Department determines is necessary on a case-by-case basis.

2. Section (4)(b) states that the sole method of establishing such mixing zones shall be by the Department defining same in a waste discharge permit.

Use of the term "sole method" seems inappropriate, since defining a mixing zone in a permit is an administrative action by the Department rather than a method. This statement also establishes the Department as the only authority to decide when and how a mixing zone is defined. By defining that the mixing zone is only established in a permit, the policy does not consider cases where evidence is presented that would warrant a re-consideration of the mixing zone location or size. If

beneficial uses were adversely affected in a mixing zone, the Department should have the flexibility to address the problem and make the necessary changes immediately without waiting until the waste discharge permit expires. The language can be clarified to state that the Department shall assign a mixing zone during the waste discharge permit review process, unless technical evidence supports modification before permit expiration. The actual method of defining the mixing zone should be included in another section.

3. Section (4)(c) states in establishing mixing zones in a waste discharge permit, the Department:

(A) May define the limits of the mixing zone in terms of distance from the point of the waste water discharge or the area or the volume of the receiving water or any combination thereof:

Although (4)(c)(A) allows for defining the mixing zone limits using either distance from the point of discharge, area or volume or receiving water, or a combination thereof, it does not clearly delineate what factors are or should be taken into consideration in defining the mixing zone size. Establishing the mixing zone location is stated back in (4)(a) as being adjacent to or surrounding the point of waste water discharge. For consistency, location of the mixing zone should be included in the same section as the definition of size and the factors used for establishing mixing zones (for example stream flows, discharge rates and volumes, aquatic life communities present). In addition, a provision for passage of fish and other aquatic organisms should be added to assure that mixing zone location and size does not interfere with migration. A section can be developed that would address the factors to consider in assessing an appropriate mixing zone location, in addition to a section that describes how a mixing zone is defined in a waste discharge permit.

4. Section (4)(c)(C) states that (the Department) shall limit the mixing zone to that which in all probability will:

- (i) Not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem;  
and
- (ii) Not adversely affect other beneficial uses disproportionately.

(4)(c)(C) establishes the provision for (i) protection of aquatic life and (ii) other beneficial uses, but the language used does not adequately identify to what level aquatic life and other uses are actually protected.

The first statement (i) reads that the mixing zone shall in all probability "not interfere with any biological community or population of any important species (emphasis added) to a degree which may be damaging to the ecosystem." Several questions can be raised in analyzing this statement.

1. How is "probability" defined? The term "probability" implies judgement of effects on the beneficial uses. Prediction of levels of effect usually holds some uncertainty and does require judgement by the Department. This statement could be strengthened, however, by adding a provision that states judgement of the effects will be based on consideration of certain factors (such as the biological and chemical characteristics of the stream).
2. What level of impact to a biological community constitutes "interference"? The term "interference" requires some definition if it is used in reference to a biological community. Usually, the term is defined as meddling or hindering an action. We recommend using the term "measurably affect" to describe an allowable level of effect, based on quantifiable information. Although "measurably" can also be questioned in terms of how statistically significant the results need to be to measure an impact, we are using the term to indicate general trends that can be detected with a reasonable sampling effort (obvious shifts in dominant species, or elimination of species entirely).
3. If a mixing zone is not to interfere with any biological community, why is protection for only important species specified in the next part of the sentence? Protection of biological communities includes protection of important species within that community. Some species may in fact be more important for economic or ecological reasons, and should receive special protection, but without losing sight of the importance of considering the biological community as a whole. We recommend replacing "or ..." with "especially when important species are present."

4(c)(C)(ii) states that mixing zones shall "not adversely affect other beneficial uses disproportionately". Again, a problem occurs with defining disproportionate adverse effects. Since a mixing zone is technically considered a small area of allowed degradation where water quality may be lower than required by the standards, the beneficial uses may not be protected at the fullest level in that area. The question remains on what are proportional effects and how much impact to the beneficial uses is actually allowed. Since every mixing zone site will have specific water quality, stream habitat, land use and discharged effluent characteristics, and costs associated with the level of treatment required to protect beneficial uses, it is unrealistic to attempt to define a uniform level of allowable degradation and impact. A list of factors to be used in assessing streams and establishing mixing zones, would assist in evaluating the impact to the streams on a site-specific basis, and the costs involved in protecting the uses to the highest level possible.



To address the points discussed above, the language could be clarified and provisions included specifying that water quality within the mixing zone must

- \* not be chronically OR acutely toxic to aquatic life;
- \* not measurably affect the biological communities, especially when important species are present;
- \* not threaten public health; or
- \* not cause adverse effects to other beneficial uses, as determined by the Department, based on the best available information.

#### DEVELOPING DEQ MIXING ZONE GUIDELINES

EPA has recommended that the Department specify the methodology involved in establishing mixing zones, and incorporate that into the standards. Since the receiving waters in Oregon range from creeks to major rivers, estuaries, and oceans, with varying biological, chemical, and hydrological conditions, a uniform methodology or universal mixing zone dimensions firmly established in the standards is not practical nor desirable. However, it would be useful to develop guidelines that would specify the factors to consider for assessing and establishing the dimensions of the mixing zones for permit issuance. These would be used as necessary for the major source dischargers or for minor discharges into streams with low flows and with critical habitats or sensitive biological communities present. The mixing zone criteria would be useful to the Department as a tool for evaluation, as well as to the public as an information source for defining and regulating mixing zones.

#### CRITERIA NEEDED TO DEFINE MIXING ZONES

The following elements are recommended to assist with establishing appropriate mixing zones:

- 1) Location: Biologically important areas need to be identified and protected. Where necessary a zone of passage for migrating fish or other organisms in a water course needs to be established.
- 2) Size: Various methods and techniques are available for defining the surface area and volume of mixing zones. The area or volume of an individual zone or group of zones should be limited to an area or volume as small as possible and that will not adversely affect designated beneficial uses or the established aquatic life communities. Factors such as depth profiles, stream velocity, seasonal flows, instream water quality, and resident fish and aquatic life communities need to be considered in determining the size of the zone.
- 3) Outfall design: Prior to designating the mixing zone, the best technically feasible engineering design for the outfall structure needs to be evaluated. The outfall should be placed in a location with sufficient stream current and minimum effect on the aquatic resources and water quality.

- 4) In-Zone Water Quality: Although water quality standards may be suspended in the mixing zone, in-zone water quality must comply with aesthetics standards, and not be acutely or chronically toxic to aquatic life.

METHODOLOGY FOR ASSESSING AN APPROPRIATE MIXING ZONE AREA

In determining the location, surface area and volume of a mixing zone, the Department may use and evaluate the following factors, based on recommendation in the EPA Mixing Zone Guidelines:

A) RECEIVING WATER CHARACTERISTICS

- \* Hydrologic Factors: Seasonal low flow rates  
Current direction and velocity  
Depths  
Width  
Channel morphology  
Groundwater aquifers  
Tidal fluctuations  
Shoreline configuration
- \* Water Quality Factors: pH, Conductivity, Alkalinity,  
Temperature, Dissolved Oxygen, Salinity,  
Nutrients, Toxics, and other chemical  
constituents that may be present in  
effluents.
- \* Biological Factors: Resident and migratory fish populations  
Migratory passage requirements  
Aquatic community composition  
Sensitive or critical habitat (nursery  
or spawning, wetland or shellfish  
harvest areas.)

B) EFFLUENT CHARACTERISTICS

- \* Effluent Discharge: Discharge rates and volume  
Dilution water volume available  
Frequency of discharge
- \* Effluent Composition: Individual contaminant concentrations  
Total contaminant concentrations and  
mass loading to receiving stream
- \* Effluent Effects: Potential synergistic effects with other  
pollutants in receiving stream.

C) OUTFALL DESIGN AND PLACEMENT

The Department may evaluate the most technically feasible engineering design for an outfall to be located in an area of sufficient current and minimum effect on water quality, public health, and aquatic resources. No exposed outfalls will be permitted at any time.

D) IMPACT ANALYSIS AND ASSIGNING MIXING ZONES

The Department shall consider the potential impact of the discharge on water quality, public health, and the effects on present and anticipated beneficial uses, based on the evaluation of the above guidelines before assigning mixing zones.

COMPONENTS OF A MIXING ZONES POLICY

The following components are suggestions for improving the organization and language of the current mixing zone policy. Each component is divided into a description and the proposed language changes shown in quotes.

1. Statement of Policy

This statement should include the following parts to establish the policy for mixing zones:

a) Allowing mixing zones

"The Department may allow a defined portion of a stream to serve as a zone of initial dilution for wastewaters and receiving waters to thoroughly mix."

b) Suspension of standards

"The Department may suspend all or part of the water quality standards, or set other less restrictive standards in the defined mixing zone. However, the water quality in this zone must preserve aesthetic conditions at all times and must not adversely impair any designated beneficial uses. Water quality standards must be met at the mixing zone boundary even under lowest flow conditions.

2. Methodology For Assessing An Appropriate Mixing Zone

This statement should include or provide a reference to mixing zone guidelines. Including this methodology in the standards or referring to the methodology would assist in assessing where a mixing zone should be located for streams, rivers, estuaries or nearshore coastal areas.

If the methodology was included in the mixing zone policy, the following language could be used:

The Department may evaluate the following factors in assigning the location, surface area and volume of a mixing zone:

1) Receiving Water Characteristics

Hydrologic Factors: Seasonal low flow rates, current direction and velocity, depths, width, channel morphology, groundwater aquifers, tidal fluctuations, and shoreline configuration.

Chemical and Physical Factors: Conductivity, pH, alkalinity, temperature, dissolved oxygen, salinity, nutrients, toxics, and other chemical constituents that may be present in effluents.

Biological Factors: Resident and migratory fish populations, Migratory passage requirements aquatic community composition, and sensitive or critical habitat (nursery or spawning, wetland or shellfish harvest areas.)

2) Effluent Characteristics

Effluent Discharge: Discharge rates and volume, dilution water volume available, and frequency of discharge.

Effluent Composition: Individual contaminant concentrations, total contaminant concentrations and mass loading to receiving streams.

Effluent Effects: Potential synergistic effects with other pollutants in the receiving stream.

3) Outfall Design and Placement

The Department may evaluate the most technically feasible engineering design for an outfall to be located in an area of sufficient current and minimum effect on water quality, public health, and aquatic resources. No exposed outfalls will be permitted at any time.

If a reference was made to the mixing zone guidelines, then the following language could be used:

"In determining the location, surface area, and volume of a mixing zone area the Department may refer to appropriate mixing zone guidelines, to assess the biological, physical and chemical character of receiving waters and effluent, and the placement of the outfall, whenever necessary to protect instream water quality, public health, and other beneficial uses.

3. Establishing Mixing Zones

A statement that addresses how mixing zones are defined and what conditions must be met in the mixing zone.

"Based on receiving water and effluent characteristics, the Department shall assign a mixing zone in the immediate area of a waste water discharge on a case-by-case basis in the waste water discharge permit. The mixing zone shall:

- a) be as small as feasible;
- b) be less than the total stream width as necessary to allow passage fish and other aquatic organisms;
- c) not measurably affect the indigenous biological community especially when important species are present;
- d) not threaten public health;
- e) not adversely affect other designated beneficial uses; and
- f) be free of:

\*Materials in concentrations sufficient to injure, produce adverse physiological responses or cause chronic or acute toxicity to aquatic life (50% mortality after a 96 hour exposure).

\*Materials that will settle to form objectionable deposits.

\*Floating debris, oil, scum, or other materials that cause nuisance conditions.

\*Substances in concentrations that produce objectionable color, odor, taste or turbidity.

\*Substances in concentrations that produce nuisance aquatic growth.

#### 4. Applicant Responsibilities

A provision should be added that gives the Department authority to direct the permit applicant to submit the information necessary to define a mixing zone.

"The Department may request the applicant for a permitted discharge for which a mixing zone is required, to submit all information necessary to define a mixing zone, such as:

- 1) Type of operation to be conducted
- 2) Characteristics of the effluent flow rates and composition
- 3) Characteristics and low flows of receiving waters
- 4) Description of potential environmental effects
- 5) Proposed design for outfall structures."

#### 5. Monitoring Mixing Zones

A provision should be stated for monitoring the mixing zone to insure protection of beneficial uses and water quality.

"The Department may, as necessary, require mixing zone monitoring studies and/or bioassays to be conducted at any time to evaluate water quality or biological status within and outside the mixing zone boundary."

## 6. Modification of Mixing Zones

A provision should be added that would give the Department authority to re-evaluate the mixing zone designation or outfall location if unforeseen environmental impacts occur.

"The Department may change a mixing zone designation or outfall location if it determines that the water quality within the mixing zone unreasonably and measurably affects any existing or potential beneficial uses in the receiving waters."

### SUMMATION

In summary, two versions of a revised mixing zone policy have been proposed. Version A includes factors to consider in defining appropriate mixing zones, while Version B only refers to the factors that may be used in defining appropriate mixing zones. The two versions in their entirety follow:

#### VERSION A

#### 340-41- \_\_ (4) MIXING ZONES

- (a) "The Department may allow a defined portion of a stream to serve as a zone of initial dilution for wastewaters and receiving waters to mix."
- (b) "The Department may suspend all or part of the water quality standards, or set less restrictive standards in the mixing zone. However, the water quality in this zone must preserve aesthetic conditions at all times and not adversely affect designated beneficial uses. Water quality standards must be met at the mixing zone boundary even at lowest stream flow conditions."
- (c) "Based on the evaluation of the following factors, the Department shall assign a mixing zone in the immediate area of a waste water discharge on a case-by-case basis in the waste water discharge permit. Mixing zone location, surface area, and volume may be defined by the Department after consideration of the following:

#### 1) Receiving Water Characteristics

Hydrologic Factors: Seasonal low flow rates, current direction and velocity, depths, width, channel morphology, groundwater aquifers, tidal fluctuations, and shoreline configuration.

Chemical and Physical Factors: Conductivity, pH, alkalinity, temperature, dissolved oxygen, salinity, nutrients, toxics, and other chemical constituents that may be present in effluents.

Biological Factors: Resident and migratory fish populations, migratory passage requirements, aquatic community composition, and sensitive or critical habitat (nursery or spawning, wetlands, or shellfish harvest areas.)

2) Effluent Characteristics

Effluent Discharge: Discharge rates and volume, dilution water volume available, and frequency of discharge.

Effluent Composition: Individual contaminant concentrations, total contaminant concentrations and mass loading to receiving streams.

Effluent Effects: Potential synergistic effects with other pollutants in receiving stream.

3) Outfall Design and Placement

The Department may evaluate the most technically feasible engineering design for an outfall to be located in an area of sufficient current and minimum effect on water quality, public health, and aquatic resources. No exposed outfalls will be permitted at any time.

(d) The mixing zone shall:

- 1) be as small as feasible;
- 2) be less than the total stream width as necessary to allow passage fish and other aquatic organisms;
- 3) not measurably affect the indigenous biological community especially when important species are present;
- 4) not threaten public health;
- 5) not adversely affect other designated beneficial uses; and
- 6) be free of:

\*Materials in concentrations sufficient to injure, produce adverse physiological responses or cause chronic or acute toxicity to aquatic life (50% mortality after a 96 hour exposure).

\*Materials that will settle to form objectionable deposits.

\*Floating debris, oil, scum, or other materials that cause nuisance conditions.

\*Substances in concentrations that produce objectionable color, odor, taste or turbidity.

\*Substances in concentrations that produce nuisance aquatic growth.

(e) The Department may also request the applicant for a permitted discharge for which a mixing zone is required to submit all information necessary to define a mixing zone, such as:

- 1) Type of operation to be conducted
  - 2) Characteristics of the effluent flow rates and composition
  - 3) Characteristics and low flows of receiving waters
  - 4) Description of potential environmental effects
  - 5) Proposed design for outfall structures."
- (f) The Department may, as necessary, require mixing zone monitoring studies and/or bioassays to be conducted at any time to evaluate water quality or biological status within and outside the mixing zone boundary.
- (g) The Department may change a mixing zone designation or outfall location if it determines that the water quality within the mixing zone unreasonably affects any existing or potential beneficial uses in the receiving waters."

#### VERSION B

#### (4) MIXING ZONES

- (a) "The Department may allow a defined portion of a stream to serve as a zone of initial dilution for wastewaters and receiving waters to mix."
- (b) "The Department may suspend all or part of the water quality standards, or set less restrictive standards in the mixing zone. However, the water quality in this zone must preserve aesthetic conditions at all times and not adversely affect designated beneficial uses. Water quality standards must be met at the mixing zone boundary even at lowest stream flow conditions."
- (c) "In determining the location, surface area and volume of a mixing zone area, the Department may refer to appropriate mixing zone guidelines to assess the biological, physical, and chemical character of receiving waters and effluent, and the placement of the outfall, whenever necessary to protect instream water quality, public health, and other beneficial uses. Based on receiving water and effluent characteristics, the Department shall assign a mixing zone in the immediate area of a wastewater discharge on a case-by-case basis in the wastewater discharge permit."
- (d) The mixing zone shall:
- 1) be as small as feasible;
  - 2) be less than the total stream width as necessary to allow passage fish and other aquatic organisms;
  - 3) not measurably affect the indigenous biological community especially when important species are present;
  - 4) not threaten public health;
  - 5) not adversely affect other designated beneficial uses; and
  - 6) be free of:



- \*Materials in concentrations sufficient to injure, produce adverse physiological responses or cause chronic or acute toxicity to aquatic life (50% mortality after a 96 hour exposure).
- \*Materials that will settle to form objectionable deposits.
- \*Floating debris, oil, scum, or other materials that cause nuisance conditions.
- \*Substances in concentrations that produce objectionable color, odor, taste or turbidity.
- \*Substances in concentrations that produce nuisance aquatic growth.

- (e) The Department may also request the applicant for a permitted discharge for which a mixing zone is required to submit all information necessary to define a mixing zone, such as:
- 1) Type of operation to be conducted
  - 2) Characteristics of the effluent flow rates and composition
  - 3) Characteristics and low flows of receiving waters
  - 4) Description of potential environmental effects
  - 5) Proposed design for outfall structures."
- (f) The Department may, as necessary, require mixing zone monitoring studies and/or bioassays to be conducted at any time to evaluate water quality or biological status within and outside the mixing zone boundary.
- (g) The Department may change a mixing zone designation or outfall location if it determines that the water quality within the mixing zone unreasonably affects any existing or potential beneficial uses in the receiving waters."

#### OPTIONS

##### 1. RETAIN THE CURRENT MIXING ZONE POLICY.

The current mixing zone policy is adequate, and mixing zones have been defined using the policy as it is written in the rules. After analyzing the current policy, several modifications could be made to clarify the language and provide a more organized policy with more provisions for the responsibilities of the Department and the regulated community.

##### 2. ADOPT VERSION A

Version A provides a mixing zone policy that incorporates the guidelines used to establish a mixing zone into the administrative rules. Any future changes, modifications, or variance in the adopted guidelines, would require Commission approval. This option would allow the regulated community to be aware of the procedures and requirements for mixing zone determinations, and provide input as necessary for any changes through the public hearing process.

### 3. ADOPT VERSION B

Version B provides a mixing zone policy that refers to using the DEQ mixing zone criteria as needed, without specifically stating them in the standards. This option would enable the Department to make necessary updates, revisions or modifications in the guidelines or factors to consider as needed without Commission approval for each technical change. However, this option would eliminate the public notice procedure for each proposed change, so the public and the regulated community would be responsible for consulting with the Department about most recent guidelines.

#### \* RULE REFERENCES BY BASIN

<u>Basin</u>	<u>Mixing Zone Rules</u>
North Coast	340-41-205 (4)
Mid Coast	340-41-245 (4)
Umpqua	340-41-285 (4)
South Coast	340-41-325 (4)
Rogue	340-41-365 (4)
Willamette	340-41-445 (4)
Sandy	340-41-485 (4)
Hood	340-41-525 (4)
Deschutes	340-41-565 (4)
John Day	340-41-605 (4)
Umatilla	340-41-645 (4)
Walla Walla	340-41-685 (4)
Grande Ronde	340-41-725 (4)
Powder	340-41-765 (4)
Malheur River	340-41-805 (4)
Owyhee	340-41-845 (4)
Malheur Lake	340-41-885 (4)
Goose and Summer Lakes	340-41-925 (4)
Klamath	340-41-965 (4)

## TOXIC SUBSTANCES

### INTRODUCTION

Since the 1980 revisions to Oregon's water quality standards, a considerable amount of applied research has been done nationally in the development of water quality criteria for toxic substances. Oregon's present standards for "Pesticides and Other Toxic Substances" and "Dissolved Chemical Substances" need to be amended to incorporate new and updated toxics criteria recently published by EPA. Until 1980, the standard reference for organic toxics, pesticides and dissolved chemical substances criteria had been the 1976 EPA publication "Quality Criteria for Water". On November 28, 1980, EPA published a series of ambient water quality criteria documents. These provided information for 64 toxic priority pollutants. New criteria for nine pollutants were published on July 19, 1985.

This paper will discuss both standards since the topics are closely related and based on the same EPA references. Pesticides and other organic toxic substances will be discussed first, and will then be followed by the inorganic dissolved chemical substances.

### CURRENT PESTICIDE AND OTHER ORGANIC TOXIC SUBSTANCES STANDARD

The current standard is the same for each of the nineteen basins. Rule references for each basin are referenced as a footnote (\*). OAR 340-41- \_\_ (2)(p) was adopted in 1980 and reads as follows:

"Pesticides and other organic toxic substances shall not exceed those criteria contained in the 1976 edition of the EPA publication "Quality Criteria for Water". These criteria shall apply unless supporting data shows conclusively that beneficial uses will not be adversely affected by exceeding a criterion by a specific amount or that a more stringent criterion is warranted to protect beneficial uses."

### ANALYSIS OF THE CURRENT STANDARD

1. " Pesticides and other organic toxic substances shall not exceed those criteria contained in the 1976 edition of the EPA publication "Quality Criteria for Water. " The current rule is considered a narrative water quality standard as opposed to a numerical standard which would have absolute values specific for a list of toxic organic substances. The "Red Book", as the document above is commonly called, was used as a reference because it contained the most updated information available on toxics during the last standards revision. By referencing the book, it was not necessary to list all the chemicals and their criteria values.

Although numerical criteria may be preferred because they are more easily interpreted in defining specific control requirements, rapid advances in the field of toxicology precludes the Department from stating each value in the standards. If numerical criteria were included in the standards, every update and change in the criteria from EPA would require new rule amendments. Using the narrative approach where the most updated EPA information was referenced would allow the Department to enforce the most scientifically updated information without requiring a hearing and Commission action for every change. By including the reference to Quality Criteria for Water (1976), and including language to support use of the most recent criteria for EPA's list of priority pollutants, many chemicals of concern would be addressed.

2. These criteria shall apply unless supporting data show conclusively that beneficial uses will not be adversely affected by exceeding criterion by a specific amount or that a more stringent criterion is warranted to protect beneficial uses. This provision was included to allow either more or less restrictive values than the "Red Book" recommended, to make site-specific judgements based on receiving water and effluent characteristics, and the beneficial uses of a particular stream segment. Since the field of toxicology is expanding and becoming more complex, and each state's waters have unique biological, hydrological, and chemical characteristics, in addition to varied designated beneficial uses, it may not be appropriate to apply EPA criteria values in all cases.

The criteria values were primarily derived under laboratory conditions and are guidance values, not standards that can be applied to every water body in every state.

To clarify and strengthen the intent of this provision, and assure that more or less restrictive values are not just arbitrarily applied, a wording change would be helpful. By deleting "supporting data" and inserting "data from scientifically valid studies", the provision becomes more specific and enforceable.

3. Many industries discharge complex effluents, which are process wastewaters that may contain more than one toxic substance, and where many of the individual components cannot be specifically identified. Applying specific criteria to the toxic components of the effluent during the permit process may not be a "scientifically valid" approach due to the complex interactions among chemicals when they are mixed. Some chemical mixtures exhibit a synergistic effect, becoming more toxic together than the individual components. Other chemicals may exhibit an antagonistic (cancelling) effect where individually they are toxic, but together become less-or non-toxic. It would be helpful to include a narrative provision for biomonitoring and chronic and acute bioassays (bioassessments) for aquatic life, to apply to situations where no numerical criteria exist for a substance, or when multiple toxicants are present in a waterbody and synergistic or antagonistic effects may be expected.

CURRENT DISSOLVED CHEMICAL SUBSTANCES STANDARD

Although the standard is generally the same for each of the nineteen river basins, total dissolved solids do change by basin. Rules for each basin are referenced in a footnote (\*).  
OAR 340-41- (2)(o) reads as follows:

"Dissolved Chemical Substances: Guide concentrations listed below shall not be exceeded unless otherwise specifically authorized by DEQ upon such conditions as it may deem necessary to carry out the general intent of this plan to protect the beneficial uses set forth in rule 340-41- \_\_ : (mg/l)

- (A) Arsenic(As) . . . . . 0.01
- (B) Barium(Ba). . . . . 1.0
- (C) Boron(Bo) . . . . . 0.5
- (D) Cadmium(Cd) . . . . . 0.003
- (E) Chromium(Cr). . . . . 0.02
- (F) Copper(Cu). . . . . 0.005
- (G) Cyanide(Cr) . . . . . 0.005
- (H) Fluoride(F) . . . . . 1.0
- (I) Iron(Fe). . . . . 0.1
- (J) Lead(Pb). . . . . 0.05
- (K) Manganese(Mn) . . . . . 0.05
- (L) Phenols(total). . . . . 0.001
- (M) Total Dissolved Solids-Columbia River . 500
- (N) Total Dissolved Solids - other. . . . 100
- (O) Zinc(Zn). . . . . 0.01"

ANALYSIS OF THE CURRENT STANDARD

The guide concentrations listed in the standards are values derived from the drinking water standards for those substances of concern in drinking water supplies, or the EPA priority pollutant criteria. Many of the values listed do not reflect the most recent EPA criteria values published in 1980 and 1985. In addition, the toxicity of a number of the inorganic substances listed is dependent on the hardness (expressed as mg/l CaCO3) of the receiving water. EPA has published formulas for deriving the proper criteria values based on a hardness factor for Cadmium, Chromium III, Copper, Lead Nickel, Silver, and Zinc. For example, the current criteria value for Cadmium is listed as 0.003 mg/l. Using the new formula, hardness values of 50 mg/l (typical of Willamette River and other western Oregon streams), would limit Cadmium to 0.00066 mg/l, or a hardness value of 200 mg/l (Eastern Oregon streams) would limit Cadmium to 0.002 mg/l

Since many of the same EPA documents apply to both organic and inorganic toxics, the two sections could be combined and the table of values deleted to eliminate the outdated information. However, the total dissolved solids concentrations are specific for each basin. These values will remain the same for each basin and will remain in the present subsection.

## COMPONENTS OF A REVISED TOXIC SUBSTANCES STANDARD

The following components are suggestions for improving the organization and language of the current standards for pesticides and other organic toxic substances, and for dissolved chemical substances. Each component is divided into a description and proposed language changes in quotes.

### 1. General Statement and Criteria Reference

This statement should include language provisions prohibiting injurious levels of toxic substances in the waters of the state to protect public health, aquatic life, and other beneficial uses, and a reference to the most recent EPA criteria values. These references include hardness factors for the inorganic pollutant concentrations.

"Toxic substances shall not be present in the water of the state at levels which are or may become injurious to public health, safety, or welfare; aquatic life; or other designated beneficial uses. Levels of toxic substances shall not exceed the most recent criteria values for organic and inorganic pollutants established by EPA and published in Quality Criteria for Water (1976), and Federal Register (November 28, 1980 and July 29, 1985)."

### 2. Provision for Site Specific Determination

This statement should be included to allow either more or less restrictive values for unique situations:

"These criteria shall apply unless data from scientifically valid studies show conclusively that beneficial uses will not be adversely affected by exceeding criterion by a specific amount or that a more restrictive criterion is warranted to protect beneficial uses."

### 3. Provision for Bio-assessments

Due to the intricate chemical interactions that may occur within complex industrial and other effluents, chemical analysis for known or suspected toxic components may not sufficiently address the lethal or chronic potential of the wastewater. Bioassessments (instream and laboratory bioassays) are needed to adequately monitor these situations. The following statement could be added:

"Bio-assessment studies which include instream monitoring and laboratory bioassays, shall be conducted, as the Department deems necessary, to monitor the toxic effects of complex effluents or other suspected toxic discharges. If toxicity occurs, the Department shall consider measures necessary to reduce toxicity through permit modification."

## PROPOSED REVISION OF LANGUAGE FOR TOXIC SUBSTANCES

The following language is proposed to replace "Pesticides and Other Organic Toxic Substances" and "Dissolved Chemical Substances" with a standard on "Toxic Substances":

### Toxic Substances

- (a) Toxic substances shall not be present in the water of the state at levels which are or may become injurious to public health, safety, or welfare; aquatic life; or other designated beneficial uses.
- (b) Levels of toxic substances shall not exceed the most recent criteria values for organic and inorganic pollutants established by EPA and published in Quality Criteria for Water (1976), and the Federal Registers (November 28, 1980, V. 45, No. 231, p. 79319; July 29, 1985, V. 50, No. 145, p. 30784).
- (c) These criteria shall apply unless data from scientifically valid studies show conclusively that beneficial uses will not be adversely affected by exceeding a criterion by a specific amount or that a more restrictive criterion is warranted to protect beneficial uses.
- (d) Bio-assessment studies which include instream monitoring and laboratory bioassays shall be conducted, as the Department deems necessary, to monitor the toxic effects of complex effluents or other suspected toxic discharges. If toxicity occurs, the Department shall consider measures necessary to reduce toxicity through permit modification.

### OPTIONS

#### 1. RETAIN CURRENT STANDARDS

This option would not be feasible because the narrative references are outdated for both the pesticides and organic toxic substances, and dissolved chemical substances. To provide the best protection to beneficial uses and public health, the most recent scientific information needs to be used.

#### 2. ADOPT PROPOSED REVISION

This option would combine the inorganic and organic pollutants into one standard and use the same approach in enforcing allowable levels. Although numerical information is not presented in table form, it would be readily accessible to those interested from Department staff.

\* RULE REFERENCES BY BASIN

<u>Basin</u>	<u>Dissolved Chemical Substances</u>	<u>Pesticides</u>
North Coast	340-41-205 (2) (o)	340-41-205 (2) (p)
Mid Coast	340-41-245 (2) (o)	340-41-245 (2) (p)
Umpqua	340-41-285 (2) (o)	340-41-285 (2) (p)
South Coast	340-41-325 (2) (o)	340-41-325 (2) (p)
Rogue	340-41-365 (2) (o)	340-41-365 (2) (p)
Willamette	340-41-445 (2) (o)	340-41-445 (2) (p)
Sandy	340-41-485 (2) (o)	340-41-485 (2) (p)
Hood	340-41-525 (2) (o)	340-41-525 (2) (p)
Deschutes	340-41-565 (2) (o)	340-41-565 (2) (p)
John Day	340-41-605 (2) (o)	340-41-605 (2) (p)
Umatilla	340-41-645 (2) (o)	340-41-645 (2) (p)
Walla Walla	340-41-685 (2) (o)	340-41-685 (2) (p)
Grande Ronde	340-41-725 (2) (o)	340-41-725 (2) (p)
Powder	340-41-765 (2) (o)	340-41-765 (2) (p)
Malheur River	340-41-805 (2) (o)	340-41-805 (2) (p)
Owyhee	340-41-845 (2) (o)	340-41-845 (2) (p)
Malheur Lake	340-41-885 (2) (o)	340-41-885 (2) (p)
Goose and Summer Lakes	340-41-925 (2) (o)	340-41-925 (2) (p)
Klamath	340-41-965 (2) (o)	340-41-965 (2) (p)



# A CHANCE TO COMMENT ON...

## WATER QUALITY STANDARDS

Date Prepared: 5/28/86  
Hearing Dates: Noted below  
Comments Due: 8/1/86

- WHO IS AFFECTED: All businesses, residents, industries and local government in the state of Oregon.
- WHAT IS PROPOSED: The Department proposes to amend the Antidegradation Policy, the Mixing Zone Policy, and the standards for Toxic Substances as contained in the Oregon Water Quality Standards Chapter 340, Division 41.
- WHAT ARE THE HIGHLIGHTS: The Department of Environmental Quality recently conducted its triennial review of the Water Quality Standards. During this review, the public suggested modifications and additions to the current water quality standards. At the July 17, 1985, Environmental Quality Commission meeting, the Commission directed the Department staff to prepare issue papers dealing with potential rule amendments for the following:
- a) Antidegradation Policy: Include reference to State Scenic Waterways, and more specific protection of existing uses.
  - b) Mixing Zone Policy: Expand criteria for defining mixing zones for point source discharge.
  - c) Dissolved Chemical Substances: Update the standards to include hardness factors and incorporate the most recent EPA criteria.
  - d) Pesticides and Other Organic Toxic Substances: Update the standards to reflect the latest scientific and technical information.

These issue papers were presented at the June 13, 1986 EQC meeting. The Commission directed the Department to conduct public hearings on the proposed rule amendments presented in the issue papers. The public is invited to comment on the proposed rule amendments, suggest alternatives, or provide information on potential fiscal and economic impact.



P.O. Box 1760  
Portland, OR 97207

8/16/84

### 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: Public Hearings Schedule

- Portland — July 21, 1986 at 9:00 am  
DEQ Conference Room (1400)  
14th Floor, 522 SW 5th St. Portland, OR
- Eugene — July 21, 1986 at 7:00 pm  
Lane County Courthouse  
South Harris Hall  
Public Service Building  
125 E. 8th Avenue  
Eugene, OR
- Medford — July 22, 1986 at 1:00 pm  
Jackson County Courthouse Auditorium  
10 S. Oaksdale, Medford, OR
- Bend — July 23, 1986 at 1:00 pm  
City Council Chamber, City Hall  
710 NW Wall St, Bend OR
- La Grande — July 24, 1986 at 6:30 pm  
Room 309, Hoke Hall,  
Eastern Oregon State College  
8th and "K": Avenue, La Grande, OR

A Department staff member will be appointed to preside over and conduct the hearings. Written comments should be sent to:

Department of Environmental Quality  
Water Quality Division  
P. O. Box 1760  
Portland, OR 97207

The comment period will end on Friday August 8, 1986 at 5:00 p.m.

For more information or copies of the Department issue papers, contact Ms Krystyna Wolniakowski at 229-6018 or toll-free 1-800-452-4011.

WHAT IS THE  
NEXT STEP:

After the public testimony has been received and evaluated, the proposed amendments will be revised as appropriate, and will be presented to the Environmental Quality Commission in the Fall of 1986 for their consideration. The Commission may adopt rule amendments as proposed, adopt modified rule amendments, or decline to adopt rule amendments and take no further action.

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 rules.

(1) Legal Authority

ORS 468.735 provides that the Commission by rule may establish standards of quality and purity for waters of the state in accordance with the public policy set forth in ORS 468.710. ORS 183.545 requires a review every three years of state agency administrative rules to minimize the economic effect these rules may have on businesses. ORS 193.550 requires, among other factors, that public comments to be considered in the review and evaluation of these rules.

(2) Need For Rule

The Environmental Quality Commission, at its July 19, 1985 meeting, directed the Department to prepare issue papers pertaining to potential rule amendments to the antidegradation policy, mixing zone policy, and toxic substances standards, after the public requested a review of these standards specifically. At the June 13, 1986 EQC meeting, the Commission authorized the Department staff to hold hearings on the proposed rule amendments and to consider public testimony in developing final rule amendments.

Options described in the issue papers will be presented to the Commission after all public testimony has been received. Adoption of proposed rule amendments, modification of those amendments or no action may be taken by the Commission after the hearing record has been evaluated.

(3) Principal Documents Relied Upon in this Rulemaking

Clean Water Act amended in 1981.

Federal Register, Vol. 48, No. 217, November 8, 1983, Water Quality Standards Regulation.

Federal Register, Vol. 45, No. 231, November 28, 1980, Water quality Criteria Documents; Availability.

Federal Register, Vol. 50, No. 145, July 29, 1985, Water Quality Criteria; Availability of Documents.

Quality Criteria for Water, 1976, EPA.

Water Quality Standards Handbook, December 1983, EPA.

Technical Support document for Water Quality-based Toxics Control,  
September 1985, EPA.

Agenda Item No. F June 13, 1986, EQC Meeting: Request for  
authorization to conduct public hearings on proposed amendments to the  
Water Quality Standards Regulation, OAR 340, Chapter 41:  
Antidegradation Policy, Mixing Zone Policy, and Toxic Substances  
Standards.

ORS 468.735, 468.710, 183.545, and 183.550.

FISCAL AND ECONOMIC IMPACT

Adoption and implementation of the proposed revisions to water quality standards could result in increased costs to local governments, small businesses, and individuals for treatment and control of point and non-point source wastes. Specifically, increased costs for wastewater treatment could be incurred by municipalities, private utilities, and industries to reduce toxic substances loading to surface waters, or to provide specific outfall designs to minimize impacts on beneficial uses. These costs could break down into two categories: (1) capital construction costs for advanced wastewater treatment facilities to improve toxic substance removal, or build or extend outfalls into areas of minimal impact, and (2) increased operating costs.

In addition, increased costs could be incurred by a wide range of individuals and governmental entities for the improvement of management practices. These costs would relate to improving management practices to better control non-point sources to prevent degradation of water quality and maintain and protect all designated beneficial uses in agricultural, forest harvest, and urban areas.

In summary, the fiscal and economic impacts are not well defined. Public comment on any fiscal and economic impact is welcome and may be submitted in the same manner as indicated for the testimony on this notice.

LAND USE CONSISTENCY

The Department has concluded that the proposal conforms with Statewide Planning Goals and Guidelines.

Goal 6 (Air, Water, and Local Resource Quality): The proposed revisions to the water quality standards are designed to more clearly protect and maintain water quality statewide.

Goal 11 (Public Facilities and Services): To attain compliance with the revised standards, additional costs for capital improvements and operation of wastewater treatment facilities may be incurred depending on which revisions may be adopted and on the specific water body. Additional planning to insure timely, orderly and efficient arrangement or construction of facilities to provide needed level of treatment to meet the standards may be required in certain cases.

Goal 19 (Ocean Resources): The proposed revisions are designed to protect and maintain water quality in nearshore and estuarine waters.

The rules do not appear to conflict with other Goals.

Public comment on any land use issue involved is welcome and may be submitted in the same manner as indicated for testimony in this notice. It is requested that local, state, and federal agencies review the proposed action and comment on possible conflicts with their 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 and federal authorities.

## PROPOSED RULE AMENDMENTS

Antidegradation Policy

If the public and EPA suggestions were incorporated into the anti-degradation policy, the following modifications would be necessary. The underlined phrases are new proposed language additions, or in some cases replacements of bracketed phrases:

340-41-026(1)(a) " Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

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, important and justifiable economic or social development.

The Director or [his] a designee may allow lower water quality on a short-term basis in order to respond to emergencies or to otherwise protect public health and welfare.

In no event, however, may degradation of water quality interfere or become injurious to the beneficial uses of water within surface waters of the following areas: (A) National Parks; (B) National Wild and Scenic Rivers; (C) National Wildlife Refuges; (D) State Parks; (E) State Scenic Waterways; and (F) other state designated exceptional waters of ecological or recreational significance.

The Department shall not approve any activities where it is determined that a series of temporary disturbances to water quality in the same stream system may cumulatively affect the beneficial uses in high quality and outstanding quality waters of the state.

## Mixing Zones

Two similar versions of a revised mixing zone policy have been proposed. Version A (C) includes factors to consider in defining appropriate mixing zones, while version B (C) only refers to the factors that may be used in defining appropriate mixing zones. This proposed language is intended to replace the current mixing zone policy for each basin. (Shown in brackets). Rule references are included as a footnote (\*).

### [340-41- \_ (4) Mixing Zones:

- (a) The Department may suspend the applicability of all or part of the water quality standards set forth in this rule, except those standards relating to aesthetic conditions, within a defined immediate mixing zone of specified and appropriately limited size adjacent to or surrounding the point of waste water discharge.
- (b) The sole method of establishing such mixing zones shall be by the Department defining same in a waste discharge permit.
- (c) In establishing mixing zones in a waste discharge permit, the Department:
  - (A) May define the limits of the mixing zone in terms of distance from the point of the waste water discharge or the area or volume of the receiving water or any combination thereof;
  - (B) May set other less restrictive water quality standards to be applicable in the mixing zone in lieu of the suspended standards;
  - (C) Shall limit the mixing zone to that which in all probability will:
    - (i) Not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and
    - (ii) Not adversely affect other beneficial uses disproportionately.]

## VERSION A

### 340-41- (4) MIXING ZONES

- (a) "The Department may allow a defined portion of a stream to serve as a zone of initial dilution for wastewaters and receiving waters to mix."



- (b) "The Department may suspend all or part of the water quality standards, or set less restrictive standards in the mixing zone. However, the water quality in this zone must preserve aesthetic conditions at all times and not adversely affect designated beneficial uses. Water quality standards must be met at the mixing zone boundary even at lowest stream flow conditions."
- (c) "Based on the evaluation of the following factors, the Department shall assign a mixing zone in the immediate area of a waste water discharge on a case-by-case basis in the waste water discharge permit. Mixing zone location, surface area, and volume may be defined by the Department after consideration of the following:

1) Receiving Water Characteristics

Hydrologic Factors: Seasonal low flow rates, current direction and velocity, depths, width, channel morphology, groundwater aquifers, tidal fluctuations, and shoreline configuration.

Water Quality Factors: Conductivity, pH, alkalinity, temperature, dissolved oxygen, salinity, nutrients, toxics, and other chemical constituents that may be present in effluents.

Biological Factors: Resident and migratory fish populations, migratory passage requirements, aquatic community composition, sensitive or critical habitat (nursery or spawning, wetland or shellfish harvest areas.)

2) Effluent Characteristics

Effluent Discharge: Discharge rates and volume, dilution water volume available, and frequency of discharge.

Effluent Composition: Individual contaminant concentrations, total contaminant concentrations and mass loading to receiving streams.

Effluent Effects: Potential synergistic effects with other pollutants in receiving stream.

3) Outfall Design and Placement

Evaluate the most technically feasible engineering design for an outfall to be located in an area of sufficient current and minimum effect on water quality, public health, and aquatic resources. No exposed outfalls will be permitted.

(d) The mixing zone shall:

- 1) be as small as feasible;
- 2) be less than the total stream width as necessary to allow passage fish and other aquatic organisms;
- 3) not measurably affect the indigenous biological community especially when important species are present;
- 4) not threaten public health;
- 5) not adversely affect other designated beneficial uses; and
- 6) be free of:

\*Materials in concentrations that will cause acute (96HLC50) or chronic toxicity to aquatic life

\*Materials that will settle to form objectionable deposits.

\*Floating debris, oil, scum, or other materials that cause nuisance conditions.

\*Substances in concentrations that produce objectionable color, odor, taste or turbidity.

\*Substances in concentrations that produce nuisance aquatic growth.

(e) "The Department may request the applicant for a permitted discharge for which a mixing zone is required, to submit all information necessary to define a mixing zone, such as:

- 1) Type of operation to be conducted
- 2) Characteristics of the effluent flow rates and composition
- 3) Characteristics and low flows of receiving waters
- 4) Description of potential environmental effects
- 5) Proposed design for outfall structures."

(f) "The Department may, as necessary, require mixing zone monitoring studies and/or bioassays to be conducted at any time to evaluate water quality or biological status within and outside the mixing zone boundary."

(g) "The Department may change a mixing zone designation or outfall location if it determine that the water quality within the mixing zone unreasonably and measurably affect any existing or potential beneficial uses in the receiving waters."

VERSION B

340-41- (4) MIXING ZONES

(a) "The Department may allow a defined portion of a stream to serve as a zone of initial dilution for wastewaters and receiving waters to thoroughly mix."

- (b) "The Department may suspend all or part of the water quality standards, or set other less restrictive standards in the defined mixing zone. However, the water quality in this zone must preserve aesthetic conditions at all times and must not adversely impair any designated beneficial uses. Water quality standards must be met at the mixing zone boundary even under lowest flow conditions.
- (c) "In determining the location, surface area, and volume of a mixing zone area, the Department may refer to appropriate mixing zone guidelines to assess the biological, physical, and chemical character of receiving waters and effluent and the placement of the outfall, whenever necessary to protect instream water quality, public health, and other beneficial uses. Based on receiving water and effluent characteristics, the Department shall assign a mixing zone in the immediate area of waste water discharge on a case-by-case basis in the waste water discharge permit.
- (d) The mixing zone shall:
- 1) be as small as feasible;
  - 2) be less than the total stream width as necessary to allow passage fish and other aquatic organisms;
  - 3) not measurably affect the indigenous biological community especially when important species are present;
  - 4) not threaten public health;
  - 5) not adversely affect other designated beneficial uses; and
  - 6) be free of:
    - \*Materials in concentrations that will cause acute (96HLC50) or chronic toxicity to aquatic life
    - \*Materials that will settle to form objectionable deposits.
    - \*Floating debris, oil, scum, or other materials that cause nuisance conditions.
    - \*Substances in concentrations that produce objectionable color, odor, taste or turbidity.
    - \*Substances in concentrations that produce nuisance aquatic growth.
- (e) "The Department may request the applicant for a permitted discharge for which a mixing zone is required, to submit all information necessary to define a mixing zone, such as:
- 1) Type of operation to be conducted
  - 2) Characteristics of the effluent flow rates and composition
  - 3) Characteristics and low flows of receiving waters
  - 4) Description of potential environmental effects
  - 5) Proposed design for outfall structures."

- (f) "The Department may, as necessary, require mixing zone monitoring studies and/or bioassays to be conducted at any time to evaluate water quality or biological status within and outside the mixing zone boundary."
- (g) "The Department may change a mixing zone designation or outfall location if it determine that the water quality within the mixing zone unreasonably and measurably affect any existing or potential beneficial uses in the receiving waters."

\* RULE REFERENCES BY BASIN

<u>Basin</u>	<u>Mixing Zone Rules</u>
North Coast	340-41-205 (4)
Mid Coast	340-41-245 (4)
Umpqua	340-41-285 (4)
South Coast	340-41-325 (4)
Rogue	340-41-365 (4)
Willamette	340-41-445 (4)
Sandy	340-41-485 (4)
Hood	340-41-525 (4)
Deschutes	340-41-565 (4)
John Day	340-41-605 (4)
Umatilla	340-41-645 (4)
Walla Walla	340-41-685 (4)
Grande Ronde	340-41-725 (4)
Powder	340-41-765 (4)
Malheur River	340-41-805 (4)
Owyhee	340-41-845 (4)
Malheur Lake	340-41-885 (4)
Goose and Summer Lakes	340-41-925 (4)
Klamath	340-41-965 (4)

PROPOSED REVISION OF LANGUAGE FOR TOXIC SUBSTANCES

The following language is proposed to replace "Pesticides and Other Organic Toxic Substances" and Dissolved Chemical Substances" with a standard on "Toxic Substances" for each basin. Rule references for each basin are included as a footnote (\*). Total dissolved solids concentrations will remain the same for each basin.

["Pesticides and other organic toxic substances shall not exceed those criteria contained in the 1976 edition of the EPA publication "Quality Criteria for Water". These criteria shall apply unless supporting data shows conclusively that beneficial uses will not be adversely affected by exceeding a criterion by a specific amount or that a more stringent criterion is warranted to protect beneficial uses."]

["Dissolved Chemical Substances: Guide concentrations listed below shall not be exceeded unless otherwise specifically authorized by DEQ upon such conditions as it may deem necessary to carry out the general intent of this plan to protect the beneficial uses set forth in rule 340-41-202: (mg/l)

(A)	Arsenic(As)	0.01
(B)	Barium(Ba)	1.0
(C)	Boron(Bo)	0.5
(D)	Cadmium(Cd)	0.003
(E)	Chromium(Cr)	0.02
(F)	Copper(Cu)	0.005
(G)	Cyanide(Cr)	0.005
(H)	Fluoride(F)	1.0
(I)	Iron(Fe)	0.1
(J)	Lead(Pb)	0.05
(K)	Manganese(Mn)	0.05
(L)	Phenols(total)	0.001
(M)	Total Dissolved Solids-Columbia River	500
(N)	Total Dissolved Solids - other	100
(O)	Zinc(Zn)	0.01"]

340-41- (2)(p) Toxic Substances

- (a) Toxic substances shall not be present in the waters of the state at levels which are or may become injurious to public health, safety, or welfare; aquatic life; or other designated beneficial uses.
- (b) Levels of toxic substances shall not exceed the most recent criteria values for organic and inorganic pollutants established by EPA and published in Quality Criteria for Water (1976), and the Federal Register (November 28, 1980, V. 45, No. 231, p. 79319; July 29, 1985, V. 50, No. 145, p. 30784).
- (c) These criteria shall apply unless data from scientifically valid studies show conclusively that beneficial uses will not be adversely affected by exceeding a criterion by a specific amount or that a more restrictive criterion is warranted to protect beneficial uses.

- (d) Bio-assessment studies shall be conducted, as the Department deems necessary, to monitor the toxicity of complex effluents or other suspected toxic discharges to aquatic life. If toxicity occurs, the Department shall consider measures necessary to reduce toxicity through permit modification.

\* RULE REFERENCES BY BASIN

<u>Basin</u>	<u>Dissolved Chemical Substances</u>	<u>Pesticides</u>
North Coast	340-41-205 (2) (o)	340-41-205 (2) (p)
Mid Coast	340-41-245 (2) (o)	340-41-245 (2) (p)
Umpqua	340-41-285 (2) (o)	340-41-285 (2) (p)
South Coast	340-41-325 (2) (o)	340-41-325 (2) (p)
Rogue	340-41-365 (2) (o)	340-41-365 (2) (p)
Willamette	340-41-445 (2) (o)	340-41-445 (2) (p)
Sandy	340-41-485 (2) (o)	340-41-485 (2) (p)
Hood	340-41-525 (2) (o)	340-41-525 (2) (p)
Deschutes	340-41-565 (2) (o)	340-41-565 (2) (p)
John Day	340-41-605 (2) (o)	340-41-605 (2) (p)
Umatilla	340-41-645 (2) (o)	340-41-645 (2) (p)
Walla Walla	340-41-685 (2) (o)	340-41-685 (2) (p)
Grande Ronde	340-41-725 (2) (o)	340-41-725 (2) (p)
Powder	340-41-765 (2) (o)	340-41-765 (2) (p)
Malheur River	340-41-805 (2) (o)	340-41-805 (2) (p)
Owyhee	340-41-845 (2) (o)	340-41-845 (2) (p)
Malheur Lake	340-41-885 (2) (o)	340-41-885 (2) (p)
Goose and Summer Lakes	340-41-925 (2) (o)	340-41-925 (2) (p)
Klamath	340-41-965 (2) (o)	340-41-965 (2) (p)

ADDENDUM TO AGENDA ITEM NO. H Additional language changes for  
Antidegradation and Toxic Substances.

The Department requests the Environmental Quality Commission to consider amending Agenda Item No. H to include the following language changes. Please delete language in brackets and insert underlined language.

Antidegradation

1. pp. A-6, F-1 Please add the following sentence at the end of paragraph 2.

Water quality, however, may not be degraded to less than is necessary to fully protect all designated beneficial uses.

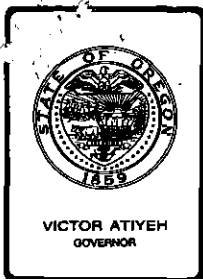
2. pp. A-7, F-1 Please change paragraph 4 to clarify special protection for outstanding waters of the state.

[In no event, however, may degradation of water quality interfere or become injurious to the beneficial uses of water] Existing water quality shall be maintained and protected within surface waters of the following areas: . . .

Toxic Substances

3. pp A-27(b), F-7(b) Please add these references for dioxin and the EPA drinking water standards.

February 15, 1984, v. 49 No. 32 p. 5831, 40 CFR Parts 141-143, 1985.



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item I, June 13, 1986, EQC Meeting

Request for authorization to conduct a Public Hearing on proposed revisions to "Spills and Other Incidents" Rules OAR 340-108-001 through 340-108-021; Proposed Revision to Hazardous Waste Management Schedule of Civil Penalties Rule OAR 340-12-068; and Proposed Adoption of Additional Oil and Hazardous Material Cleanup Rules OAR 340-108-030, -050, -060 and -070.

### Background

As a result of critiquing a number of major oil and hazardous materials spills over the last several years, a number of needed improvements to local/state emergency response capability were identified. The most important of these were:

- 1) Lack of initial and followup hazardous materials training for most first responders.
- 2) Lack of adequate equipment, including personal safety protection equipment, to contain and control major releases of chemically hazardous materials.
- 3) Incompatible or insufficient field communications equipment. Also, the lack of a dedicated radio frequency that could be used during hazardous material emergencies.
- 4) Lack of a state cleanup fund to use when a responsible party couldn't be identified or the responsible party failed to take a timely or appropriate spill cleanup action.
- 5) Inadequate authority to require notification and cleanup of spills of oil and other petroleum products on land where waters of the state were not immediately polluted or threatened.
- 6) Absence of a strict liability without regard to fault standard for persons spilling or releasing oil or hazardous material into the environment.



To address these and other deficiencies, the Department introduced House Bill 2146 during the 1985 Legislative session. After considerable debate, House Bill 2146 was passed and is currently codified as ORS 466.605 to 466.690. Principal features of House Bill 2146 were:

- 1) Requires the Environmental Quality Commission to adopt an oil and hazardous material emergency response master plan (currently under development by Department staff - will be brought before the Commission later this year).
- 2) Broadened definition of hazardous material for purposes of using the spill cleanup fund to include radioactive materials and waste and communicable disease agents and gives the Commission authority to designate additional hazardous materials.
- 3) Gives the Commission authority to establish an amount of oil or hazardous material which if spilled or released, must be reported.
- 4) Gives the Department expanded authority to require cleanup, or in the absence of a timely and appropriate cleanup, to conduct a cleanup.
- 5) Gives the Department expanded authority to recover costs, and in the case where a person does not make a good faith effort to cleanup; for the Department to seek treble damages.
- 6) Creates an Oil and Hazardous Material Emergency Response and Remedial Action fund separate and distinct from the general fund (only \$26,000 of general funds were initially appropriated to the fund although up to \$2.5 million from the Petroleum Violation Escrow fund, if not obligated by federal requirements to existing energy programs, may also be deposited to the account).
- 7) Lastly, any civil penalties assessed for violation of these expanded authorities shall also be directed to the fund.

In order to fully implement the expanded authority, modification to existing spill rules in OAR 340- Division 108 are needed. Over the last two months, the Department has been working informally with Oregon Department of Energy, Health Division, industry and environmental interests to develop modifications to existing spill cleanup rules. In addition, two preliminary drafts of the proposed rules have been circulated in-house to our regional offices, the Water Quality Division and Regional Operations. We have reached a point, where a public hearing is appropriate and are requesting authority to hold it on Monday, June 23, 1986 at 1:00 p.m. in Room 1400 at 522 S.W. 5th Street in Portland. Following the public hearing, we expect to bring proposed rules back to you on July 25, 1986 for adoption after having considered the public testimony.

Discussion

The Department proposes to amend OAR 340- Division 108 to incorporate new authority and/or wording from ORS 466.605 to 466.690. The most significant changes are as follows:

OAR 340-108-001 (3) and (4): Purpose and Applicability

The previous wording of OAR 340-108-001(3) implied, albeit unintentionally, that a hazardous waste generator or treatment, storage or disposal facility operator had only to comply with their contingency plan and emergency procedures rather than their contingency plan, emergency procedures and the cleanup provisions in OAR Chapter 340- Division 108. The revisions are intended to make it clear that in addition to complying with their contingency plan and emergency procedures, they must also comply with the cleanup requirement of this Division.

OAR 340-108-002: Definitions

The proposed changes in definitions largely reflect new language in the statutes. We propose to add an interpretation of "having control over any oil or hazardous material" to include, among other things, owning land upon which oil or hazardous material has been spilled or released. Although, it hasn't been a significant problem in the past, and may be unlikely in the future, we believe it's essential to avoid the circumstance where a landowner could delay a needed cleanup by refusing the necessary access to the responsible party or the Department. By interpreting "having control over" to include owning the land upon which oil or hazardous material has been spilled, the uncooperative landowner becomes liable for the cleanup. An exemption from strict liability is provided for those landowners who do not refuse access and have no reason to suspect a spill or release of oil or hazardous material will occur.

We also find in this section the definitions for oil and hazardous material. The definition for oil is directly from the statute and is consistent with the current definition in OAR 340- Division 47. The definition for hazardous material is from ORS 466.605 except that we've made specific reference to EPA's list of hazardous substances in 40 CFR Part 302 and any amendments thereto up to July 1, 1986. Although the Commission has the authority to designate additional materials as hazardous, we believe the current listing is quite comprehensive and we are not proposing any additions at this time.

We have also included the definition of reportable quantity and again it is consistent with the statutory definition, except that we have added the following clarifications:

- a) For hazardous substances, reference is made to 40 CFR Part 302 current through July 1, 1986.

- b) For hazardous wastes, we have retained the current levels in existing Division 108 (previously codified as OAR 340-100-020(2)(c)(A).
- c) For spills or releases from underground tanks, the current reportable quantity criteria doesn't readily apply (i.e., visible oil slick or quantity in pounds) because groundwater is not easily observed and no accurate records of loss may be available. Consequently, a new criteria has been developed to approximate the level of reporting required by the visible oil slick standard. The proposed criteria for spills or releases from an underground tank is any quantity of oil or hazardous material that results in soil contamination exceeding 100 milligrams per kilogram (ppm). Laboratory tests have shown that for oil and similar petroleum products that is a concentration that would not result in a visible oil slick if the contaminated soil were placed in water.
- d) Except for the release from an underground tank, the quantity determination is to be made prior to the spill or release mixing with any other material.
- e) The reportable quantity also applies to mixtures or solutions of hazardous substances or listed hazardous wastes as opposed to just the hazardous constituent of a mixture or solution. This is a significantly more stringent standard than EPA, since EPA calculates their determination on the quantity of hazardous constituent. For example, PCB is reportable at 10 pounds under 40 CFR - Part 302 and this Division. However, a mixture containing 50% PCB and 50% solvent is reportable at 20 pounds under federal rules (since only half the mixture is PCB) while under these proposed rules, we would expect a 10 pound spill of the mixture to be reported.

OAR 340-108-010: Liability

Incorporates language directly from ORS 466.205, .640, .645 and .680.

OAR 340-108-020: Emergency Action, Reporting

Clarifies the conditions under which de minimis losses from manufacturing or production operations do not have to be reported as a spill or release (cleanup is still required).

OAR 340-108-030: Cleanup Standards

Incorporates proposed cleanup standards for PCBs, hazardous wastes and other hazardous materials. Cleanup provisions for oil are already covered

in OAR 340 - Division 47. Under the "Alternatives and Evaluation" section is a more complete discussion of the alternative approaches on which we will be asking for public comments.

OAR 340-108-040: Cleanup Report

No changes to existing wording.

OAR 340-108-050 and -060: Sampling/Testing Procedures, References

Reference to existing sampling and testing procedures and where copies of federal documents referred to in the rules can be inspected.

OAR 340-108-070: Information Requests/Inspections

Incorporation of the information requests/inspection requirements of ORS 466.660. Addition of reference to Oregon's public records law in ORS 192.500.

OAR 340-12-068: Civil Penalties

Expansion of the existing Hazardous Waste Management Schedule of Civil Penalties to include violation of the above oil and hazardous material regulations.

Alternatives and Evaluation

With few exceptions as will be discussed below, the proposed changes are intended to modify the wording in existing OAR 340- Division 108 to be consistent with the underlying statutes ORS 466.205 and 466.605 to .690. To the degree that consistency is achieved, there will be less confusion for the regulated community as to the Department's and Commission's expectations.

The following rules, however, are added to clarify the Department's and Commission's requirements:

OAR 340-108-002(14)(a)(f): Definitions

Because of industries' increasing concern over liability from spills or releases from underground tanks, a number of tanks are being voluntarily removed from service. Where leaks are apparent, there has been confusion over the reporting requirement since it is not always possible to make an accurate determination of lost product resulting from slow leaks over a long period of time. This is particularly the case where no inventory records were maintained. For petroleum products, the visible oily slick standard cannot normally be applied unless the groundwater table is exposed at the time of the tank's removal. Recent work by our laboratory, however,

suggests that the proposed standard of 100 milligrams per kilogram of soil contamination is a conservative approximation of the visible oil slick standard currently applied to spills or releases into surface waters.

In lieu of adopting a rule at this time, the Department could use this proposed rule as a guideline, gain some actual experience, and propose this or a similar rule in several months when we plan to come before the Commission with proposal implementing House Bill 2142 relative to underground tanks. Because of the apparent number of removals continuing to occur, as a result for the federal notification requirements, we are proposing to move forward with this new concept at this time.

OAR 340-108-002(14)(c) and (14)(d): Definitions

The Department is proposing these two rules because of numerous inquiries as to the circumstance under which a report is due. The alternative to making a determination of the amount prior to mixing is to make the determination after mixing in which case the weight of the mixing medium (soil, sawdust, etc.) is included. The Department believes that this type of an approach would dramatically increase the number of reported spills for no environmental benefit. In developing the quantity determinations, the Department and EPA have made judgments on the hazardous characteristics of the materials (handling hazardous (i.e., fire, explosion, chemical skin burn, etc.) versus toxicity hazardous (i.e., persistence, bioaccumulation, cancer causing, reproductive effects, etc.)); the likelihood of harm if an exposure occurs, persistence of materials, etc. We believe that spills or releases below the amounts specified do not require the Department's direct involvement to direct cleanup. Even if not cleaned up, although the duty to clean up is still there even if not reported, we believe the public health and environmental risks are low at the levels proposed.

The disadvantage of listing substance by name is that only pure substances tend to carry that particular name. More common in commerce are mixtures and solutions containing various concentrations of hazardous constituents. An alternative to our proposed rule is to calculate the reportable quantity based on the hazardous constituent not the quantity of the mixture or solution. EPA has taken this type of an approach principally because of their lack of staff to respond to all but the most serious spills. Although our resources are also limited, the potential public health and environmental risks posed by mixtures and solutions is important enough to require reporting spills of mixtures and solutions.

OAR 340-108-030: Cleanup Standards

For the purpose of the public hearing, the Department is setting forth three approaches to the question of how clean is clean and asking for comment on which approach should be adopted. The first approach sets out numeric standards based on our judgment of probable risk and attainable cleanup levels that are easily verified through standard field sampling and

laboratory testing procedures. Since most local and state agencies handle spills and releases as an adjunct to other regular duties, it is important to be able to quickly restore a site through cleanup as the best means to protect public health and the environment. We believe approach one adequately balances these considerations.

Approach two is also based on numerical standards but preserves the Department's right to specify a more stringent standard for unusual circumstances of toxicity, routes of exposure, etc. or provides an opportunity for the spiller to argue for a less stringent cleanup standard for circumstances where toxicity may not be an issue or the likelihood of exposure is low.

Approach three treats each circumstance as unique and utilizes the criteria EPA has developed for making long-term remedial action decisions in their Superfund program. The main disadvantage of this approach is the likely delays that may occur while information is being gathered upon which to make a decision. Even delays of several hours can result in the spread of contamination, resulting in increased risk to public health and the environment and increasing the cost of clean up. It clearly is an acceptable approach where time is generally available, it is less acceptable where most parties are anxious for a speedy decision so the work can be completed and life return to normal. The Department is leaning toward approach two unless compelling arguments can be made for one of the other two approaches.

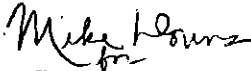
#### Summary

1. House Bill 2146 (now ORS 466.605 to 466.690) significantly strengthened the Department's authority to require cleanup of oil and hazardous material spills and releases or threatened spills and releases.
2. Revisions and additions are proposed to the Department's existing spill rules found in OAR 340- Division 108.
3. Designation of what constitutes a hazardous material, and the reportable quantities for oil and hazardous materials, are found in proposed rule OAR 340-108-002. The Department is not proposing to expand the list of hazardous materials at this time over what is specified in the statute.
4. The Department is proposing that spills and releases of mixtures and solutions of hazardous materials be reported.
5. The Department is proposing to incorporate cleanup standards in the rules and has outlined three different approaches. The Department is seeking comments on the standards themselves, as well as, asking for an indication of which approach should be selected.

6. The Department is proposing that the sampling and testing procedures specified in the existing hazardous waste rules be used in responses to spills and releases.
7. The Department is incorporating the statutory authority for conducting inspections to gather oil and hazardous material information on storage practices. The rule also makes reference to existing state law (ORS 192.500) on trade secrets exempt from disclosure.
8. The Department proposes to modify the Hazardous Waste Management Schedule of Civil Penalties to include violations of these rules.
9. A public hearing is tentatively scheduled for June 23, 1986 at 1:00 p.m in Room 1400 of DEQ's offices.

Director's Recommendation

Based on the summation, it is recommended that the Commission authorize a public hearing to take testimony on proposed revisions to existing spill rules in OAR 340- Division 108.

  
for  
Fred Hansen

- Attachments:
- I. Statement of Need for Proposed Rule and Fiscal and Economic Impact
  - II. Land Use Consistency Statement
  - III. Public Notice of Proposed Rulemaking
  - IV. Proposed Rule
  - V. 40 CFR - Part 302 (Table 302.4)

Richard P. Reiter:b  
229-5774  
May 16, 1986  
ZB5697

Before the Environmental Quality Commission of the State of Oregon

In the Matter of Proposed Revised ) Statement of Need for Proposed  
Rules OAR 340-108-001 through ) Rule and Fiscal and Economic  
340-108-021; Revised Rule OAR 340- ) Impact  
12-068 and Proposed Rules )  
OAR 340-108-030, -050, -060 and 070)

Statutory Authority

ORS 466.205, .640 and .645 require cleanup of spills and releases of oil or hazardous materials, including hazardous substances, hazardous waste, radioactive material and waste and communicable disease agents, and impose strict liability without regard to fault.

ORS 466.020 and .625 direct the Environmental Quality Commission to adopt rules necessary to carry out the cleanup requirements.

Need for the Rule

Approximately 300 spills and releases of oil and hazardous material occur annually in Oregon that require some Department action to advise or direct the cleanup. Persons spilling or releasing oil or hazardous material need to understand their responsibilities including but not limited to:

1. Notification Requirements, including substances of concern and reportable quantities.
2. Liability provisions
3. Cleanup standards
4. Penalty provisions
5. Provisions to make information available on the use, storage or handling of oil and hazardous materials.

Principal Documents Relied Upon

ORS Chapter 466  
ORS Chapter 468  
OAR 340 - Division 12  
OAR 340 - Division 108  
40 Code of Federal Regulation - Part 302  
40 Code of Federal Regulation - Part 260-265



### Fiscal and Economic Impact

Unless and until a spill or release occurs, or a threatened spill or release is likely, these rules impose no costs on responsible parties. When a spill or release occurs, or is likely, the responsible party is strictly liable without regard to fault for cleanup. If the responsible party fails to provide timely and adequate cleanup, the Department may cleanup and seek to recover up to three times its costs. The responsible party may also be subject for damages under general tort liability. Even small spills or releases could cost \$10,000 or more to cleanup and properly dispose of the contaminated debris. Large spills have been known to cost several hundreds of thousands of dollars to cleanup depending on the quantity of product spilled and extent of soil and/or water contamination. Since the spill or release may involve highly toxic material, even small quantities may present serious hazards. Consequently, no provisions are made to relieve any person, including small businesses, from the responsibility to comply. Lastly, civil and criminal penalty provisions may impose monetary fines up to \$10,000 per violation per day.

ZF1051

Attachment II  
Agenda Item I  
6/13/86 EQC Meeting

Before the Environmental Quality Commission of the State of Oregon

In the Matter of Proposed Revised ) Land Use Consistency  
Rules OAR 340-108-001 through )  
340-108-021; Revised Rule OAR 340- )  
12-068 and Proposed Rules OAR )  
340-108-030, -050, -060 and -070. )

The proposed rules do not affect land use as defined in the Department's coordination program approved by the Land Conservation and Development Commission.

ZF1051.A

# A CHANCE TO COMMENT ON...

## Proposed Rules Amending Spill Cleanup Requirements

Date Prepared: 5/13/86  
Hearing Date: 6/23/86  
Comments Due: 6/23/86  
at 5:00 p.m.

- WHO IS AFFECTED:** Person who manufacture, produce, distribute, store, handle, transport or otherwise use oil and hazardous materials; including hazardous substances, radioactive materials and wastes; hazardous waste and communicable disease agents.
- BACKGROUND:** ORS 466.605 to 466.690 revises the State's liability and cleanup standards for spills or releases, or threatened spills or release, of oil and hazardous material. Persons owning or having control over oil or hazardous materials that is spilled or released are strictly liable without regard to fault; must report the spill or release; must cleanup the spill or release and maybe subject to penalties.
- WHAT IS PROPOSED:** Revisions to existing spill cleanup rules in OAR 340 - Division 108; revisions to hazardous waste management schedule of Civil Penalties in OAR 340 - Division 12; and additional rules covering cleanup standards, sampling and testing procedures, incorporations by reference and information requests/inspections.
- WHAT ARE THE HIGHLIGHTS:** New definitions, including:
- o What is a hazardous material
  - o What are the reportable quantity levels
  - o What is a spill or release or threatened spill or release
  - o What does having control over mean
  - o New strict liability without fault requirements
  - o Revised spill reporting requirements
  - o Proposed cleanup standards
  - o Proposed information request and inspection requirements
  - o Triple damages for failure to provide immediate or appropriate cleanup
  - o Provisions for the state to recover its cleanup costs.
- HOW TO COMMENT:** A Public Hearing to receive oral comments is scheduled for:
- Monday June 23, 1986  
1:00 p.m.  
DEQ Portland Headquarters  
522 SW Fifth Avenue  
Room 1400



### 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.

Written comments may be submitted at the Public Hearing or mailed to DEQ, Hazardous and Solid Waste Division, Attention: Richard P. Reiter, P.O. Box 1760 Portland, OR 97207, and must be received by close of business (5:00 p.m.) on June 23, 1986.

**WHAT IS THE  
NEXT STEP:**

After the Public Hearing, DEQ will evaluate the comments, prepare a response to comments and make a recommendation to the Environmental Quality Commission at its regularly scheduled meeting on July 25, 1986. The Environmental Quality Commission may adopt as recommended, amend and adopt, or take no action.

For more information, contact the DEQ's Hazardous and Solid Waste Division at (503) 220-5959. Copies of the proposed rules can be obtained from the Department after June 4, 1986 by calling or writing and asking for "Oil and Hazardous Material Cleanup Rules."

ZF1051.B

DIVISION 108  
HAZARDOUS WASTE MANAGEMENT

Oil and Hazardous Material Cleanup  
[Spills and Other Incidents]

Subdivision A: General

- 340-108-001 Purpose and applicability.
- 340-108-002 Definitions.

Subdivision B: Liability

- 340-108-010 Liability.

Subdivision C: Required Action

- 340-108-020 Emergency action, reporting.
- 340-108-030 Cleanup standards
- 340-108-[021] 040 Cleanup report.
- 340-108-050 Sampling/Testing Procedures
- 340-108-060 References
- 340-108-070 Information requests/inspections

Authority: ORS Chapter 468, including 468.020; [459, including 459.440;] 466, including 466.020, 466.205, 466.625 and 466.630; and 183.

Subdivision A: General

Purpose and applicability.

340-108-001 (1) The purpose of this Division is to specify the emergency procedures required to respond to a spill or [other incident] release or threatened spill or release involving oil or [a] hazardous [waste or hazardous substance] material.

(2) The [regulations] rules of this Division apply to [all] any person[s whose actions cause or allow to be caused] owning or having control over any oil or [a] hazardous [waste or hazardous substance] material spilled or [other incident; except that] released or threatening to spill or release.

(3) Spills or releases or threatened spills or releases of hazardous waste [and other incidents] occurring on the site of a generator [who accumulates hazardous waste or in a hazardous waste treatment, storage or disposal facility] shall be managed in accordance with the contingency plan and emergency procedures required[ments of] by Subparts C and D of 40 CFR 265 and this Division.

(4) Spills or releases or threatened spills or releases of hazardous waste on the site of a hazardous waste treatment, storage or disposal facility shall be managed in accordance with the contingency plan and emergency procedures required by Subparts C and D of 40 CFR Part 265, or a permit issued pursuant to 40 CFR Part 264 and OAR 340- Division 105, and this Division.

(5) [(4)] Oil spilled in an area that may allow it to reach any waters of the state shall [also] be managed in accordance with ORS Chapter 468; [and] OAR Chapter 340-[ , ] Division 47; and this Division.

Definitions.

340-108-002 As used in this Division unless otherwise specified:

(1) "Barrel" means 42 U.S. gallons at 60 degrees Fahrenheit.

(2) "Cleanup" means the containment, collection, removal, treatment or disposal of oil or hazardous material; site restoration; and any investigations, monitoring, surveys, testing and other information gathering required or conducted by the department.

(3) "Cleanup costs" means all costs associated with the cleanup of a spill or release incurred by the state, its political subdivision or any person with written approval from the department when implementing ORS 466.205, 466.605 to 466.690, 466.880 (3) and (4) and 466.995 (3) or 468.800.

(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.

["Disposal" means the discharge, deposit, injection, dumping, spilling, leaking or placing of any hazardous waste or hazardous substance into or on any land or water so that the hazardous waste or hazardous substance or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters of the State.]

(7) "Having control over any oil or hazardous material" includes, but is not limited to, using, handling, processing, manufacturing, storing, or transporting oil or hazardous material, or owning land upon which oil or hazardous material has been spilled or released. Landowners who are not the spiller or releaser of the oil or hazardous material and who are not allowing use of their property for industrial, commercial, agricultural or

similar purposes where oil or hazardous materials is likely to be used, shall not be held strictly liable without regard to fault as long as access for cleanup is allowed in a timely manner.

(8) "Hazardous material" means one of the following:

(a) Hazardous waste as defined in rule 340-100-010, 340-101-032 or 340-101-033.

(b) Radioactive waste and material as defined in ORS 469.300 and 469.530 and radioactive substances as defined in ORS 453.005.

(c) Communicable disease agents as regulated by the Health Division under ORS chapters 431 and 433.

(d) Hazardous substances designated by the United States Environmental Protection Agency in Title 40 Code of Federal Regulations (CFR)-Part 302, and amendments thereto promulgated prior to July 1, 1986.

["Hazardous substance" means any substance intended for use which may also be identified as hazardous pursuant to Division 101.]

["Hazardous waste" means a hazardous waste as defined in rule 340-100-010.]

(9) "Modified Spill Prevention Control and Countermeasure (SPCC) Plan" means the plan to prevent the spill of oil from a non-transportation-related facility that has been modified to include those hazardous substances and hazardous wastes handled at the facility.

(10) "Oil" means oil, including gasoline, crude oil, fuel oil, diesel oil, lubricating oil, sludge, oil refuse and any other petroleum related product.

["Other incident" includes but is not limited to the actual or imminent possibility of a dangerous uncontrolled reaction, the release of leachate, noxious gases or odors, fires, explosion or other disposal which may endanger public health or the environment.]



(11) "Person" means an individual, trust, firm, joint stock company, corporation, partnership, association, municipal corporation, political subdivision, interstate body, the state and any agency or commission thereof and the Federal Government and any agency thereof.

(12) "ppm" means parts per million.

(13) "Remedial Action" means a permanent action taken to prevent or minimize the future spill or release of oil or hazardous material to prevent the oil or hazardous material from migrating and causing substantial danger to present or future public health, safety, welfare or the environment. "Remedial action" includes but is not limited to:

(a) Actions taken at the location of the spill or release such as storage, confinement, perimeter protection using dikes, trenches or ditches, clay cover, neutralization, cleanup of spilled or released oil or hazardous materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavation, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternate water supplies, and any monitoring reasonably required to assure protection of the public health, safety, welfare or the environment.

(b) Offsite transport of oil or hazardous materials.

(c) The storage, treatment, destruction or secure disposal offsite of oil or hazardous material under ORS 466,655.

(14) "Reportable quantity" means one of the following:

(a) The lesser of:

(A) The quantity designated for hazardous substances by the United States Environmental Protection Agency in Title 40 Code of Federal Regulations - Part 302, and amendments thereto promulgated prior to July 1, 1986;

(B) The quantity of hazardous waste, if the amount exceeds the following:

<u>Waste Type</u>	<u>Reportable Quantity (pounds)</u>
<u>Ignitable, 40 CFR 261.21</u>	<u>200</u>
<u>Corrosive, 40 CFR 261.22</u>	<u>200</u>
<u>Reactive, 40 CFR 261.23</u>	<u>200</u>
<u>EP Toxic, 40 CFR 261.24</u>	<u>10</u>
<u>Listed, 40 CFR 261.31 and .32,</u>	<u>10</u>
<u>except those listed as</u>	
<u>acutely hazardous</u>	
<u>Listed, 40 CFR 261.33(e) and</u>	<u>2</u>
<u>those listed as acutely</u>	
<u>hazardous in 40 CFR</u>	
<u>261.31 and .32</u>	
<u>Listed, 40 CFR 261.33(f)</u>	<u>10</u>
<u>Listed, rule 340-101-033</u>	<u>10;</u>

(Comment: For purposes of this rule, "Ignitable" includes the DOT classifications "Flammable," "Oxidizer," and some "Combustible." Also for purposes of this rule, if a hazardous substance listed in 40 CFR Part 302 is spilled or released, or threatens to spill or release, and that substance also meets the definition of hazardous waste in rule OAR 340-100-010, 340-101-032 or 340-101-033, it shall be reported at the quantity specified for a hazardous waste.)

(C) Any quantity of radioactive material, radioactive substance or radioactive waste:

(D) Any quantity of communicable disease agent:

(E) If spilled into surface waters of the state, or escape into surface waters of the state is likely, any quantity of oil that would produce a visible oily slick, oily solids, or coat aquatic life, habitat or property with oil, but excluding normal discharges from properly operating marine engines:

(F) If spilled on the surface of the land, any quantity of oil over one barrel: or

(G) If spilled or released from an underground storage tank and associated piping, any quantity of oil or hazardous material that results in soil contamination exceeding 100 milligrams per kilogram at a distance not to exceed 1.0 foot from any outside surface of the tank or associated piping. At a minimum, samples shall be collected in any area where there are obvious clues of contamination (i.e., discolored or stained soils, odors, organic vapors detectable by portable monitoring equipment, etc.) and any other location, so that representative soil samples are collected.

(b) Ten pounds unless otherwise designated by the commission under ORS 466.625.

(c) Except for Section 14(a)(F) of this rule, the reportable quantity shall be the quantity of oil or hazardous material spilled or released prior to contact or mixing with any other material or substance (i.e., soil, water, sawdust, etc.)

(d) Reportable quantities shall include mixtures or solutions where the hazardous substance from 40 CFR Part 302 or listed hazardous waste from 340-100-010, 340-101-032 or 340-101-033 is present in the mixture or solution of any concentration exceeding 1.0 ppm.

(15) "Respond" or "response" means:

(a) Actions taken to monitor, assess and evaluate a spill or release or threatened spill or release of oil or hazardous material;

(b) First aid, rescue or medical services, and fire suppression; or

(c) Containment or other actions appropriate to prevent, minimize or mitigate damage to the public health, safety, welfare or the environment which may result from a spill or release or threatened spill or release if action is not taken.

[ "Spill" means unauthorized disposal. ]

(16) "SPCC" means Spill Prevention, Control and Countermeasures Plan prepared in accordance with Title 40 Code of Federal Regulations - Part 112 or Part 1510.

(17) "Spill or release" means the discharge, deposit, injection, dumping, spilling, emitting, releasing, leaking or placing of any oil or hazardous material into the air or into or on any land or waters of the state, as defined in ORS 468.700, except as authorized by a permit issued under ORS chapter 454, 459, 468 or 469, ORS 466.005 to 466.385, 466.880 (1) and (2), 466.890 and 466.995 (1) and (2) or federal law or while being stored or used for its intended purpose.

(18) "Threatened spill or release" means oil or hazardous material is likely to escape or be carried into the air or into or on any land or waters of the state.

(19) "Waters of the state" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

Subdivision B: Liability

Liability.

340-108-010 (1) [Any person having the care, custody or control of a hazardous waste or a hazardous substance, who causes or permits the

disposal of that waste or substance in violation of law or otherwise than as reasonably intended for normal use or handling of such waste or substance, including but not limited to spills or other incidents, shall be liable for the damages to person or property, public or private, caused by the disposal.] Any person owning or having control over any oil or hazardous material spilled or released or threatening to spill or release shall be strictly liable without regard to fault for the spill or release or threatened spill or release. However, in any action to recover damages, the person shall be relieved from strict liability without regard to fault if the person can prove that the spill or release of oil or hazardous material was caused by:

(a) An act of war or sabotage or an act of God.

(b) Negligence on the part of the United States Government or the State of Oregon.

(c) An act or omission of a third party without regard to whether any such act or omission was or was not negligent.

(2) [It shall be the obligation of such person to collect, remove or treat the waste or substance immediately, subject to the requirements of Divisions 100 to 108 and such direction as the Department may give.] Any person liable for a spill or release or threatened spill or release under ORS 466.640 shall immediately cleanup the spill or release under the direction of the department. Cleanup shall include taking such containment actions as are necessary to prevent a threatened spill or release from becoming an actual spill or release. The department may require the responsible person to undertake such investigations, monitoring, surveys, testing and other information gathering as the department considers necessary or appropriate to:

(a) Identify the existence and extent of the spill or release or threatened spill or release;

(b) Identify the source and nature of oil or hazardous material involved; and

(c) Evaluate the extent of danger to the public health, safety, welfare or the environment.

(Comment: 40 CFR 264.1(g) states that a hazardous waste management facility permit is not required for treatment or containment activities taken during immediate response to a spill or [other incident] release of a hazardous waste.)

(3) [If such person fails to collect, remove or treat the waste or substance when under an obligation to do so, the Department will take action as is necessary to collect, remove or treat the waste or substance.] If any person liable under ORS 466.640 does not immediately commence and promptly and adequately complete the cleanup, the department may cleanup, or contract for the cleanup of the spill or release or the threatened spill or release of oil or hazardous material.

(4) The Department will keep a record of all necessary expenses incurred in carrying out any cleanup projects or activities, including reasonable charges for services performed and equipment and materials utilized.

(5) Any person who fails to cleanup [collect, remove or treat the waste or substance] oil or hazardous material immediately, when under an obligation to do so, shall be responsible for the [necessary] reasonable expenses incurred by the [State] Department in carrying out a cleanup project or activity authorized by the Department.

(6) Any person who does not make a good faith effort to clean up oil or hazardous material when obligated to do so under ORS 466.645 shall be liable to the department for damages not to exceed three times the amount of all expenses incurred by the department.

(7) [(6)] If the amount of state-incurred expenses are not paid by the responsible person to the Department within 15 days after receipt of notice that expenses are due and owing, the Attorney General, at the request of the Department, shall bring an action in the name of the State of Oregon in any court of competent jurisdiction to recover the amount specified in the final order of the Department.

(8) The expenditures covered by this section shall constitute a general lien upon the real and personal property of the person under an obligation to collect, remove or treat the hazardous waste or substance described in section (2) of this rule.

(9) Within seven days after the department begins any cleanup activities under sections (3) and (4) of this rule, the department shall file a notice of potential lien on real property to be charged with a lien under section (8) of this rule with the recording officer of each county in which the real property is located and shall file a notice of potential lien on personal property to be charged with a lien under section (8) of this rule with the Secretary of State. The lien shall attach and become enforceable on the day on which the state begins the clean up projects or activities authorized by section (3) of this rule if within 120 days after such date, the state files a notice of claim of lien on real property with the recording officer of each county in which the real property charged with the lien is located and files a notice of claim of lien on personal property with the Secretary of State. The notice of lien claim shall contain:

(a) A true statement of the demand;

(b) The name of the parties against whom 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 perform the cleanup or disposal as required.

(10) The lien created by this rule may be foreclosed by a suit in the circuit court in the manner provided by law for the foreclosure of other liens on real or personal property.

Subdivision C: Required Action

Emergency action, reporting.

340-108-020 In the event of a spill or [other incident] release or threatened spill or release, the person owning or having control [having the care, custody, or control] of the oil or hazardous [waste or hazardous substance] material shall take the following actions, as appropriate:

(1) Report the spill or release or threatened spill or release to the Oregon Emergency Management Division (telephone 800-452-0311) if the amount of oil or hazardous material exceeds, or will exceed, the reportable quantity identified in rule 340-108-002(14).

(2) [(B) Transporters must report spills of any quantity that occur during transportation.] In addition to complying with this Division, transporters of oil or hazardous materials must also report spills or releases [other incidents] to the National Response Center (800-424-8802) as required by 49 CFR 171.15, and, if a water transporter, as required by 33 CFR 153.203;

(3) [(C)] The spill or other incident need not be reported if:



(a) [(i)] It occurs on public or private property and is known to the owner of the property (or his representative);

(b) [(ii)] It occurs on an impervious surface; such as concrete, metal or synthetic plastic that is free of cracks, faulty seams or other flaws or holes and that is compatible with the spilled material; where it is fully contained; [and]

(c) [(iii)] It is completely cleaned up without further incident including fixing or repairing the cause of the spill or release[.]; and

(d) It arises from de minimis losses of oil or hazardous materials from manufacturing operations in which oil or hazardous materials are used as raw materials or are produced in the manufacturing process. De minimis losses include such things as spills from the unloading or transfer of materials from bins or other containers; leaks from pipes, valves or other devices used to transfer materials; minor leaks of process equipment; leaks from well-maintained pump packings and seals; and relief device discharges.

(4) [(1)] Immediately implement the site's SPCC plan, modified SPCC plan or other applicable contingency plan if such a plan is required.

(Comment: Generators accumulating hazardous waste for less than 90 days are required to have a contingency plan prepared in accordance with 40 CFR 262.34.)

(5) [(2)] If an SPCC plan, modified SPCC plan or contingency plan is not otherwise required [by Divisions 100 to 110], immediately take the following actions in the order listed:

(a) Activate alarms or otherwise warn persons in the immediate area;

(b) Undertake every reasonable method to contain the oil or hazardous material [substance or hazardous waste];

(c) [(d)] Undertake, in the most practicable manner, the cleanup [collection, removal or treatment] of the oil or hazardous material [substance or hazardous waste] in accordance with the requirements of Divisions 100 to 110 and in a manner that will minimize damage to the environment. The Department may, in any case, evaluate the action taken and may require additional action to complete the cleanup and disposal.

[(c)(A) Report the spill or other incident to the Oregon Emergency Management Division (telephone 800-452-0311) if the amount of hazardous waste or hazardous substance exceeds the following reportable quantity (in the event a substance or waste falls into more than one category, the lower quantity shall be reported):]

[Substance or <u>Waste Type</u> ]	[Reportable <u>Quantity (pounds)</u> ]
[Ignitable, 40 CFR 261.21]	[200]
[Corrosive, 40 CFR 261.22]	[200]
[Reactive, 40 CFR 261.23]	[200]
[EP Toxic, 40 CFR 261.24]	[10]
[Listed, 40 CFR 261.31 and .32]	[10]
[Listed, 40 CFR 261.33(e)]	[2]
[Listed, 40 CRR 261.33(f)]	[10]
[Listed, rule 340-101-033]	[10]
[PCB, rule 340-110-001(2)]	[10]

[(Comment: "Ignitable" includes the DOT classifications "Flammable," "Oxidizer," and some "Combustible.")]

Cleanup Standards

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OAR 340-108-030 - Approach One

340-108-030(1) If PCBs are spilled or released, the following cleanup standards shall apply unless otherwise approval by the Department:

<u>DEGREE OF PUBLIC ACCESS TO SPILL OR RELEASE SITE</u>	<u>CLEANUP STANDARD</u>
<u>Restricted Area (i.e., inside fenced enclosure such as a utility substation)</u>	<u>equal to or less than 50 ppm</u>
<u>Limited public access (i.e., industrial area, forested area, limited access rights-of-way)</u>	<u>equal to or less than 10 ppm</u>
<u>Unrestricted public access (i.e., residential area, school, park, other public use areas and buildings)</u>	<u>equal to or less than 1 ppm</u>

(2) If a hazardous material is also a hazardous waste as defined by rule 340-100-010, 340-101-032 or 340-101-033, and is spilled or released, the cleanup standard of rule 40 CFR 261.3(d) shall apply.

(3) For all other hazardous materials except those identified by sections 1 and 2 of this rule; and radioactive materials and wastes; and communicable disease agents; the cleanup standard shall be 1.0 ppm if spilled into water, 1.0 milligram per kilogram if spill onto soil or the level of detection whichever is greater unless otherwise approved by the Department.

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OAR 340-108-030 - Approach Two

340-108-030 (1) Except as otherwise required or allowed in section (2) or (3) of this rule, the following cleanup standards shall apply:

(a) If PCBs are spilled or released, the following cleanup standards shall apply unless otherwise approval by the Department:

DEGREE OF PUBLIC ACCESS

TO SPILL OR RELEASE SITE

CLEANUP STANDARD

Restricted Area (i.e., inside \_\_\_\_\_ equal to or less than fenced enclosure such as a \_\_\_\_\_ 50 ppm utility substation)

Limited public access (i.e., \_\_\_\_\_ equal to or less than industrial area, forested area, \_\_\_\_\_ 10 ppm limited access rights-of-way)

Unrestricted public access equal to or less than  
(i.e., residential area, 1 ppm  
school, park, other public  
use areas and buildings)

(b) If a hazardous material is also a hazardous waste as defined by  
rule 340-100-010, 340-101-032 or 340-101-033, and is spilled or released,  
the cleanup standard of rule 40 CFR 261.3(d) shall apply.

(c) For all other hazardous materials except those identified by  
subsections a and b of this rule; radioactive materials and wastes; and  
communicable disease agents; the cleanup standard shall be 1.0 ppm if  
spilled into water, 1.0 milligram per kilogram if spill onto soil or the  
level of detection whichever is greater unless otherwise approved by the  
Department.

(2) If necessary to protect public health, safety, welfare or  
the environment, the Department may require a more stringent standard than  
identified in Section (1) of this rule.

(3) The Department may authorize a cleanup standard less stringent  
than required in section 1 of this rule upon a written demonstration by the  
person liable for cleanup if the public health, safety, welfare and the  
environment can be protected. Applicable criteria listed in 40 CFR 261.11  
shall be considered in the written demonstration.

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OAR 340-108-030 - Approach Three

OAR 340-108-030 The following shall, as appropriate, be assessed in determining whether and what type of cleanup actions will be required:

- (1) Population, environmental and welfare concerns at risk:
- (2) Routes of exposure:
- (3) Amount, concentration, hazardous properties, environmental fate and transport (e.g., ability and opportunities to bioaccumulate, persistence, mobility, etc.), and form of the substance(s) present:
- (4) Hydrogeological factors (e.g., soil permeability, depth to saturated zone, hydrologic gradients, proximity to a drinking water aquifer, floodplains and wetlands proximity):
- (5) Current and potential ground water use (e.g., the appropriate ground water classes under the system established in the EPA Ground-Water Protection Strategy):
- (6) Climate (rainfall, etc.):
- (7) The extent to which the source can be adequately identified and characterized:
- (8) Whether substances at the site may be reused or recycled:
- (9) The likelihood of future releases if the substances remain on-site:
- (10) The extent to which natural or man-made barriers currently contain the substances and the adequacy of the barriers:
- (11) The extent to which the substances have migrated or are expected to migrate from the area of their original location, or new location if relocated; and whether future migration may pose a threat to public health welfare or the environment:

(12) The extent to which State or Federal environmental and public health requirements are applicable or relevant and appropriate to the specific site and the extent to which other State or Federal criteria, advisories, and guidance should be considered in developing the cleanup remedy;

(13) The extent to which contamination levels exceed applicable or relevant and appropriate State or Federal requirements or other State or Federal criteria, advisories, and guidance;

(14) Contribution of the contamination to an air, land, water, and/or food chain contamination problem;

(15) Other appropriate matters may be considered.

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Cleanup Report

340-108-[021] 040 The Department may require the person responsible for a spill or other incident to submit a written report within 15 days of the spill or other incident describing all aspects of the spill and steps taken to prevent a recurrence.

(Comment: Transporters are also required by the Public Utility Commissioner to file a Hazardous Materials Incident Report (DOT Form F5800.0) within 15 days after a spill. A copy of this report may be sent to the Department in lieu of the report required by this rule.)

Sampling/Testing Procedures

340-108-050 The representative sampling procedures and analytical testing protocols referenced in 40 CFR 260.11 shall be used when conducting sampling or testing to comply with this Division.

References

340-108-060 As referenced in this Division, 40 CFR - Part 302 is available for inspection at the Department of Environmental Quality, 522 S.W. Fifth Avenue, Portland, OR 97204. See also OAR 340-100-011 for previous incorporation by reference of other Code of Federal Regulations cited in this Division.

Information Requests/Inspections

340-108-070 (1) In order to determine the need for response to a spill or release or threatened spill or release under ORS 401.025, 466.605 to 466.690, 466.880(3) and (4), 466.995 (3) and 468.070, and this Division, or enforcing the provisions of ORS 401.025, 466.605 to 466.690, 466.880 (3) and (4), 466.995 (3) and 468.070 and this Division, any person who prepares, manufactures, processes, packages, stores, transports, handles, uses, applies, treats or disposes of oil or hazardous material shall, upon the request of the department:

(a) Furnish information relating to the oil or hazardous material; and

(b) Permit the department at all reasonable times to have access to and copy records relating to the type, quantity, storage locations and hazards of the oil or hazardous material.



(2) In order to carry out section (1) of this rule, the department may enter to inspect at reasonable times any establishment or other place where oil or hazardous material is present.

(3) ORS 192.500 provides that certain public records (i.e., trade secrets) are exempt from disclosure under ORS 192.410 to 192.500 unless the public interest requires disclosure in a particular instance. Persons required to provide information under section 1 of this rule who desire to have some of their information considered exempt from public disclosure shall:

(a) Make a determination that their information qualifies for exemption from public disclosure pursuant to the criteria in ORS 192.500.

(b) Make the claim in writing at the time of providing the requested information to the Department, and

(c) Provide in writing any documentation or analysis that supports the claim of exemption from public disclosure at the time of providing the information to the Department.

Hazardous Waste or Hazardous Material Management Schedule of Civil Penalties

340-12-068 In addition to any liability, duty, or other penalty provided by law, the Director may assess a civil penalty for any violation pertaining to hazardous waste or hazardous material management by service of a written Notice of Assessment of Civil Penalty upon the respondent. The amount of such civil penalty shall be determined consistent with the following schedule: (1) Not less than two thousand five hundred dollars (\$2,500) nor more than ten thousand dollars (\$10,000) for each day of the violation upon any person who:

(a) Establishes, constructs or operates a geographical site in which or upon which hazardous wastes are disposed without first obtaining a license from the Commission.

(b) Disposes of a hazardous waste at any location other than at a licensed hazardous waste disposal site.

(c) Fails to immediately [collect, remove or treat] cleanup oil or [a] hazardous material [waste or substance] as required by ORS 466.205, 466.645 and OAR Chapter 340 Division 108.

(d) Is an owner or operator of a hazardous waste surface impoundment, landfill, land treatment or waste pile facility and fails to comply with any of the following:

(A) The groundwater monitoring and protection requirements of Subpart F of 40 CFR Part 264 or Part 265;

(B) The closure plan requirements of Subpart G of 40 CFR Part 264 or Part 265;

(C) The post-closure plan requirements of Subpart G of 40 CFR Part 264 or Part 265;

(D) The closure cost estimate requirements of Subpart H of 40 CFR Part 264 or Part 265;

(E) The post-closure cost estimate requirements of Subpart H of 40 CFR Part 264 or Part 265;

(F) The financial assurance for closure requirements of Subpart H of 40 CFR Part 264 or Part 265;

(G) The financial assurance for post-closure care requirements of Subpart H of 40 CFR Part 264 or Part 265; or,

(H) The financial liability requirements of Subpart H of 40 CFR Part 264 or Part 265.

(2) Not less than one thousand dollars (\$1,000) nor more than ten thousand dollars (\$10,000) for each day of the violation upon any person who:

(a) Establishes, constructs or operates a geographical site or facility upon which, or in which, hazardous wastes are stored or treated without first obtaining a license from the Department.

(b) Violates a Special Condition or Environmental Monitoring Condition of a hazardous waste management facility license.

(c) Dilutes a hazardous waste for the purpose of declassifying it.

(d) Ships hazardous waste with a transporter that is not in compliance with OAR Chapter 860, Division 36 and Division 46 or OAR Chapter 340, Division 103 or to a hazardous waste management facility that is not in compliance with OAR Chapter 340, Divisions 100 thru 106.

(e) Ships hazardous waste without a manifest.

(f) Ships hazardous waste without containerizing and marking or labeling such waste in compliance with OAR Chapter 340, Division 102.

(g) Fails to immediately report to the [Oregon Accident Response System] [(Oregon Emergency Management Division)] all accidents or other emergencies which result in the [discharge or disposal of hazardous waste] spill or release or threatened spill or release of oil or hazardous material.

(h) Is an owner or operator of a hazardous waste storage or treatment facility and fails to comply with any of the following:

(A) The closure plan requirements of Subpart G of 40 CFR Part 264 or Part 265;

(B) The closure cost estimate requirements of Subpart H of 40 CFR Part 264 or Part 265;

(C) The financial assurance for closure requirements of Subpart H of 40 CFR Part 264 or Part 265; or

(D) The financial liability requirements of Subpart H of 40 CFR Part 264 or Part 265.

(3) Not less than one hundred dollars (\$100) nor more than ten thousand dollars (\$10,000) for each day of the violation upon any person who:

(a) Violates an order of the Commission or Department.

(b) Violates any other condition of a license or written authorization or violates any other rule or statute.

(4) Any person who has care, custody or control of a hazardous waste or a substance which would be a hazardous waste except for the fact that it is not discarded, useless or unwanted shall incur a civil penalty according to the schedule set forth in this section for the destruction, due to contamination of food or water supply by such waste or substance, of any of the wildlife referred to in this section that are the property of the state.

(a) Each game mammal other than mountain sheep, mountain goat, elk or silver gray squirrel, \$400.

(b) Each mountain sheep or mountain goat, \$3,500.

(c) Each elk, \$750.

(d) Each silver gray squirrel, \$10.

(e) Each game bird other than wild turkey, \$10.

(f) Each wild turkey, \$50.

(g) Each game fish other than salmon or steelhead trout, \$5.

(h) Each salmon or steelhead trout, \$125.

(i) Each fur-bearing mammal other than bobcat or fisher, \$50.

(j) Each bobcat or fisher, \$350.

(k) Each specimen of any wildlife species whose survival is specified by the wildlife laws or the laws of the United States as threatened or endangered, \$500.

(l) Each specimen of any wildlife species otherwise protected by the wildlife laws or the laws of the United States, but not otherwise referred to in this section, \$25.

Stat. Auth: ORS Ch. 459

Hist.: DEQ 1-1982. f. & ef. 1-28-82; DEQ 22-1984. f. & ef. 11-8-84

**Thursday  
April 4, 1985**

Attachment V.  
Agenda Item No. I  
6-13-86 EQC Meeting

**Federal Register**

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**Part II**

**Environmental  
Protection Agency**

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**40 CFR Parts 117 and 302  
Notification Requirements; Reportable  
Quantity Adjustments; Final Rule and  
Proposed Rule**

"RCRA Waste Number" column provides the waste identification numbers assigned to various substances by RCRA regulations. The column headed "Category" lists the code

letters "X," "A," "B," "C," and "D," which are associated with reportable quantities of 1, 10, 100, 1000, and 5000 pounds, respectively. The "Pounds (kg)" column provides the reportable

quantity for each hazardous substance in pounds and kilograms.

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
Acenaphthene	83329		1*	2		X	1# (0.454)
Acenaphthylene	208968		1*	2		X	1# (0.454)
Acetaldehyde	75070	Ethanal	1000	1,4	U001	C	1000 (454)
Acetaldehyde, chloro-	107200	Chloroacetaldehyde	1*	4	P023	C	1000 (454)
Acetaldehyde, trichloro-	75876	Chloral	1*	4	U034	X	1# (0.454)
Acetamide, N-(aminothioxomethyl)-	591082	1-Acetyl-2-thiourea	1*	4	P002	C	1000 (454)
Acetamide, N-(4-ethoxyphenyl)-	82442	Phenacetin	1*	4	U187	X	1# (0.454)
Acetamide, N-9H-fluoren-2-yl-	53963	2-Acetylaminofluorene	1*	4	U005	X	1# (0.454)
Acetamide, 2-fluoro-	640197	Fluoroacetamide	1*	4	P057	B	100 (45.4)
Acetic acid	64197		1000	1		D	5000 (2270)
Acetic acid, ethyl ester	141786	Ethyl acetate	1*	4	U112	D	5000 (2270)
Acetic acid, fluoro-, sodium salt	82746	Fluoroacetic acid, sodium salt	1*	4	P058	A	10 (4.54)
Acetic acid, lead salt	301042	Lead acetate	5000	1,4	U144	D	6000# (2270)
Acetic acid, thallium(I) salt	563686	Thallium(I) acetate	1*	4	U214	X	1# (0.454)
Acetic anhydride	106247		1000	1		D	5000 (2270)
Acetimidic acid, N-[(methylcarbamoyl oxy]thio-, methyl ester	16752775	Methomyl	1*	4	P068	B	100 (45.4)
Acetone	67841	2-Propanone	1*	4	U002	D	5000 (2270)
Acetone cyanohydrin	75065	2-Methylactonitrile Propanenitrile, 2-hydroxy-2-methyl-	10	1,4	P069	A	10 (4.54)
Acetonitrile	75058	Ethanenitrile	1*	4	U003	D	5000 (2270)
3-(alpha-Acetylbenzyl)-4-hydroxycoumarin and salts	81812	Warfarin	1*	4	P001	B	100 (45.4)
Acetophenone	86862	Ethanone, 1-phenyl-	1*	4	U004	D	5000 (2270)
2-Acetylaminofluorene	53963	Acetamide, N-9H-fluoren-2-yl-	1*	4	U005	X	1# (0.454)
Acetyl bromide	506967		5000	1		D	6000 (2270)
Acetyl chloride	75365	Ethanoyl chloride	5000	1,4	U006	D	5000 (2270)
1-Acetyl-2-thiourea	591082	Acetamide, N-(aminothioxomethyl)-	1*	4	P002	C	1000 (454)
Acrolein	107928	2-Propenal	1	1,2,4	P003	X	1 (0.454)
Acrylamide	79061	2-Propenamido	1*	4	U007	D	5000 (2270)
Acrylic acid	79107	2-Propenoic acid	1*	4	U008	D	5000 (2270)
Acrylonitrile	107131	2-Propenenitrile	100	1,2,4	U009	B	100# (45.4)
Adipic acid	124049		5000	1		D	5000 (2270)
Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-, L-	149823	Melphalan	1*	4	U150	X	1# (0.454)
Aldicarb	116063	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino) carbonyl]oxime	1*	4	P070	X	1 (0.454)
Aldrin	309002	1,2,3,4,10-10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, exo-dimethanonaphthalene	1	1,2,4	P004	X	1# (0.454)
Allyl alcohol	107196	2-Propen-1-ol	100	1,4	P005	B	100 (45.4)
Allyl chloride	107051		1000	1		C	1000 (454)
Aluminum phosphide	20859738		1*	4	P006	B	100 (45.4)
Aluminum sulfate	10043013		5000	1		D	5000 (2270)
5-(Aminomethyl)-3-isoxazolol	2783864	3(2H)-isoxazolone, 5-(aminomethyl)-	1*	4	P007	C	1000 (454)
4-Aminopyridine	604245	4-Pyridamine	1*	4	P008	C	1000 (454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Catego- TY	Pounds(Kg)
Amitrole	81825	1H-1,2,4-Triazol-3-amine	1*	4	U011	X	1# (0.454)
Ammonia	7664417		100	1		B	100## (45.4)
Ammonium acetate	631618		5000	1		D	5000 (2270)
Ammonium benzoate	1863634		5000	1		D	5000 (2270)
Ammonium bicarbonate	1068337		5000	1		-D	5000 (2270)
Ammonium bichromate	7789095		1000	1		C	1000# (454)
Ammonium bifluoride	1341497		5000	1		D	5000## (2270)
Ammonium bisulfite	10182300		5000	1		D	5000 (2270)
Ammonium carbamate	1111780		5000	1		D	5000 (2270)
Ammonium carbonate	506876		5000	1		D	5000 (2270)
Ammonium chloride	12125029		5000	1		D	5000 (2270)
Ammonium chromate	7788989		1000	1		C	1000# (454)
Ammonium citrate, dibasic	3012655		5000	1		D	5000 (2270)
Ammonium fluoroborate	13826930		5000	1		D	5000 (2270)
Ammonium fluoride	12125018		5000	1		B	100 (45.4)
Ammonium hydroxide	1338216		1000	1		C	1000 (454)
Ammonium oxalate	6009707 5972738 14258482		5000	1		D	5000 (2270)
Ammonium picrate	131748	Phenol, 2,4,6-trinitro-, ammonium salt	1*	4	P009	A	10 (4.54)
Ammonium silicofluoride	16919190		1000	1		C	1000 (454)
Ammonium sulfamate	7773060		5000	1		D	5000 (2270)
Ammonium sulfide	12135761		5000	1		B	100 (45.4)
Ammonium sulfite	10198040		5000	1		D	5000 (2270)
Ammonium tartrate	14307438 3164292		5000	1		D	5000 (2270)
Ammonium thiocyanate	1762954		5000	1		D	5000 (2270)
Ammonium thiosulfate	7763188		5000	1		D	5000 (2270)
Ammonium vanadate	7803556	Vanadic acid, ammonium salt	1*	4	P119	C	1000 (454)
Amyl acetate	628837		1000	1		D	5000 (2270)
iso-	123922						
sec-	626380						
tert-	625181						
Aniline	62533	Benzenamine	1000	1,4	U012	D	5000 (2270)
Anthracene	120127		1*	2		X	1## (0.454)
Antimony ††	7440360		1*	2		X	1## (0.454)
ANTIMONY AND COMPOUNDS			1*	2			
Antimony pentachloride	7647189		1000	1		C	1000 (454)
Antimony potassium tartrate	28300745		1000	1		B	100 (45.4)
Antimony tribromide	7769619		1000	1		C	1000 (454)
Antimony trichloride	10025919		1000	1		C	1000(454)
Antimony trifluoride	7763564		1000	1		C	1000 (454)
Antimony trioxide	1308644		5000	1		C	1000 (454)
Aroclor 1016	12674112	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)
Aroclor 1221	11104282	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)
Aroclor 1232	11141165	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)
Aroclor 1242	53469219	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)



TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
Aroclor 1248	12672296	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)
Aroclor 1254	11097891	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)
Aroclor 1260	11096825	Polychlorinated Biphenyls (PCBs)	10	1,2		A	10# (4.54)
Arsenic ††	7440382		1*	2,3		X	1# (0.454)
Arsenic acid	1327522 7778394		1*	4	P010	X	1# (0.454)
ARSENIC AND COMPOUNDS			1*	2			
Arsenic disulfide	1303328		5000	1		D	5000# (2270)
Arsenic(III) oxide	1327533	Arsenic trioxide	5000	1,4	P012	D	5000# (2270)
Arsenic(V) oxide	1303282	Arsenic pentoxide	5000	1,4	P011	D	5000# (2270)
Arsenic pentoxide	1303282	Arsenic(V) oxide	5000	1,4	P011	D	5000# (2270)
Arsenic trichloride	7784341		5000	1		D	5000# (2270)
Arsenic trioxide	1327533	Arsenic(III) oxide	5000	1,4	P012	D	5000# (2270)
Arsenic trisulfide	1303339		5000	1		D	5000# (2270)
Arsine, diethyl	692422	Diethylarsine	1*	4	P038	X	1# (0.454)
Asbestos †††	1332214		1*	2,3		X	1# (0.454)
Auramine	492908	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-	1*	4	U014	X	1# (0.454)
Azaserine	115026	L-Serine, diazoacetate (ester)	1*	4	U015	X	1# (0.454)
Azirdine	151584	Ethylenimine	1*	4	P054	X	1# (0.454)
Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione,6-amino-8- ((aminocarbonyloxy)methyl)-1,1a,2,6,8a,8b- hexahydro-8a-methoxy-5-methyl-	50077	Mitomycin C	1*	4	U010	X	1# (0.454)
Barium cyanide	542621		10	1,4	P013	A	10 (4.54)
Benz[ <i>i</i> ]aceanthrylene, 1,2-dihydro-3-methyl-	56495	3-Methylcholanthrene	1*	4	U157	X	1# (0.454)
Benz[ <i>c</i> ]acridine	225514	3,4-Benzacridine	1*	4	U016	X	1# (0.454)
3,4-Benzacridine	225514	Benz[ <i>c</i> ]acridine	1*	4	U016	X	1# (0.454)
Benzal chloride	98873	Benzene, dichloromethyl-	1*	4	U017	D	5000 (2270)
Benz[ <i>a</i> ]anthracene	56553	1,2-Benzanthracene Benzo[ <i>a</i> ]anthracene	1*	2,4	U016	X	1# (0.454)
1,2-Benzanthracene	56553	Benz[ <i>a</i> ]anthracene Benzo[ <i>a</i> ]anthracene	1*	2,4	U016	X	1# (0.454)
1,2-Benzanthracene, 7,12-dimethyl-	57976	7,12-Dimethylbenz[ <i>a</i> ]anthracene	1*	4	U094	X	1# (0.454)
Benzenamine	62533	Aniline	1000	1,4	U012	D	5000 (2270)
Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-	492908	Auramine	1*	4	U014	X	1# (0.454)
Benzenamine, 4-chloro	108476	p-Chloroaniline	1*	4	P024	C	1000 (454)
Benzenamine, 4-chloro-2-methyl-, hydrochloride	3185933	4-Chloro-o-toluidine, hydrochloride	1*	4	U049	X	1# (0.454)
Benzenamine, N,N-dimethyl-4-phenylezo-	60117	Dimethylaminoazobenzene	1*	4	U083	X	1# (0.454)
Benzenamine, 4,4'-methylenebis(2-chloro-	101144	4,4'-Methylenebis(2-chloroaniline)	1*	4	U158	X	1# (0.454)
Benzenamine, 2-methyl-, hydrochloride	636215	o-Toluidine hydrochloride	1*	4	U222	X	1# (0.454)
Benzenamine, 2-methyl-6-nitro	89558	5-Nitro-o-toluidine	1*	4	U181	X	1# (0.454)
Benzenamine, 4-nitro	100016	p-Nitroaniline	1*	4	P077	D	5000 (2270)
Benzene	71432		1000	1,2,3,4	U019	C	1000# (454)
Benzene, 1-bromo-4-phenoxy-	101553	4-Bromophenyl phenyl ether	1*	2,4	U030	B	100 (45.4)
Benzene, chloro-	108907	Chlorobenzene	100	1,2,4	U037	B	100 (45.4)
Benzene, chloromethyl-	100447	Benzyl chloride	100	1,4	P028	B	100# (45.4)
Benzene, 1,2-dichloro-	95501	1,2-Dichlorobenzene o-Dichlorobenzene	100	1,2,4	U070	B	100 (45.4)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code I	RCRA Waste Number	Catego-ry	Pounds(Kg)
Benzene, 1,3-dichloro	541731	1,3-Dichlorobenzene m-Dichlorobenzene	1*	2,4	U071	B	100 (45.4)
Benzene, 1,4-dichloro	106467	1,4-Dichlorobenzene p-Dichlorobenzene	100	1,2,4	U072	B	100 (45.4)
Benzene, dichloromethyl	98873	Benzal chloride	1*	4	U017	D	5000 (2270)
Benzene, 2,4-dicyanatomethyl	584849 91087 26471625	Toluene diisocyanate	1*	4	U223	B	100 (45.4)
Benzene, dimethyl	1930207	Xylene	1000	1,4	U239	C	1000 (454)
m-	108383	m-					
o-	95476	o-					
p-	106423	p-					
Benzene, hexachloro	118741	Hexachlorobenzene	1*	2,4	U127	X	1# (0.454)
Benzene, hexahydro	110827	Cyclohexane	1000	1,4	U056	C	1000 (454)
Benzene, hydroxy	108952	Phenol	1000	1,2,4	U188	C	1000# (454)
Benzene, methyl	106883	Toluene	1000	1,2,4	U220	C	1000 (454)
Benzene, 1-methyl-2,4-dinitro	121142	2,4-Dinitrotoluene	1000	1,2,4	U105	C	1000# (454)
Benzene, 1-methyl-2,6-dinitro	606202	2,6-Dinitrotoluene	1000	1,2,4	U108	C	1000# (454)
Benzene, 1,2-methylenedioxy-4-allyl	94597	Safrole	1*	4	U203	X	1# (0.454)
Benzene, 1,2-methylenedioxy-4-propenyl	120581	Isosafrole	1*	4	U141	X	1# (0.454)
Benzene, 1,2-methylenedioxy-4-propyl	94596	Dihydrosafrole	1*	4	U090	X	1# (0.454)
Benzene, 1-methylethyl	98828	Cumene	1*	4	U055	D	5000 (2270)
Benzene, nitro	98953	Nitrobenzene	1000	1,2,4	U189	C	1000 (454)
Benzene, pentachloro	608935	Pentachlorobenzene	1*	4	U183	X	1## (0.454)
Benzene, pentachloronitro	62688	Pentachloronitrobenzene	1*	4	U185	X	1# (0.454)
Benzene, 1,2,4,5-tetrachloro	95943	1,2,4,5-Tetrachlorobenzene	1*	4	U207	D	5000 (2270)
Benzene, trichloromethyl	98077	Benzotrichloride	1*	4	U023	X	1# (0.454)
Benzene, 1,3,5-trinitro	98354	sym-Trinitrobenzene	1*	4	U234	X	1## (0.454)
Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester	510156	Ethyl 4,4'-dichlorobenzilate	1*	4	U038	X	1# (0.454)
1,2-Benzenedicarboxylic acid anhydride	85449	Phthalic anhydride	1*	4	U190	D	5000 (2270)
1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester	117817	Bis(2-ethylhexyl)phthalate	1*	2,4	U028	X	1# (0.454)
1,2-Benzenedicarboxylic acid, dibutyl ester	84742	n-Butyl phthalate Dibutyl phthalate Di-n-butyl phthalate	100	1,2,4	U068	A	10 (4.54)
1,2-Benzenedicarboxylic acid, diethyl ester	84662	Diethyl phthalate	1*	2,4	U088	C	1000 (454)
1,2-Benzenedicarboxylic acid, dimethyl ester	131113	Dimethyl phthalate	1*	2,4	U102	D	5000 (2270)
1,2-Benzenedicarboxylic acid, di-n-octyl ester	117840	Di-n-octyl phthalate	1*	2,4	U107	D	5000 (2270)
1,3-Benzenediol	108483	Resorcinol	1000	1,4	U201	D	5000 (2270)
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-	51434	Epinephrine	1*	4	P042	C	1000 (454)
Benzenesulfonic acid chloride	98099	Benzenesulfonyl chloride	1*	4	U020	B	100 (45.4)
Benzenesulfonyl chloride	98099	Benzenesulfonic acid chloride	1*	4	U020	B	100 (45.4)
Benzenethiol	108985	Thiophenol	1*	4	P014	B	100 (45.4)
Benzidine	92875	(1,1'-Biphenyl)-4,4'-diamine	1*	2,4	U021	X	1# (0.454)
1,2-Benzisothiazolin-3-one, 1,1-dioxide, and salts	81072	Saccharin and salts	1*	4	U202	X	1# (0.454)
Benz[a]anthracene	56553	Benz[a]anthracene 1,2-Benzanthracene	1*	2,4	U018	X	1# (0.454)
Benzofluoranthene	205982		1*	2		X	1# (0.454)
Benzokjfluoranthene	207089		1*	2		X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code I	RCRA Waste Number	Category	Pounds(Kg)
Benzo[ <i>k</i> ]fluorene	206440	Fluoranthene	1*	2,4	U120	X	1# (0.454)
Benzoic acid	65850		5000	1		D	5000 (2270)
Benzonitrile	100470		1060	1		D	5000 (2270)
Benzo[ <i>ghi</i> ]perylene	181242		1*	2		X	1# (0.454)
Benzo[ <i>a</i> ]pyrene	50328	3,4-Benzopyrene	1*	2,4	U022	X	1# (0.454)
3,4-Benzopyrene	50328	Benzo[ <i>a</i> ]pyrene	1*	2,4	U022	X	1# (0.454)
p-Benzquinone	106514	1,4-Cyclohexanedione	1*	4	U197	X	1# (0.454)
Benzotrichloride	98077	Benzene, trichloromethyl-	1*	4	U023	X	1# (0.454)
Benzoyl chloride	98884		1000	1		C	1000 (454)
1,2-Benzphenanthrene	218019	Chrysene	1*	2,4	U050	X	1# (0.454)
Benzyl chloride	100447	Benzene, chloromethyl-	100	1,4	P028	B	100# (45.4)
Beryllium II	7440417	Beryllium dust	1*	2,3,4	P015	X	1# (0.454)
BERYLLIUM AND COMPOUNDS			1*	2			**
Beryllium chloride	7787475		5000	1		D	5000# (2270)
Beryllium dust	7440417	Beryllium	1*	2,3,4	P015	X	1# (0.454)
Beryllium fluoride	7787497		5000	1		D	5000# (2270)
Beryllium nitrate	13597894 7787555		5000	1		D	5000# (2270)
alpha - BHC	319846		1*	2		X	1# (0.454)
beta - BHC	319857		1*	2		X	1# (0.454)
gamma - BHC	58899	Hexachlorocyclohexane (gamma isomer) Lindane	1	1,2,4	U129	X	1# (0.454)
delta - BHC	319866		1*	2		X	1# (0.454)
2,2'-Bioxirane	1464535	1,2,3,4-Diepoxybutane	1*	4	U085	X	1# (0.454)
(1,1'-Biphenyl)-4,4'-diamine	92875	Benzidine	1*	2,4	U021	X	1# (0.454)
(1,1'-Biphenyl)-4,4'-diamine,3,3'-dichloro	91841	3,3'-Dichlorobenzidine	1*	2,4	U073	X	1# (0.454)
(1,1'-Biphenyl)-4,4'-diamine,3,3'-dimethoxy	119804	3,3'-Dimethoxybenzidine	1*	4	U091	X	1# (0.454)
(1,1'-Biphenyl)-4,4'-diamine,3,3'-dimethyl	119837	3,3'-Dimethylbenzidine	1*	4	U095	X	1# (0.454)
Bis(2-chloroethoxy) methane	111911	Ethane, 1,1'-(methylenedioxy)bis(2-chloro-	1*	2,4	U024	C	1000 (454)
Bis(2-chloroethyl) ether	111444	Dichloroethyl ether Ethane, 1,1'-oxybis(2-chloro-	1*	2,4	U025	X	1# (0.454)
Bis(2-chloroisopropyl) ether	108801	Propane, 2,2'-oxybis(2-chloro-	1*	2,4	U027	C	1000 (454)
Bis(chloromethyl) ether	542891	Methane, oxybis(chloro-	1*	4	P016	X	1# (0.454)
Bis(dimethylthiocarbonyl) disulfide	137266	Thiram	1*	4	U244	A	10 (4.54)
Bis(2-ethoxyethyl)phthalate	117817	1,2-Benzenedicarboxylic acid, [bis(2-ethoxyethyl) ester	1*	2,4	U028	X	1# (0.454)
Bromine cyanide	506883	Cyanogen bromide	1*	4	U246	C	1000 (454)
Bromacetone	588312	2-Propanone, 1-bromo-	1*	4	P017	C	1000 (454)
Bromoform	75252	Methane, tribromo-	1*	2,4	U225	B	100 (45.4)
4-Bromophenyl phenyl ether	101553	Benzene, 1-bromo-4-phenoxy-	1*	2,4	U030	B	100 (45.4)
Brucine	357573	Strychnidin-10-one, 2,3-dimethoxy-	1*	4	P018	B	100 (45.4)
1,3-Butadiene, 1,1,2,3,4,4-hexachloro	87683	Hexachlorobutadiene	1*	2,4	U128	X	1# (0.454)
1-Butanamine, N-butyl-N-nitroso	924163	N-Nitrosodi-n-butylamine	1*	4	U172	X	1# (0.454)
Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene	305033	Chlorambucil	1*	4	U035	X	1# (0.454)
1-Butanol	71383	n-Butyl alcohol	1*	4	U031	D	5000 (2270)
2-Butanone	78933	Methyl ethyl ketone	1*	4	U159	D	5000 (2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RC	
			RQ	Code I	RCRA Waste Number	Category	Pounds(Kg)
2-Butanone peroxide	1338234	Methyl ethyl ketone peroxide	1*	4	U160	A	10 (4.54)
2-Butenal	123739 4176303	Crotonaldehyde	100	1,4	U053	B	100 (45.4)
2-Butene, 1,4-dichloro	764410	1,4-Dichloro-2-butene	1*	4	U074	X	1 (0.454)
Butyl acetate	123864		5000	1		D	5000 (2270)
iso-	110180						
sec-	105464						
tert-	540885						
n-Butyl alcohol	71383	1-Butanol	1*	4	U031	D	5000 (2270)
Butylamine	109739		1000	1		C	1000 (454)
iso-	78819						
sec-	513495						
sec-	13952846						
tert-	75849						
Butyl benzyl phthalate	85887		1*	2		B	100 (45.4)
n-Butyl phthalate	84742	1,2-Benzenedicarboxylic acid, dibutyl ester Dibutyl phthalate Di-n-butyl phthalate	100	1,2,4	U069	A	10 (4.54)
Butyric acid	107928		5000	1		D	5000 (2270)
iso-	78312						
Cacodylic acid	76805	Hydroxydimethylarsine oxide	1*	4	U138	X	1# (0.454)
Cadmium II	7440439		1*	2		X	1# (0.454)
Cadmium acetate	543908		100	1		B	100# (45.4)
CADMIUM AND COMPOUNDS			1*	2			...
Cadmium bromide	7789426		100	1		B	100# (45.4)
Cadmium chloride	10108642		100	1		B	100# (45.4)
Calcium arsenate	7778441		1000	1		C	1000# (454)
Calcium arsenite	52740166		1000	1		C	1000# (454)
Calcium carbide	75207		5000	1		A	10 (4.54)
Calcium chromate	13785190	Chromic acid, calcium salt	1000	1,4	U032	C	1000# (454)
Calcium cyanide	592018		10	1,4	P021	A	10 (4.54)
Calcium dodecylbenzene sulfonate	26264062		1000	1		C	1000 (454)
Calcium hypochlorite	7778543		100	1		A	10(4.54)
Camphene, octachloro	8001352	Toxaphene	1	1,2,4	P123	X	1# (0.454)
Captan	133062		10	1		A	10## (4.54)
Carbamic acid, ethyl ester	51796	Ethyl carbamate (Urethan)	1*	4	U238	X	1# (0.454)
Carbamic acid, methylnitroso, ethyl ester	615532	N-Nitroso-N-methylurethane	1*	4	U178	X	1# (0.454)
Carbamide, N-ethyl-N-nitroso	759739	N-Nitroso-N-ethylurea	1*	4	U176	X	1# (0.454)
Carbamide, N-methyl-N-nitroso	684935	N-Nitroso-N-methylurea	1*	4	U177	X	1# (0.454)
Carbamide, thio	62588	Thiourea	1*	4	U219	X	1# (0.454)
Carbamimidoseleonic acid	630104	Selenourea	1*	4	P103	X	1## (0.454)
Carbamoyl chloride, dimethyl-	79447	Dimethylcarbamoyl chloride	1*	4	U097	X	1# (0.454)
Carbaryl	83252		100	1		B	100 (45.4)
Carbofuran	1583662		10	1		A	10 (4.54)
Carbon disulfide	75150	Carbon disulfide	5000	1,4	P022	D	5000## (2270)
Carbon disulfide	75150	Carbon disulfide	5000	1,4	P022	D	5000## (2270)
Carbonic acid, dithallium (I) salt	6533739	Thallium(I) carbonate	1*	4	U216	X	1## (0.454)
Carbonochloridic acid, methyl ester	78221	Methyl chlorocarbonate	1*	4	U156	C	1000 (454)
Carbon oxyfluoride	353504	Carbonyl fluoride	1*	4	U033	C	1000 (454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
Carbon tetrachloride	56235	Methane, tetrachloro	5000	1,2,4	U211	D	5000# (2270)
Carbonyl chloride	75445	Phosgene	5000	1,4	P095	A	10 (4.54)
Carbonyl fluoride	353504	Carbon oxyfluoride	1*	4	U033	C	1000 (454)
Chloral	75876	Acetaldehyde, trichloro	1*	4	U034	X	1#(0.454)
Chlorambucil	305093	Butanoic acid, 4-(bis(2-chloroethyl)amino)benzene	1*	4	U035	X	1# (0.454)
CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)			1*	2			**
Chlordane	57749	Chlordane, technical 4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro- 3a,4,7,7a-tetrahydro-	1	1,2,4	U036	X	1# (0.454)
Chlordane, technical	57749	Chlordane 4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro- 3a,4,7,7a-tetrahydro-	1	1,2,4	U036	X	1# (0.454)
CHLORINATED BENZENES			1*	2			**
CHLORINATED ETHANES			1*	2			**
CHLORINATED NAPHTHALENE			1*	2			**
CHLORINATED PHENOLS			1*	2			**
Chlorine	7782505		10	1		A	10 (4.54)
Chlorine cyanide	506774	Cyanogen chloride	10	1,4	P033	A	10 (4.54)
Chlomephazine	494031	2-Naphthylamine, N,N-bis(2-chloroethyl)-	1*	4	U026	X	1# (0.454)
Chloroacetaldehyde	107200	Acetaldehyde, chloro-	1*	4	P023	C	1000 (454)
CHLOROALKYL ETHERS			1*	2			**
p-Chloroaniline	106478	Benzenamine, 4-chloro-	1*	4	P024	C	1000 (454)
Chlorobenzene	108907	Benzene, chloro-	100	1,2,4	U037	B	100 (45.4)
4-Chloro-m-cresol	59507	p-Chloro-m-cresol Phenol, 4-chloro-3-methyl-	1*	2,4	U039	D	5000 (2270)
p-Chloro-m-cresol	59507	4-Chloro-m-cresol Phenol, 4-chloro-3-methyl-	1*	2,4	U039	D	5000 (2270)
Chlorodibromomethane	124481		1*	2		B	100 (45.4)
1-Chloro-2,3-epoxypropane	108688	Epichlorohydrin Oxirane, 2-(chloromethyl)-	1000	1,4	U041	C	1000# (454)
Chloroethane	75003		1*	2		X	1## (0.454)
2-Chloroethyl vinyl ether	110758	Ethene, 2-chloroethoxy-	1*	2,4	U042	C	1000 (454)
Chloroform	67663	Methane, trichloro-	5000	1,2,4	U044	D	5000# (2270)
Chloromethyl methyl ether	107302	Methane, chloromethoxy-	1*	4	U046	X	1# (0.454)
beta-Chloronaphthalene	91567	2-Chloronaphthalene Naphthalene, 2-chloro-	1*	2,4	U047	D	5000 (2270)
2-Chloronaphthalene	91567	beta-Chloronaphthalene Naphthalene, 2-chloro-	1*	2,4	U047	D	5000 (2270)
2-Chlorophenol	95578	o-Chlorophenol Phenol, 2-chloro-	1*	2,4	U048	B	100 (45.4)
o-Chlorophenol	95578	2-Chlorophenol Phenol, 2-chloro-	1*	2,4	U048	B	100 (45.4)
4-Chlorophenyl phenyl ether	7005723		1*	2		D	5000 (2270)
1-(o-Chlorophenyl)thiourea	5344821	Thiourea, (2-chlorophenyl)-	1*	4	P026	B	100 (45.4)
3-Chloropropionitrile	542767	Propanenitrile, 3-chloro-	1*	4	P027	C	1000 (454)
Chlorosulfonic acid	7780945		1000	1		C	1000 (454)
4-Chloro-o-toluidine, hydrochloride	3165933	Benzenamine, 4-chloro-2-methyl-, hydrochloride	1*	4	U049	X	1# (0.454)
Chlorpyrifos	2821882		1	1		X	1 (0.454)
Chromic acetate	1066304		1000	1		C	1000## (4*4)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Catego- ry	Pounds(Kg)
Chromic acid	11115745 7738945		1000	1		C	1000# (454)
Chromic acid, calcium salt	13765180	Calcium chromate	1000	1,4	U032	C	1000# (454)
Chromic sulfate	10101538		1000	1		C	1000## (454)
Chromium II	7440473		1*	2		X	1# (0.454)
CHROMIUM AND COMPOUNDS			1*	2			**
Chromous chloride	10049055		1000	1		C	1000## (454)
Chrysene	218019	1,2-Benzphenanthrene	1*	2,4	U050	X	1# (0.454)
Cobaltous bromide	7789437		1000	1		C	1000(454)
Cobaltous formate	544183		1000	1		C	1000 (454)
Cobaltous sulfamate	14017415		1000	1		C	1000 (454)
Coke Oven Emissions	N.A.		1*	3		X	1# (0.454)
Copper II	7440508		1*	2		X	1## (0.454)
COPPER AND COMPOUNDS			1*	2			**
Copper cyanide	544923		1*	4	P029	A	10 (4.54)
Coumaphos	56724		10	1		A	10 (4.54)
Creosote	8001589		1*	4	U051	X	1# (0.454)
Cresol(s)	1319773	Cresylic acid	1000	1,4	U052	C	1000## (454)
m-	108394						
o-	95487						
p-	106446						
Cresylic acid	1319773	Cresol(s)	1000	1,4	U052	C	1000## (454)
m-	108394						
o-	95487						
p-	106446						
Crotonaldehyde	123739 4170303	2-Butenal	100	1,4	U053	B	100 (45.4)
Cumene	98828	Benzene, 1-methylethyl	1*	4	U055	D	5000 (2270)
Cupric acetate	142712		100	1		B	100 (45.4)
Cupric acetoarsenite	12002038		100	1		B	100# (45.4)
Cupric chloride	7447394		10	1		A	10## (4.54)
Cupric nitrate	3251238		100	1		B	100 (45.4)
Cupric oxalate	5893863		100	1		B	100 (45.4)
Cupric sulfate	7758987		10	1		A	10## (4.54)
Cupric sulfate ammoniated	10380297		100	1		B	100 (45.4)
Cupric tartrate	815827		100	1		B	100## (45.4)
CYANIDES			1*	2			**
Cyanides (soluble cyanide salts), not elsewhere specified	57125		1*	4	P030	A	10 (4.54)
Cyanogen	460185		1*	4	P031	B	100 (45.4)
Cyanogen bromide	506663	Bromine cyanide	1*	4	U246	C	1000 (454)
Cyanogen chloride	506774	Chlorine cyanide	10	1,4	P033	A	10 (4.54)
1,4-Cyclohexadienedione	106514	p-Benzoquinone	1*	4	U187	X	1## (0.454)
Cyclohexane	110827	Benzene, hexahydro-	1000	1,4	U056	C	1000(454)
Cyclohexanone	108941		1*	4	U057	D	5000 (2270)
1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77474	Hexachlorocyclopentadiene	1	1,2,4	U130	X	1# (0.454)
Cyclophosphamide	50180	2H-1,3,2-Oxazaphosphorine,2-[bis(2-chloroethyl)amino] tetrahydro-2-oxide	1*	4	U058	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste-Number	Category	Pounds(Kg)
2,4-D Acid.....	94757	2,4-D, salts and esters..... 2,4-Dichlorophenoxyacetic acid, salts and esters	100	1,4	U240	B	100 (45.4)
2,4-D Esters.....	94111 94791 94804 1320189 1928387 1928616 1929733 2971382 25169287 53467111		100	1		B	100 (45.4)
2,4-D, salts and esters.....	94757	2,4-D Acid..... 2,4-Dichlorophenoxyacetic acid, salts and esters	100	1,4	U240	B	100 (45.4)
Daunomycin.....	20830813	5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[3-amino-2,3,6-trideoxy- $\alpha$ -L-xylo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-	1*	4	U059	X	1# (0.454)
DDD.....	72548	4,4' DDD..... Dichlorodiphenyl dichloroethane TDE	1	1,2,4	U060	X	1# (0.454)
4,4' DDD.....	72548	DDD..... Dichlorodiphenyl dichloroethane TDE	1	1,2,4	U060	X	1# (0.454)
DDE.....	72559	4,4' DDE.....	1*	2		X	1# (0.454)
4,4' DDE.....	72559	ODE.....	1*	2		X	1# (0.454)
DDT.....	50293	4,4' DDT..... Dichlorodiphenyl trichloroethane	1	1,2,4	U061	X	1# (0.454)
4,4' DDT.....	50293	DDT..... Dichlorodiphenyl trichloroethane	1	1,2,4	U061	X	1# (0.454)
DDT AND METABOLITES.....			1*	2			**
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one.....	143500	Kepons.....	1	1,4	U142	X	1# (0.454)
Diallate.....	2303164	S-(2,3-Dichloroallyl) diisopropylthiocarbamate.....	1*	4	U062	X	1# (0.454)
Diamine.....	302012	Hydrazine.....	1*	4	U133	X	1# (0.454)
Diaminotoluene.....	95807 25376458 486720 823405	Toluenediamine.....	1*	4	U221	X	1# (0.454)
Diazinon.....	5333415		1	1		X	1 (0.454)
Dibenz[a,h]anthracene.....	53703	1,2,5,6-Dibenzanthracene..... Dibenzo[a,h]anthracene	1*	2,4	U063	X	1# (0.454)
1,2,5,6-Dibenzanthracene.....	53703	Dibenz[a,h]anthracene..... Dibenzo[a,h]anthracene	1*	2,4	U063	X	1# (0.454)
Dibenzo[a,h]anthracene.....	53703	Dibenz[a,h]anthracene..... 1,2,5,6-Dibenzanthracene	1*	2,4	U063	X	1# (0.454)
1,2,7,8-Dibenzopyrene.....	189559	Dibenz[a,i]pyrene.....	1*	4	U064	X	1# (0.454)
Dibenz[a,i]pyrene.....	189559	1,2,7,8-Dibenzopyrene.....	1*	4	U064	X	1# (0.454)
1,2-Dibromo-3-chloropropane.....	96128	Propene, 1,2-dibromo-3-chloro.....	1*	4	U066	X	1# (0.454)
Dibutyl phthalate.....	84742	1,2-Benzenedicarboxylic acid,dibutyl ester..... Di-n-butyl phthalate n-Butyl phthalate	100	1,2,4	U069	A	10 (4.54)
Di-n-butyl phthalate.....	84742	1,2-Benzenedicarboxylic acid,dibutyl ester..... n-Butyl phthalate Dibutyl phthalate	100	1,2,4	U069	A	10 (4.54)
Dicamba.....	1916009		1000	1		C	1000 (454)
Dichlobenil.....	1194856		1000	1		B	100 (45.4)
Dichlone.....	117808		1	1		X	1 (0.454)
S-(2,3-Dichloroallyl) diisopropylthiocarbamate.....	2303164	Diallate.....	1*	4	U062	X	1# (0.454)
3,5-Dichloro-N-(1,1-dimethyl-2-propenyl)benzamide.....	23950585	Pronamide.....	1*	4	U192	D	5000 (2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code 1	RCRA Waste Number	Category	Pounds(Kg)
Dichlorobenzene (mixed)	25321226		100	1		B	100 (45.4)
1,2-Dichlorobenzene	95501	Benzene, 1,2-dichloro- o-Dichlorobenzene	100	1,2,4	U070	B	100 (45.4)
1,3-Dichlorobenzene	541731	Benzene, 1,3-dichloro- m-Dichlorobenzene	1*	2,4	U071	B	100 (45.4)
1,4-Dichlorobenzene	106467	Benzene, 1,4-dichloro- p-Dichlorobenzene	100	1,2,4	U072	B	100 (45.4)
m-Dichlorobenzene	541731	Benzene, 1,3-dichloro- 1,3-Dichlorobenzene	1*	2,4	U071	B	100 (45.4)
o-Dichlorobenzene	95501	Benzene, 1,2-dichloro- 1,2-Dichlorobenzene	100	1,2,4	U070	B	100 (45.4)
p-Dichlorobenzene	106467	Benzene, 1,4-dichloro- 1,4-Dichlorobenzene	100	1,2,4	U072	B	100 (45.4)
DICHLOROENZIDINE			1*	2			
3,3'-Dichlorobenzidine	81941	(1,1'-Biphenyl)-4,4'-diamine,3,3'-dichloro-	1*	2,4	U073	X	1# (0.454)
Dichlorobromomethane	75274		1*	2		D	5000 (2270)
1,4-Dichloro-2-butene	784410	2-Butene, 1,4-dichloro-	1*	4	U074	X	1 (0.454)
Dichlorodifluoromethane	75718	Methane, dichlorodifluoro-	1*	4	U075	D	5000 (2270)
Dichlorodiphenyl dichloroethane	72548	DDD 4,4' DDD TDE	1*	1,2,4	U080	X	1# (0.454)
Dichlorodiphenyl trichloroethane	50293	DDT 4,4' DDT	1*	1,2,4	U081	X	1# (0.454)
1,1-Dichloroethane	78343	Ethane, 1,1-dichloro- Ethylene dichloride	1*	2,4	U076	C	1000 (454)
1,2-Dichloroethane	107062	Ethane, 1,2-dichloro- Ethylene dichloride	5000	1,2,4	U077	D	5000# (2270)
1,1-Dichloroethylene	75354	Ethene, 1,1-dichloro- Vinylidene chloride	5000	1,2,4	U078	D	5000# (2270)
1,2-trans-Dichloroethylene	156605	Ethene, trans-1,2-dichloro-	1*	2,4	U078	C	1000 (454)
Dichloroethyl ether	111444	Bis (2-chloroethyl) ether Ethane, 1,1'-oxybis(2-chloro-	1*	2,4	U025	X	1# (0.454)
2,4-Dichlorophenol	120832	Phenol, 2,4-dichloro-	1*	2,4	U081	B	100 (45.4)
2,6-Dichlorophenol	87850	Phenol, 2,6-dichloro-	1*	4	U082	B	100 (45.4)
2,4-Dichlorophenoxyacetic acid, salts and esters	94757	2,4-D Acid 2,4-D, salts and esters	100	1,4	U240	B	100 (45.4)
Dichlorophenylarsine	696286	Phenyl dichloroarsine	1*	4	P036	X	1# (0.454)
Dichloropropane	26638187		5000	1		C	1000 (454)
1,1-Dichloropropane	78999						
1,3-Dichloropropane	142289						
1,2-Dichloropropane	78875	Propylene dichloride	5000	1,2,4	U083	C	1000 (454)
Dichloropropane - Dichloropropene (mixture)	8003188		5000	1		D	5000## (2270)
Dichloropropene	26952238		5000	1		D	5000## (2270)
2,3-Dichloropropene	78386						
1,3-Dichloropropene	542756	Propene, 1,3-dichloro-	5000	1,2,4	U084	D	5000## (2270)
2,2-Dichloropropionic acid	78990		5000	1		D	5000 (2270)
Dichloroac	62737		10	1		A	10 (4.54)
Dieldrin	60571	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,exo-1,4:5,8-dimethanonaphthalene.	1	1,2,4	P037	X	1# (0.454)
1,2,3,4-Diepoxybutane	1484535	2,2'-Bioxirane	1*	4	U085	X	1# (0.454)
Diethylamine	109887		1000	1		C	1000## (454)
Diethylarsine	692422	Arsine, diethyl-	1*	4	P038	X	1# (0.454)



TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
1,4-Dioxane	123911	1,4-Dioxane	1*	4	U108	X	1# (0.454)
N,N'-Diethylhydrazine	1815901	Hydrazine, 1,2-diethyl-	1*	4	U088	X	1# (0.454)
O,O-Diethyl S-[2-(ethylthio)ethyl]phosphorodithioate	298044	Disulfoton	1	1,4	P039	X	1 (0.454)
O,O-Diethyl S-methyl dithiophosphate	3288592	Phosphorodithioic acid, O,O-diethyl S-methyl ester	1*	4	U087	D	5000 (2270)
Diethyl-p-nitrophenyl phosphate	311455	Phosphoric acid, diethyl p-nitrophenyl ester	1*	4	P041	B	100 (45.4)
Diethyl phthalate	84682	1,2-Benzenedicarboxylic acid, diethyl ester	1*	2,4	U088	C	1000 (454)
O,O-Diethyl O-pyrazinyl phosphorothioate	297972	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	1*	4	P040	B	100 (45.4)
Diethylstilbestrol	56531	4,4'-Stilbenediol, alpha, alpha'-diethyl-	1*	4	U089	X	1# (0.454)
1,2-Dihydro-3,6-pyridinedione	123331	Maleic hydrazide	1*	4	U146	D	5000 (2270)
Dihydroacetone	94586	Benzene, 1,2-methylenedioxy-4-propyl-	1*	4	U090	X	1# (0.454)
Diisopropyl fluorophosphate	59814	Phosphorofluoric acid, bis(1-methylethyl) ester	1*	4	P043	B	100 (45.4)
Dimethoate	60515	Phosphorodithioic acid, O,O-dimethyl S-[2(methylamino)-2-oxoethyl] ester	1*	4	P044	A	10 (4.54)
3,3'-Dimethoxybenzidine	119804	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-	1*	4	U091	X	1# (0.454)
Dimethylamine	124403	Methanamine, N-methyl-	1000	1,4	U092	C	1000# (454)
Dimethylaminoazobenzene	60117	Benzanamine, N,N-dimethyl-4-phenylazo-	1*	4	U083	X	1# (0.454)
7,12-Dimethylbenz[a]anthracene	57876	1,2-Benzanthracene, 7,12-dimethyl-	1*	4	U094	X	1# (0.454)
3,3'-Dimethylbenzidine	119807	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-	1*	4	U085	X	1# (0.454)
alpha, alpha-Dimethylbenzylhydroperoxide	80159	Hydroperoxide, 1-methyl-1-phenylethyl-	1*	4	U086	A	10 (4.54)
3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl] oxime	38196184	Thiofanor	1*	4	P045	B	100 (45.4)
Dimethylcarbamoyl chloride	79447	Carbamoyl chloride, dimethyl-	1*	4	U087	X	1# (0.454)
1,1-Dimethylhydrazine	57147	Hydrazine, 1,1-dimethyl-	1*	4	U088	X	1# (0.454)
1,2-Dimethylhydrazine	540738	Hydrazine, 1,2-dimethyl-	1*	4	U089	X	1# (0.454)
O,O-Dimethyl O-p-nitrophenyl phosphorothioate	298000	Methyl parathion	100	1,4	P071	B	100# (45.4)
Dimethylnitrosamine	62759	N-Nitrosodimethylamine	1*	2,4	P082	X	1# (0.454)
alpha, alpha-Dimethylphenethylamine	122088	Ethanamine, 1,1-dimethyl-2-phenyl-	1*	4	P048	D	5000 (2270)
2,4-Dimethylphenol	105879	Phenol, 2,4-dimethyl-	1*	2,4	U101	B	100 (45.4)
Dimethyl phthalate	131113	1,2-Benzenedicarboxylic acid, dimethyl ester	1*	2,4	U102	D	5000 (2270)
Dimethyl sulfate	77781	Sulfuric acid, dimethyl ester	1*	4	U103	X	1# (0.454)
Dinitrobenzene (mixed)	25154545		1000	1		B	100 (45.4)
m-	98650						
o-	628280						
p-	100254						
4,6-Dinitro-o-cresol and salts	634821	Phenol, 2,4-dinitro-6-methyl-, and salts	1*	2,4	P047	A	10 (4.54)
4,6-Dinitro-o-cyclohexylphenol	131885	Phenol, 2-cyclohexyl-4,6-dinitro-	1*	4	P034	B	100 (45.4)
Dinitrophenol	2550387		1000	1		A	10 (4.54)
2,5-	329715						
2,6-	373588						
2,4-Dinitrophenol	51283	Phenol, 2,4-dinitro-	1000	1,2,4	P048	A	10 (4.54)
Dinitrotoluene	28321148		1000	1,2		C	1000# (45.4)
3,4-Dinitrotoluene	610909						
2,4-Dinitrotoluene	121142	Benzene, 1-methyl-2,4-dinitro-	1000	1,2,4	U105	C	1000# (45.4)
Dinoseb	88857	Phenol, 2,4-dinitro-6-(1-methylpropyl)-	1*	4	P020	C	1000 (45.4)
Di-n-octyl phthalate	117840	1,2-Benzenedicarboxylic acid, di-n-octyl ester	1*	2,4	U107	D	5000 (2270)
1,4-Dioxane	123911	1,4-Dioxane	1*	4	U108	X	1# (0.454)
DIPHENYLHYDRAZINE			1*	2			
1,2-Diphenylhydrazine	122887	Hydrazine, 1,2-diphenyl-	1*	2,4	U109	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
Diphosphoramidate, octamethyl.....	152169	Octamethylpyrophosphoramidate.....	1*	4	P086	B	100 (45.4)
Dipropylamine.....	142847	1-Propanamine, N-propyl.....	1*	4	U110	D	5000 (2270)
Di-n-propylnitrosamine.....	621647	N-Nitrosodi-n-propylamine.....	1*	2,4	U111	X	1# (0.454)
Diquat.....	85007 2764729		1000	1		C	1000 (454)
Disulfoton.....	298044	O,O-Diethyl S-(2-(ethylthio)ethyl) phosphorodithioate.....	1	1,4	P039	X	1 (0.454)
2,4-Dithiobiuret.....	541537	Thioimidodicarbonic diamide.....	1*	4	P049	B	100 (45.4)
Dithiopyrophosphoric acid, tetraethyl ester.....	3689245	Tetraethylthiopyrophosphate.....	1*	4	P109	B	100 (45.4)
Diuron.....	330541		100	1		B	100 (45.4)
Dodecylbenzenesulfonic acid.....	27176870		1000	1		C	1000 (454)
Endosulfan.....	115297	5-Norbornene-2,3-dimethano,1,4,5,6,7,7-hexachloro, cyclic sulfite.....	1	1,2,4	P050	X	1 (0.454)
alpha - Endosulfan.....	959988		1*	2		X	1 (0.454)
beta - Endosulfan.....	93219859		1*	2		X	1 (0.454)
ENDOSULFAN AND METABOLITES.....			1*	2			..
Endosulfan sulfate.....	1031078		1*	2		X	1 (0.454)
Endothal.....	145739	7-Oxabicyclo[2,2,1]heptane-2,3-dicarboxylic acid.....	1*	4	P088	C	1000 (454)
Endrin.....	72208	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene.....	1	1,2,4	P051	X	1 (0.454)
Endrin aldehyde.....	7421934		1*	2		X	1 (0.454)
ENDRIN AND METABOLITES.....			1*	2			..
Epichlorohydrin.....	106888	1-Chloro-2,3-epoxypropane..... Oxirane, 2-(chloromethyl)-.....	1000	1,4	U041	C	1000# (454)
Epinephrine.....	51434	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl].....	1*	4	P042	C	1000 (454)
Ethanal.....	75070	Acetaldehyde.....	1000	1,4	U001	C	1000 (454)
Ethanamine, 1,1-dimethyl-2-phenyl.....	122098	alpha, alpha-Dimethylphenethylamine.....	1*	4	P046	D	5000 (2270)
Ethanamine, N-ethyl-N-nitroso.....	55185	N-Nitrosodiethylamine.....	1*	4	U174	X	1# (0.454)
Ethane, 1,2-dibromo.....	106834	Ethylene dibromide.....	1000	1,4	U067	C	1000# (454)
Ethane, 1,1-dichloro.....	75343	1,1-Dichloroethane..... Ethylidene dichloride.....	1*	2,4	U076	C	1000 (454)
Ethane, 1,2-dichloro.....	107062	1,2-Dichloroethane..... Ethylene dichloride.....	5000	1,2,4	U077	D	5000# (2270)
Ethane, 1,1,1,2,2,2-hexachloro.....	67721	Hexachloroethane.....	1*	2,4	U131	X	1# (0.454)
Ethane, 1,1'-(methylenebis(oxy))bis(2-chloro.....	111911	Bis(2-chloroethoxy) methane.....	1*	2,4	U024	C	1000 (454)
Ethane, 1,1'-oxybis.....	60297	Ethyl ether.....	1*	4	U117	B	100 (45.4)
Ethane, 1,1'-oxybis(2-chloro.....	111444	Bis (2-chloroethyl) ether..... Dichloroethyl ether.....	1*	2,4	U025	X	1# (0.454)
Ethane, pentachloro.....	78017	Pentachloroethane.....	1*	4	U184	X	1# (0.454)
Ethane, 1,1,1,2-tetrachloro.....	630206	1,1,1,2-Tetrachloroethane.....	1*	4	U208	X	1# (0.454)
Ethane, 1,1,2,2-tetrachloro.....	79345	1,1,2,2-Tetrachloroethane.....	1*	2,4	U209	X	1# (0.454)
Ethane, 1,1,2-trichloro.....	79005	1,1,2-Trichloroethane.....	1*	2,4	U227	X	1# (0.454)
Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl).....	72435	Methoxychlor.....	1	1,4	U247	X	1 (0.454)
1,2-Ethanedithylbis(carbamodithioic acid).....	111546	Ethylenebis(dithiocarbamic acid).....	1*	4	U114	D	5000 (2270)
Ethanenitrile.....	75058	Acetonitrile.....	1*	4	U003	D	5000 (2270)
Ethanethioamide.....	62555	Thioacetamide.....	1*	4	U218	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
Ethanol, 2,2'-(nitrosimino)bis	1118547	N-Nitrosodiethanolamine	1*	4	U173	X	1# (0.454)
Ethanone, 1-phenyl	98862	Acetophenone	1*	4	U004	D	5000 (2270)
Ethanoyl chloride	75365	Acetyl chloride	5000	1,4	U008	D	5000 (2270)
Ethanamine, N-methyl-N-nitroso	4549400	N-Nitrosomethylvinylamine	1*	4	P084	X	1# (0.454)
Ethene, chloro	75014	Vinyl chloride	1*	2,3,4	U043	X	1# (0.454)
Ethene, 2-chloroethoxy	110758	2-Chloroethyl vinyl ether	1*	2,4	U042	C	1000 (454)
Ethene, 1,1-dichloro	75354	1,1-Dichloroethylene Vinylidene chloride	5000	1,2,3	U078	D	5000# (2270)
Ethene, 1,1,2,2-tetrachloro	127184	Tetrachloroethylene	1*	2,4	U210	X	1# (0.454)
Ethene, trans-1,2-dichloro	150805	1,2-trans-Dichloroethylene	1*	2,4	U079	C	1000 (454)
Ethion	563122		10	1		A	10## (4.54)
Ethyl acetate	141798	Acetic acid, ethyl ester	1*	4	U112	D	5000 (2270)
Ethyl acrylate	140885	2-Propenoic acid, ethyl ester	1*	4	U113	C	1000 (454)
Ethylbenzene	100414		1000	1,2		C	1000 (454)
Ethyl carbamate (Urethane)	51786	Carbamic acid, ethyl ester	1*	4	U238	X	1# (0.454)
Ethyl cyanide	107120	Propanenitrile	1*	4	P101	A	10 (4.54)
Ethyl 4,4'-dichlorobenzilate	510156	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)- alpha-hydroxy-, ethyl ester	1*	4	U038	X	1# (0.454)
Ethylene dibromide	106934	Ethane, 1,2-dibromo	1000	1,4	U067	C	1000# (454)
Ethylene dichloride	107062	1,2-Dichloroethane Ethane, 1,2-dichloro	5000	1,2,4	U077	D	5000# (2270)
Ethylene oxide	75218	Oxirane	1*	4	U115	X	1# (0.454)
Ethylenetetrakis(dithiocarbamic acid)	111546	1,2-Ethanedithiocarbamodithioic acid	1*	4	U114	D	5000 (2270)
Ethylenediamine	107153		1000	1		D	5000 (2270)
Ethylenediamine tetraacetic acid (EDTA)	46004		5000	1		D	5000 (2270)
Ethylenethiourea	90457	2-Imidazolidinethione	1*	4	U116	X	1# (0.454)
Ethylamine	151664	Azidine	1*	4	P054	X	1# (0.454)
Ethyl ether	60297	Ethane, 1,1'-oxybis	1*	4	U117	B	100 (45.4)
Ethylidene dichloride	75343	1,1-Dichloroethane Ethane, 1,1-dichloro	1*	2,4	U078	C	1000 (454)
Ethyl methacrylate	97632	2-Propenoic acid, 2-methyl-, ethyl ester	1*	4	U118	C	1000 (454)
Ethyl methanesulfonate	62500	Methanesulfonic acid, ethyl ester	1*	4	U119	K	1# (0.454)
Famphur	52857	Phosphorothioic acid, O,O-dimethyl-O-[p-(dimethylamino)- sulfonyl]phenyl ester	1*	4	P097	C	1000 (454)
Ferric ammonium citrate	1185575		1000	1		C	1000 (454)
Ferric ammonium oxalate	2944674 55488874		1000	1		C	1000 (454)
Ferric chloride	7705080		1000	1		C	1000 (454)
Ferric dextran	8004864	Iron dextran	1*	4	U139	X	1## (0.454)
Ferric fluoride	7763508		100	1		B	100 (45.4)
Ferric nitrate	10421484		1000	1		C	1000 (454)
Ferric sulfate	10026225		1000	1		C	1000 (454)
Ferrous ammonium sulfate	10045893		1000	1		C	1000 (454)
Ferrous chloride	7758943		100	1		B	100 (45.4)
Ferrous sulfate	7720787 7782630		1000	1		C	1000 (454)
Fluoroacetic acid, sodium salt	62746	Acetic acid, fluoro-, sodium salt	1*	4	P058	A	10 (4.54)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code 1	RCRA Waste Number	Category	Pounds(Kg)
Fluoranthene	206440	Benzo[ <i>k</i> ]fluorene	1*	2,4	U120	X	1## (0.454)
Fluorene	86737		1*	2		X	1## (0.454)
Fluorine	7782414		1*	4	P056	A	10 (4.54)
Fluoroacetamide	840197	Acetamide, 2-fluoro	1*	4	P057	B	100 (45.4)
Formaldehyde	50000	Methylene oxide	1000	1,4	U122	C	1000# (454)
Formic acid	64186	Methanoic acid	5000	1,4	U123	D	5000 (2270)
Fulminic acid, mercury(II)salt	828864	Mercury fulminate	1*	4	P085	X	1## (0.454)
Fumaric acid	110178		6000	1		D	5000 (2270)
Furan	110008	Furfuran	1*	4	U124	B	100 (45.4)
Furan, tetrahydro	109999	Tetrahydrofuran	1*	4	U219	C	1000 (454)
2-Furancarboxaldehyde	98011	Furfural	1000	1,4	U125	D	5000 (2270)
2,5-Furandione	108316	Maleic anhydride	5000	1,4	U147	D	5000 (2270)
Furfural	98011	2-Furancarboxaldehyde	1000	1,4	U125	D	5000 (2270)
Furfuran	110008	Furan	1*	4	U124	B	100 (45.4)
D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-	18883864	Streptozotocin	1*	4	U206	X	1# (0.454)
Glycidylaldehyde	785344	1-Propanal, 2,3-epoxy	1*	4	U126	X	1# (0.454)
Guanidine, N-nitroso-N-methyl-N'-nitro	70257	N-Methyl-N'-nitro-N-nitrosoguanidine	1*	4	U163	X	1# (0.454)
Guthion	86500		1	1		X	1 (0.454)
HALOETHERS			1*	2			..
HALOMETHANES			1*	2			..
Heptachlor	78448	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	1	1,2,4	P059	X	1#(0.454)
HEPTACHLOR AND METABOLITES			1*	2			..
Heptachlor epoxide	1024573		1*	2		X	1# (0.454)
Hexachlorobenzene	118741	Benzene, hexachloro-	1*	2,4	U127	X	1# (0.454)
Hexachlorobutadiene	87683	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	1*	2,4	U128	X	1# (0.454)
HEXACHLOROCYCLOHEXANE (all isomers)	608731		1*	2			..
Hexachlorocyclohexane (gamma isomer)	58899	gamma - BHC Lindane	1	1,2,4	U129	X	1# (0.454)
Hexachlorocyclopentadiene	77474	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	1	1,2,4	U130	X	1# (0.454)
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene	72208	Endrin	1	1,2,4	P051	X	1 (0.454)
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,exo-1,4:5,8-dimethanonaphthalene	60571	Dieldrin	1	1,2,4	P037	X	1# (0.454)
Hexachloroethane	67721	Ethane, 1,1,1,2,2,2-hexachloro-	1*	2,4	U131	X	1# (0.454)
Hexachlorohexahydro-endo,endo-dimethanonaphthalene	485738	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo,endo-dimethanonaphthalene	1*	4	P060	X	1 (0.454)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo,endo-dimethanonaphthalene	485738	Hexachlorohexahydro-endo,endo-dimethanonaphthalene	1*	4	P060	X	1 (0.454)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exo-dimethanonaphthalene	309002	Aldrin	1	1,2,4	P004	X	1# (0.454)
Hexachlorophene	70304	2,2'-Methylenebis(3,4,6-trichlorophenol)	1*	4	U132	X	1## (0.454)
Hexachloropropene	1888717	1-Propene, 1,1,2,3,3,3-hexachloro-	1*	4	U243	C	1000 (454)
Hexaethyl tetraphosphate	757584	Tetraphosphoric acid, hexaethyl ester	1*	4	P062	B	100 (45.4)
Hydrazine	302012	Diamine	1*	4	U133	X	1# (0.454)
Hydrazine, 1,2-diethyl-	1616801	N,N'-Diethylhydrazine	1*	4	U086	X	1# (0.454)
Hydrazine, 1,1-dimethyl-	57147	1,1-Dimethylhydrazine	1*	4	U088	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
Hydrazine, 1,2-dimethyl.....	540738	1,2-Dimethylhydrazine.....	1*	4	U099	X	1# (0.454)
Hydrazine, 1,2-diphenyl.....	122667	1,2-Diphenylhydrazine.....	1*	2,4	U109	X	1# (0.454)
Hydrazine, methyl.....	60344	Methyl hydrazine.....	1*	4	P088	A	10 (4.54)
Hydrazinecarbothioamide.....	79196	Thiosemicarbazide.....	1*	4	P116	B	100 (45.4)
Hydrochloric acid.....	7847010		5000	1		D	5000 (2270)
Hydrocyanic acid.....	74908	Hydrogen cyanide.....	10	1,4	P083	A	10 (4.54)
Hydrofluoric acid.....	7664393	Hydrogen fluoride.....	5000	1,4	U134	B	100 (45.4)
Hydrogen cyanide.....	74908	Hydrocyanic acid.....	10	1,4	P083	A	10 (4.54)
Hydrogen fluoride.....	7664393	Hydrofluoric acid.....	5000	1,4	U134	B	100 (45.4)
Hydrogen phosphide.....	7803512	Phosphine.....	1*	4	P086	B	100 (45.4)
Hydrogen sulfide.....	7783064	Hydrogen sulfide..... Sulfur hydride	100	1,4	U135	B	100## (45.4)
Hydroperoxide, 1-methyl-1-phenylethyl.....	80159	alpha, alpha-Dimethylbenzylhydroperoxide.....	1*	4	U098	A	10 (4.54)
Hydrogen sulfide.....	7783064	Hydrogen sulfide..... Sulfur hydride	100	1,4	U135	B	100## (45.4)
Hydroxydimethylarsine oxide.....	75605	Cacodylic acid.....	1*	4	U138	X	1# (0.454)
2-Imidazolidinethione.....	98457	Ethylenethiourea.....	1*	4	U118	X	1# (0.454)
Indeno(1,2,3-cd)pyrene.....	193395	1,10-(1,2-Phenylene)pyrene.....	1*	2,4	U137	X	1# (0.454)
Iron dextran.....	8004664	Ferric dextran.....	1*	4	U139	X	1## (0.454)
Isobutyl alcohol.....	78831	1-Propanol, 2-methyl.....	1*	4	U140	D	5000 (2270)
Isocyanic acid, methyl ester.....	624839	Methyl isocyanate.....	1*	4	P064	X	1### (0.454)
Isophorone.....	78591		1*	2		D	5000 (2270)
Isoprene.....	78795		1000	1		C	1000## (45.4)
Isopropanolamine dodecylbenzenesulfonate.....	42504481		1000	1		C	1000 (45.4)
Isosafrole.....	120581	Benzene, 1,2-methylenedioxy-4-propenyl.....	1*	4	U141	X	1# (0.454)
3(2H)-Isoxazolone, 5-(aminomethyl).....	2763964	5-(Aminomethyl)-3-isoxazolol.....	1*	4	P007	C	1000 (45.4)
Kalthene.....	115322		5000	1		A	10 (4.54)
Kapone.....	143500	Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one.....	1	1,4	U142	X	1# (0.454)
Lasiocarpine.....	303344		1*	4	U143	X	1# (0.454)
Lead (†).....	7439921		1*	2		X	1## (0.454)
Lead acetate.....	301042	Acetic acid, lead salt.....	5000	1,4	U144	D	5000# (2270)
LEAD AND COMPOUNDS.....			1*	2			**
Lead arsenate.....	7784409 7845252 10102484		5000	1		D	5000# (2270)
Lead chloride.....	7788954		5000	1		D	5000## (2270)
Lead fluoroborate.....	13814985		5000	1		D	5000## (2270)
Lead fluoride.....	7783462		1000	1		C	1000## (45.4)
Lead iodide.....	10101630		5000	1		D	5000## (2270)
Lead nitrate.....	10099748		5000	1		D	5000## (2270)
Lead phosphate.....	7446277	Phosphoric acid, lead salt.....	1*	4	U145	X	1# (0.454)
Lead stearate.....	7428480 1072351 58189094 52652592		5000	1		D	5000## (2270)
Lead subacetate.....	1335326		1*	4	U146	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code I	RCRA Waste Number	Category	Pounds(Kg)
Lead sulfate	15739807 7446142		5000	1		D	5000## (2270)
Lead sulfide	1314870		5000	1		D	5000## (2270)
Lead thiocyanate	582870		5000	1		D	5000## (2270)
Lindane	58899	gamma - BHC Hexachlorocyclohexane (gamma isomer)	1	1,2,4	-U129	X	1# (0.454)
Lithium chromate	14307358		1000	1		C	1000# (454)
Methion	121755		10	1		B	100 (45.4)
Maleic acid	110167		5000	1		D	5000 (2270)
Maleic anhydride	108316	2,5-Furandione	5000	1,4	U147	D	5000 (2270)
Maleic hydrazide	123331	1,2-Dihydro-3,6-pyridazinedione	1*	4	U148	D	5000 (2270)
Malononitrile	109773	Propanedinitrile	1*	4	U149	C	1000 (454)
Melphalan	148823	Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-L-	1*	4	U150	X	1# (0.454)
Mercaptodimethur	2032657		100	1		A	10 (4.54)
Mercuric cyanide	592041		1	1		X	1 (0.454)
Mercuric nitrate	10045940		10	1		A	10## (4.54)
Mercuric sulfate	7703359		10	1		A	10## (4.54)
Mercuric thiocyanate	592858		10	1		A	10## (4.54)
Mercurous nitrate	10416755 7782887		10	1		A	10## (4.54)
Mercury	7439976		1*	2,3,4	U151	X	1 (0.454)
MERCURY AND COMPOUNDS			1*	2			
Mercury, (acetato-O)phenyl-	62364	Phenylmercuric acetate	1*	4	P002	X	1## (0.454)
Mercury fulminate	628864	Fulminic acid, mercury(I) salt	1*	4	P065	X	1## (0.454)
Methacrylonitrile	126987	2-Propenenitrile, 2-methyl-	1*	4	U152	C	1000 (454)
Methanamine, N-methyl-	124403	Dimethylamine	1000	1,4	U092	C	1000## (454)
Methane, bromo-	74839	Methyl bromide	1*	2,4	U029	C	1000 (454)
Methane, chloro-	74873	Methyl chloride	1*	2,4	U045	X	1## (0.454)
Methane, chloromethoxy-	107302	Chloromethyl methyl ether	1*	4	U046	X	1# (0.454)
Methane, dibromo-	74953	Methylene bromide	1*	4	U068	C	1000 (454)
Methane, dichloro-	75092	Methylene chloride	1*	2,4	U060	C	1000 (454)
Methane, dichlorodifluoro-	75718	Dichlorodifluoromethane	1*	4	U076	D	5000 (2270)
Methane, iodo-	74884	Methyl iodide	1*	4	U138	X	1# (0.454)
Methane, oxybis(chloro-	542881	Bis(chloromethyl) ether	1*	4	P018	X	1# (0.454)
Methane, tetrachloro-	58235	Carbon tetrachloride	5000	1,2,4	U211	D	5000# (2270)
Methane, tetranitro-	509146	Tetranitromethane	1*	4	P112	A	10 (4.54)
Methane, tribromo-	75252	Bromoform	1*	2,4	U226	B	100 (45.4)
Methane, trichloro-	67663	Chloroform	5000	1,2,4	U044	D	5000# (2270)
Methane, trichlorofluoro-	75894	Trichloromonofluoromethane	1*	4	U121	D	5000 (2270)
Methanesulfonic acid, ethyl ester	62500	Ethyl methanesulfonate	1*	4	U119	X	1# (0.454)
Methanethiol	74931	Methylmercaptan Thiomethanol	100	1,4	U163	B	100 (45.4)
Methanesulfonyl chloride, trichloro-	584423	Trichloromethanesulfonyl chloride	1*	4	P116	B	100 (45.4)
4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76448	Heptachlor	1	1,2,4	P059	X	1# (0.454)
Methanoic acid	64186	Formic acid	5000	1,4	U123	D	5000 (2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN.	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code 1	RCRA Waste Number	Category	Pounds(Kg).
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro- 3a,4,7,7a-tetrahydro-	57749	Chlordane Chlordane, technical	1	1,2,4	U036	X	1# (0.454)
Methanol	67561	Methyl alcohol	1*	4	U154	D	5000 (2270)
Methapyrene	91805	Pyridine, 2-[(2-(dimethylamino)ethyl)-2-thienylamino]-	1*	4	U155	D	5000 (2270)
Methomyl	16752775	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester	1*	4	P068	B	100 (45.4)
Methoxychlor	72435	Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-	1	1,4	U247	X	1 (0.454)
Methyl alcohol	67561	Methanol	1*	4	U154	D	5000 (2270)
2-Methylaziridine	75558	1,2-Propylenimine	1*	4	P067	X	1# (0.454)
Methyl bromide	74639	Methane, bromo-	1*	2,4	U029	C	1000 (454)
1-Methylbutadiene	504608	1,3-Pentadiene	1*	4	U166	B	100 (45.4)
Methyl chloride	74673	Methane, chloro-	1*	2,4	U045	X	1# (0.454)
Methyl chloroacetate	78221	Carbonochloridic acid, methyl ester	1*	4	U156	C	1000 (454)
Methyl chloroform	71556	1,1,1-Trichloroethane	1*	2,4	U226	C	1000 (454)
4,4'-Methylenebis(2-chloroaniline)	101144	Benzenamine, 4,4'-methylenebis(2-chloro-	1*	4	U158	X	1# (0.454)
2,2'-Methylenebis(3,4,6-trichlorophenol)	70304	Hexachlorophene	1*	4	U132	X	1# (0.454)
3-Methylcholanthrene	58485	Benzo[ <i>h</i> ]acanthrylene, 1,2-dihydro-3-methyl-	1*	4	U157	X	1# (0.454)
Methylene bromide	74963	Methane, dibromo-	1*	4	U068	C	1000 (454)
Methylene chloride	75082	Methane, dichloro-	1*	2,4	U080	C	1000 (454)
Methylene oxide	50000	Formaldehyde	1000	1,4	U122	C	1000# (454)
Methyl ethyl ketone	78933	2-Butanone	1*	4	U160	D	5000 (2270)
Methyl ethyl ketone peroxide	1338234	2-Butanone peroxide	1*	4	U160	A	10 (4.54)
Methyl hydrazine	60344	Hydrazine, methyl-	1*	4	P068	A	10 (4.54)
Methyl iodide	74884	Methane, iodo-	1*	4	U138	X	1# (0.454)
Methyl isobutyl ketone	109101	4-Methyl-2-pentanone	1*	4	U161	D	5000 (2270)
Methyl isocyanate	624839	Isocyanic acid, methyl ester	1*	4	P064	X	1# (0.454)
2-Methylacetonitrile	75865	Acetone cyanohydrin Propanenitrile, 2-hydroxy-2-methyl-	10	1,4	P069	A	10 (4.54)
Methylmercaptan	74931	Methanethiol Thiomethanol	100	1,4	U153	B	100 (45.4)
Methyl methacrylate	80626	2-Propanoic acid, 2-methyl-, methyl ester	5000	1,4	U182	C	1000 (454)
N-Methyl-N'-nitro-N-nitrosoguanidine	79257	Guanidine, N-nitroso-N-methyl-N'-nitro-	1*	4	U163	X	1# (0.454)
Methyl parathion	298000	O,O-Dimethyl O-p-nitrophenyl phosphorothioate	100	1,4	P071	B	100# (45.4)
4-Methyl-2-pentanone	109101	Methyl isobutyl ketone	1*	4	U161	D	5000 (2270)
Methylthiourea	56042	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thio-	1*	4	U164	X	1# (0.454)
Mevinphos	7788347		1	1		A	10 (4.54)
Mexcarbato	316184		1000	1		C	1000 (454)
Mitomycin C	50077	Azizino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione,6-amino-8-[[[(aminocarbonyloxy)methyl]-1,1a,2,6,8a,8b-hexahydro-8a-methoxy-5-methyl-	1*	4	U010	X	1# (0.454)
Monoethylamine	75047		1000	1		C	1000# (454)
Monomethylamine	74895		1000	1		B	100 (45.4)
Naled	300785		10	1		A	10 (4.54)
5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[[3-amino-2,3,6-trideoxy-alpha-L-xylo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-	20630613	Daunomycin	1*	4	U059	X	1# (0.454)
Naphthalene	91203		5000	1,2,4	U165	B	100 (45.4)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Catego-ry	Pounds(Kg)
Naphthalene, 2-chloro	81587	beta-Chloronaphthalene 2-Chloronaphthalene	1*	2,4	U047	D	5000 (2270)
1,4-Naphthalenedione	130154	1,4-Naphthoquinone	1*	4	U168	D	5000 (2270)
2,7-Naphthalenedisulfonic acid,3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt	72571	Trypan blue	1*	4	U238	X	1# (0.454)
Naphthenic acid	1338245		100	1		B	100 (45.4)
1,4-Naphthoquinone	130154	1,4-Naphthalenedione	1*	4	U168	D	5000 (2270)
1-Naphthylamine	134327	alpha-Naphthylamine	1*	4	U167	X	1# (0.454)
2-Naphthylamine	91598	beta-Naphthylamine	1*	4	U168	X	1# (0.454)
alpha-Naphthylamine	134327	1-Naphthylamine	1*	4	U167	X	1# (0.454)
beta-Naphthylamine	91598	2-Naphthylamine	1*	4	U168	X	1# (0.454)
2-Naphthylamine, N,N-bis(2-chloroethyl)-	494031	Chlormaphazine	1*	4	U028	X	1# (0.454)
alpha-Naphthylthiourea	88884	Thiourea, 1-naphthalenyl-	1*	4	P072	B	100 (45.4)
Nickel ††	7440020		1*	2		X	1# (0.454)
NICKEL AND COMPOUNDS			1*	2			**
Nickel ammonium sulfate	15889180		5000	1		D	5000# (2270)
Nickel carbonyl	13463393	Nickel tetracarbonyl	1*	4	P073	X	1# (0.454)
Nickel chloride	7718549 37211055		5000	1		D	5000# (2270)
Nickel cyanide	557197	Nickel(II) cyanide	1*	4	P074	X	1# (0.454)
Nickel(II) cyanide	557197	Nickel cyanide	1*	4	P074	X	1# (0.454)
Nickel hydroxide	12054487		1000	1		C	1000# (454)
Nickel nitrate	14218752		5000	1		D	5000# (2270)
Nickel sulfate	7788814		5000	1		D	5000# (2270)
Nickel tetracarbonyl	13463393	Nickel carbonyl	1*	4	P073	X	1# (0.454)
Nicotine and salts	54115	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts	1*	4	P075	B	100 (45.4)
Nitric acid	7697372		1000	1		C	1000 (454)
Nitric oxide	10102439	Nitrogen(II) oxide	1*	4	P076	A	10 (4.54)
p-Nitroaniline	100016	Benzenamine, 4-nitro-	1*	4	P077	D	5000 (2270)
Nitrobenzene	98953	Benzene, nitro-	1000	1,2,4	U169	C	1000 (454)
Nitrogen dioxide	10102440 10544726	Nitrogen(IV) oxide	1000	1,4	P078	A	10 (4.54)
Nitrogen(II) oxide	10102439	Nitric oxide	1*	4	P076	A	10 (4.54)
Nitrogen(IV) oxide	10102440 10544726	Nitrogen dioxide	1000	1,4	P078	A	10 (4.54)
Nitroglycerine	55630	1,2,3-Propanetriol, trinitrate	1*	4	P081	A	10 (4.54)
Nitrophenol (mixed)	25164556		1000	1		B	100 (45.4)
m-	554847						
o-	68765	2-Nitrophenol					
p-	100027	4-Nitrophenol Phenol, 4-nitro-					
p-Nitrophenol	100027	4-Nitrophenol Phenol, 4-nitro-	1000	1,2,4	U170	B	100 (45.4)
2-Nitrophenol	68765	o-Nitrophenol	1000	1,2		B	100 (45.4)
4-Nitrophenol	100027	p-Nitrophenol Phenol, 4-nitro-	1000	1,2,4	U170	B	100 (45.4)
NITROPHENOLS			1*	2			**
2-Nitropropane	79469	Propane, 2-nitro-	1*	4	U171	X	1# (0.454)
NITROSAMINES			1*	2			**



TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
N-Nitrosodi-n-butylamine	924183	1-Butanamine, N-butyl-N-nitroso	1*	4	U172	X	1# (0.454)
N-Nitrosodiethanolamine	1116547	Ethanol, 2,2'-(nitrosimino)bis	1*	4	U173	X	1# (0.454)
N-Nitrosodiethylamine	55185	Ethanamine, N-ethyl-N-nitroso	1*	4	U174	X	1# (0.454)
N-Nitrosodimethylamine	62759	Dimethylnitrosamine	1*	2,4	P082	X	1# (0.454)
N-Nitrosodiphenylamine	66306		1*	2		B	100 (45.4)
N-Nitrosodi-n-propylamine	621647	Di-n-propylnitrosamine	1*	2,4	U111	X	1# (0.454)
N-Nitroso-N-ethylurea	759739	Carbamide, N-ethyl-N-nitroso	1*	4	U176	X	1# (0.454)
N-Nitroso-N-methylurea	684935	Carbamide, N-methyl-N-nitroso	1*	4	U177	X	1# (0.454)
N-Nitroso-N-methylurethane	615532	Carbamic acid, methylnitroso-ethyl ester	1*	4	U178	X	1# (0.454)
N-Nitrosomethylvinylamine	4549400	Ethanamine, N-methyl-N-nitroso	1*	4	P084	X	1# (0.454)
N-Nitrosopiperidine	100754	Pyridine, hexahydro-N-nitroso	1*	4	U179	X	1# (0.454)
N-Nitrosopyrrolidine	930552	Pyrrole, tetrahydro-N-nitroso	1*	4	U180	X	1# (0.454)
Nitrotoluene m- o- p-	1321126 99091 88722 99990		1000	1		C	1000 (454)
5-Nitro-o-toluidine	99559	Benzenamine, 2-methyl-5-nitro	1*	4	U181	X	1# (0.454)
5-Norbornene-2,3-dimethanol,1,4,5,6,7,7-hexachloro, cyclic sulfite	115297	Endosulfan	1	1,2,4	P050	X	1 (0.454)
Octamethylpyrophosphoramide	152189	Diphosphoramide, octamethyl	1*	4	P085	B	100 (45.4)
Osmium oxide	20816120	Osmium tetroxide	1*	4	P087	C	1000 (454)
Osmium tetroxide	20816120	Osmium oxide	1*	4	P087	C	1000 (454)
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145733	Endothal	1*	4	P088	C	1000 (454)
1,2-Oxathiolane, 2,2-dioxide	1120714	1,3-Propane sulfone	1*	4	U193	X	1# (0.454)
2H-1,3,2-Oxazaphosphorine,2-[bis(2-chloroethyl)amino] tetrahydro-2-oxide	50180	Cyclophosphamide	1*	4	U059	X	1# (0.454)
Oxirane	75218	Ethyleneoxide	1*	4	U115	X	1# (0.454)
Oxirane, 2-(chloromethyl)-	106898	1-Chloro-2,3-epoxypropane Epichlorohydrin	1000	1,4	U041	C	1000# (454)
Paraformaldehyde	30525894		1000	1		C	1000 (454)
Paraldehyde	123637	1,3,5-Trioxane, 2,4,6-trimethyl	1*	4	U182	C	1000 (454)
Parathion	56382	Phosphorothioic acid,O,O-diethyl O-(p-nitrophenyl) ester	1	1,4	P089	X	1# (0.454)
Pentachlorobenzene	608936	Benzene, pentachloro	1*	4	U183	X	1## (0.454)
Pentachloroethane	78017	Ethane, pentachloro	1*	4	U184	X	1## (0.454)
Pentachloronitrobenzene	62669	Benzene, pentachloronitro	1*	4	U185	X	1# (0.454)
Pentachlorophenol	67865	Phenol, pentachloro	10	1,2,4	U242	A	10# (4.54)
1,3-Pentadiene	504809	1-Methylbutadiene	1*	4	U186	B	100 (45.4)
Phenacetin	62442	Acetamide, N-(4-ethoxyphenyl)	1*	4	U187	X	1# (0.454)
Phenanthrene	85016		1*	2		X	1## (0.454)
Phenol	108952	Benzene, hydroxy	1000	1,2,4	U188	C	1000## (454)
Phenol, 2-chloro	95578	2-Chlorophenol o-Chlorophenol	1*	2,4	U048	B	100 (45.4)
Phenol, 4-chloro-3-methyl	58507	4-Chloro-m-cresol p-Chloro-m-cresol	1*	2,4	U039	D	5000 (2270)
Phenol, 2-cyclohexyl-4,6-dinitro	131895	4,6-Dinitro-o-cyclohexylphenol	1*	4	P034	B	100 (45.4)
Phenol, 2,4-dichloro	120832	2,4-Dichlorophenol	1*	2,4	U081	B	100 (45.4)
Phenol, 2,6-dichloro	67650	2,6-Dichlorophenol	1*	4	U082	B	100 (45.4)
Phenol, 2,4-dimethyl	105679	2,4-Dimethylphenol	1*	2,4	U101	B	100 (45.4)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code 1	RCRA Waste Number	Catego- ry	Pounds(Kg)
Phenol, 2,4-dinitro	51285	2,4-Dinitrophenol	1000	1,2,4	P048	A	10 (4.54)
Phenol, 2,4-dinitro-6-(1-methylpropyl)	88857	Dinoseb	1*	4	P020	C	1000 (454)
Phenol, 2,4-dinitro-6-methyl-, and salts	534521	4,6-Dinitro-o-cresol and salts	1*	2,4	P047	A	10 (4.54)
Phenol, 4-nitro	100027	p-Nitrophenol 4-Nitrophenol	1000	1,2,4	U170	B	100 (45.4)
Phenol, pentachloro-	87885	Pentachlorophenol	10	1,2,4	U242	A	10# (4.54)
Phenol, 2,3,4,6-tetrachloro-	58902	2,3,4,6-Tetrachlorophenol	1*	4	U212	A	10 (4.54)
Phenol, 2,4,5-trichloro-	85954	2,4,5-Trichlorophenol	10	1,4	U230	A	10# (4.54)
Phenol, 2,4,6-trichloro-	88062	2,4,6-Trichlorophenol	10	1,2,4	U231	A	10# (4.54)
Phenol, 2,4,6-trinitro-, ammonium salt	131748	Ammonium picrate	1*	4	P009	A	10 (4.54)
Phenyl dichloroarsine	596286	Dichlorophenylarsine	1*	4	P036	X	1# (0.454)
1,10-(1,2-Phenylene)pyrene	193395	Indeno(1,2,3-cd)pyrene	1*	2,4	U137	X	1# (0.454)
Phenylmercaptol acetate	62384	Mercury, (acetato-O)phenyl-	1*	4	P092	X	1# # (0.454)
N-Phenylthiourea	103855	Thiourea, phenyl-	1*	4	P093	B	100 (45.4)
Phorate	298022	Phosphorodithioic acid, O,O-diethyl S-(ethylthio), methyl ester	1*	4	P094	X	1# # (0.454)
Phosgene	75445	Carbonyl chloride	5000	1,4	P095	A	10 (4.54)
Phosphine	7803512	Hydrogen phosphide	1*	4	P096	B	100 (45.4)
Phosphoric acid	7664382		5000	1		D	5000 (2270)
Phosphoric acid, diethyl p-nitrophenyl ester	311455	Diethyl-p-nitrophenyl phosphate	1*	4	P041	B	100 (45.4)
Phosphoric acid, lead salt	7448277	Lead phosphate	1*	4	U145	X	1# (0.454)
Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288582	O,O-Diethyl S-methyl dithiophosphate	1*	4	U067	D	5000 (2270)
Phosphorodithioic acid, O,O-diethyl S-(ethylthio), methyl ester	298022	Phorate	1*	4	P094	X	1# # (0.454)
Phosphorodithioic acid, O,O-dimethyl S-[2(methylamino)-2-oxoethyl] ester	60515	Dimethoate	1*	4	P044	A	10 (4.54)
Phosphorodithioic acid, bis(1-methylthyl) ester	59914	Diisopropyl fluorophosphate	1*	4	P043	B	100 (45.4)
Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester	56382	Parathion	1	1,4	P089	X	1# (0.454)
Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297672	O,O-Diethyl O-pyrazinyl phosphorothioate	1*	4	P040	B	100 (45.4)
Phosphorothioic acid, O,O-dimethyl O-[p-[(dimethylamino)sulfonyl]phenyl] ester	52857	Famphur	1*	4	P097	C	1000 (454)
Phosphorus	7723140		1	1		X	1 (0.454)
Phosphorus oxychloride	10025873		5000	1		C	1000 (454)
Phosphorus pentasulfide	1314803	Phosphorus sulfide Sulfur phosphide	100	1,4	U189	B	100 (45.4)
Phosphorus sulfide	1314803	Phosphorus pentasulfide Sulfur phosphide	100	1,4	U189	B	100 (45.4)
Phosphorus trichloride	7719122		5000	1		C	1000 (454)
PHTHALATE ESTERS			1*	2			..
Phthalic anhydride	85449	1,2-Benzenedicarboxylic acid anhydride	1*	4	U190	D	5000 (2270)
2-Picoline	109068	Pyridine, 2-methyl-	1*	4	U191	D	5000 (2270)
Plumbane, tetraethyl-	78002	Tetraethyl lead	100	1,4	P110	B	100# # (45.4)
POLYCHLORINATED BIPHENYLS (PCBs)	1336863 12674112 11104282 11141165 53489219 12672286 11097691 11098826	Aroclors Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1280	10	1,2		A	10# (4.54)
POLYNUCLEAR AROMATIC HYDROCARBONS			1*				..

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
Potassium arsenate	7784410		1000	1		C	1000# (454)
Potassium arsenite	10124502		1000	1		C	1000# (454)
Potassium bichromate	7778509		1000	1		C	1000# (454)
Potassium chromate	7789006		1000	1		C	1000# (454)
Potassium cyanide	151508		10	1,4	P098	A	10 (4.54)
Potassium hydroxide	1310583		1000	1		C	1000 (454)
Potassium permanganate	7722847		100	1		B	100 (45.4)
Potassium silver cyanide	506816		1*	4	P099	X	1 (0.454)
Propenide	23950585	3,5-Dichloro-N-(1,1-dimethyl-2-propenyl)benzamide	1*	4	U102	D	5000 (2270)
1-Propenal, 2,3-epoxy	785344	Glycidialdehyde	1*	4	U126	X	1# (0.454)
Propenal, 2-methyl-2-(methylthio)-O-[(methylamino) carbonyl]oxime	116063	Aldicarb	1*	4	P070	X	1 (0.454)
1-Propanamine	107108	n-Propylamine	1*	4	U194	D	5000 (2270)
1-Propanamine, N-propyl	142847	Dipropylamine	1*	4	U110	D	5000 (2270)
Propane, 1,2-dibromo-3-chloro	96128	1,2-Dibromo-3-chloropropane	1*	4	U088	X	1# (0.454)
Propane, 2-nitro	78469	2-Nitropropane	1*	4	U171	X	1# (0.454)
Propane, 2,2'-oxybis(2-chloro	108601	Bis(2-chloroisopropyl) ether	1*	2,4	U027	C	1000 (454)
1,3-Propane sultone	1120714	1,2-Oxathiolane, 2,2-dioxide	1*	4	U193	X	1# (0.454)
Propanedinitrile	109773	Malononitrile	1*	4	U149	C	1000 (4.54)
Propanenitrile	107120	Ethyl cyanide	1*	4	P101	A	10 (4.54)
Propanenitrile, 3-chloro	542767	3-Chloropropionitrile	1*	4	P027	C	1000 (454)
Propanenitrile, 2-hydroxy-2-methyl	75865	Acetone cyanohydrin, 2-Methylacetonitrile	10	1,4	P089	A	10 (4.54)
1,2,3-Propanetriol, trinitrate	55630	Nitroglycerine	1*	4	P081	A	10 (4.54)
1-Propanol, 2,3-dibromo-, phosphate (3:1)	126727	Tris(2,3-dibromopropyl) phosphate	1*	4	U236	X	1# (0.454)
1-Propanol, 2-methyl	78831	Isobutyl alcohol	1*	4	U140	D	5000 (2270)
2-Propanone	67641	Acetone	1*	4	U002	D	5000 (2270)
2-Propanone, 1-bromo	588312	Bromoacetone	1*	4	P017	C	1000 (454)
Propargite	2312356		10	1		A	10 (4.54)
Propargyl alcohol	107197	2-Propyn-1-ol	1*	4	P102	C	1000 (454)
2-Propenal	107028	Acrolein	1	1,2,4	P003	X	1 (0.454)
2-Propenamide	79081	Acrylamide	1*	4	U007	D	5000 (2270)
Propene, 1,3-dichloro	542756	1,3-Dichloropropene	5000	1,2,4	U084	D	5000# (2270)
1-Propane, 1,1,2,3,3,3-hexachloro	1888717	Hexachloropropane	1*	4	U243	C	1000 (454)
2-Propanenitrile	107131	Acrylonitrile	100	1,2,4	U009	B	100# (45.4)
2-Propanenitrile, 2-methyl	126867	Methacrylonitrile	1*	4	U162	C	1000 (454)
2-Propenoic acid	79107	Acrylic acid	1*	4	U008	D	5000 (2270)
2-Propenoic acid, ethyl ester	140885	Ethyl acrylate	1*	4	U113	C	1000 (454)
2-Propenoic acid, 2-methyl-, ethyl ester	87832	Ethyl methacrylate	1*	4	U118	C	1000 (454)
2-Propenoic acid, 2-methyl-, methyl ester	80626	Methyl methacrylate	5000	1,4	U162	C	1000 (454)
2-Propen-1-ol	107166	Allyl alcohol	100	1,4	P005	B	100 (45.4)
Propionic acid	79094		5000	1		D	5000 (2270)
Propionic acid, 2-(2,4,5-trichlorophenoxy)-	93721	Silvex 2,4,5-TP acid	100	1,4	U233	B	100 (45.4)
Propionic anhydride	123626		5000	1		D	5000 (2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
n-Propylamine	107100	1-Propanamine	1*	4	U104	D	5000 (2270)
Propylene dichloride	78875	1,2-Dichloropropane	5000	1,2,4	U003	C	1000 (454)
Propylene oxide	75569		5000	1		B	100 (45.4)
1,2-Propylenimine	75358	2-Methylaziridine	1*	4	P087	X	1# (0.454)
2-Propyn-1-ol	107107	Propargyl alcohol	1*	4	P102	C	1000 (454)
Pyrene	129000		1*	2		X	1# (0.454)
Pyrethrins	121290 121211 8003347		5000	1		X	1 (0.454)
4-Pyridinamine	504245	4-Aminopyridine	1*	4	P006	C	1000 (454)
Pyridine	110861		1*	4	U106	X	1# (0.454)
Pyridine, 2-[2-(dimethylamino)ethyl]-2-thenylamino]	91605	Methapyrilene	1*	4	U125	D	5000 (2270)
Pyridine, hexahydro-N-nitroso-	109754	N-Nitrosopiperidine	1*	4	U170	X	1# (0.454)
Pyridine 2-methyl-	109058	2-Picoline	1*	4	U101	D	5000 (2270)
Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts	54115	Nicotine and salts	1*	4	P075	B	100 (45.4)
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	58042	Methythiouracil	1*	4	U184	X	1# (0.454)
Pyrophosphoric acid, tetraethyl ester	107493	Tetraethyl pyrophosphate	100	1,4	P111	B	100# (45.4)
Pyrolo, tetrahydro-N-nitroso-	930552	N-Nitrosopyrrolidine	1*	4	U150	X	1# (0.454)
Quinoline	91225		1000	1		D	5000 (2270)
RADIONUCLIDES			1*	3		X	1# (0.454)
Risoperine	60556	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[[3,4,5-trimethoxybenzoyloxy]-, methyl ester	1*	4	U200	D	5000 (2270)
Resorcinol	108463	1,3-Benzenediol	1000	1,4	U201	D	5000 (2270)
Saccharin and salts	81072	1,2-Benzisothiazolin-3-one, 1,1-dioxide, and salts	1*	4	U202	X	1# (0.454)
Safrole	94597	Benzeno, 1,2-methylenedioxy-4-ethyl-	1*	4	U203	X	1# (0.454)
Selenic acid	7783008		1*	4	U204	X	1# (0.454)
Selenic H	7782482		1*	2		X	1# (0.454)
SELENIUM AND COMPOUNDS			1*	2			--
Selenium dioxide	7446084	Selenium dioxide	1000	1,4	U204	C	1000# (454)
Selenium disulfide	7489584	Sulfur selenide	1*	4	U205	X	1# (0.454)
Selenium oxide	7448094	Selenium dioxide	1000	1,4	U204	C	1000# (454)
Selenourea	830104	Carbamidoseleonic acid	1*	4	P103	X	1# (0.454)
L-Serine, diacetate (ester)	115028	Asparagine	1*	4	U015	X	1# (0.454)
Silver H	7440224		1*	2		C	1000 (454)
SILVER AND COMPOUNDS			1*	2			--
Silver cyanide	500648		1*	4	P104	X	1 (0.454)
Silver nitrate	7761888		1	1		X	1 (0.454)
Silver	89721	Propionic acid, 2-(2,4,5-trichlorophenoxy)-2,4,5-TP acid	100	1,4	U293	B	100 (45.4)
Sodium	7440235		1000	1		A	10 (4.54)
Sodium arsenate	7831892		1000	1		C	1000# (454)
Sodium arsenite	7784465		1000	1		C	1000# (454)
Sodium azide	80028228		1*	4	P105	C	1000 (454)
Sodium dichromate	10588019		1000	1		C	1000# (454)
Sodium bifluoride	1333831		5000	1		D	5000# (2270)
Sodium bisulfite	7831906		5000	1		D	5000 (2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
Sodium chromate	7775113		1000	†		C	1000# (454)
Sodium cyanide	143339		10	1,4	P108	A	10 (4.54)
Sodium dodecylbenzena sulfonate	25155300		1000	†		C	1000 (454)
Sodium fluoride	7681404		5000	†		C	1000 (454)
Sodium hydrosulfide	16721806		5000	†		D	5000 (2270)
Sodium hydroxide	1310732		1000	†		C	1000 (454)
Sodium hypochlorite	7681529 10022705		100	†		B	100 (45.4)
Sodium methylate	124414		1000	†		C	1000 (454)
Sodium nitrite	7632000		100	†		B	100# (45.4)
Sodium phosphate, dibasic	7558784 10039324 10140655		5000	†		D	5000 (2270)
Sodium phosphate, tribasic	7601649 7789044 10101680 10361684 7758294 10124568		5000	†		D	5000 (2270)
Sodium selenite	10102188 7762823		1000	†		C	1000# (454)
4,4'-Stilbene-diol, alpha, alpha'-diethyl-	56531	Diethylstilbestrol	1*	4	U088	X	1# (0.454)
Streptozotocin	18893664	D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-	1*	4	U206	X	1# (0.454)
Strontium chromate	7789062		1000	†		C	1000# (454)
Strontium sulfide	1314981		1*	4	P107	B	100 (45.4)
Strychnidin-10-one, and salts	57249	Strychnine and salts	10	1,4	P108	A	10 (4.54)
Strychnidin-10-one, 2,3-dimethoxy-	857573	Brucine	1*	4	P018	A	10 (4.54)
Strychnine and salts	57249	Strychnidin-10-one, and salts	10	1,4	P108	A	10 (4.54)
Styrene	100425		1000	†		C	1000 (454)
Sulfur hydride	7782064	Hydrogen sulfide Hydrogensulfuric acid	100	1,4	U135	B	100# (45.4)
Sulfur monochloride	12771083		1000	†		C	1000 (454)
Sulfur phosphide	1314803	Phosphorus pentasulfide Phosphorus sulfide	100	1,4	U189	B	100 (45.4)
Sulfur selenide	7488564	Selenium disulfide	1*	4	U205	X	1# (0.454)
Sulfuric acid	7664939 8014957		1000	†		C	1000 (454)
Sulfuric acid, dimethyl ester	77781	Dimethyl sulfate	1*	4	U103	X	1# (0.454)
Sulfuric acid, thallium(I) salt	7448186 10031591	Thallium(I) sulfate	1000	1,4	P115	C	1000# (454)
2,4,5-T	83765	2,4,5-T acid 2,4,5-Trichlorophenoxyacetic acid	100	1,4	U232	C	1000 (454)
2,4,5-T acid	83765	2,4,5-T 2,4,5-Trichlorophenoxyacetic acid	100	1,4	U232	C	1000 (454)
2,4,6-T amines	2008460 6368968 6369977 1319728 3813147		100	†		D	5000 (2270)
2,4,5-T esters	83768 2548597 61792072 1629478 25168154		100	†		C	1000 (454)
2,4,5-T salts	13560981		100	†		C	1000 (454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
TDE	72548	DDD 4,4' DDD Dichlorodiphenyl dichloroethane	1	1,2,4	U060	X	1# (0.454)
1,2,4,6-Tetrachlorobenzene	95943	Benzene, 1,2,4,5-tetrachloro	1*	4	U207	D	5000 (2270)
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746016		1*	2		X	1# (0.454)
1,1,1,2-Tetrachloroethane	630206	Ethane, 1,1,1,2-tetrachloro	1*	4	U208	X	1# (0.454)
1,1,2,2-Tetrachloroethane	79345	Ethane, 1,1,2,2-tetrachloro	1*	2,4	U209	X	1# (0.454)
Tetrachloroethylene	127184	Ethane, 1,1,2,2-tetrachloro	1*	2,4	U210	X	1# (0.454)
2,3,4,6-Tetrachlorophenol	68902	Phenol, 2,3,4,6-tetrachloro	1*	4	U212	A	10 (4.54)
Tetraethylthiopyrophosphate	3689245	Dithiopyrophosphoric acid, tetraethyl ester	1*	4	P109	B	100 (45.4)
Tetraethyl lead	76002	Plumbane, tetraethyl	100	1,4	P110	B	100## (46.4)
Tetraethyl pyrophosphate	107493	Pyrophosphoric acid, tetraethyl ester	100	1,4	P111	B	100## (45.4)
Tetrahydrofuran	109999	Furan, tetrahydro	1*	4	U213	C	1000 (454)
Tetranitromethane	509148	Methane, tetranitro	1*	4	P112	A	10 (4.54)
Tetraphosphoric acid, hexaethyl ester	757564	Hexaethyl tetraphosphate	1*	4	P062	B	100 (45.4)
Thallic oxide	1314325	Thallium(III) oxide	1*	4	P113	X	1## (0.454)
Thallium II	7440280		1*	2		X	1## (0.454)
THALLIUM AND COMPOUNDS			1*	2			**
Thallium(I) acetate	663868	Acetic acid, thallium(I) salt	1*	4	U214	X	1## (0.454)
Thallium(I) carbonate	6533739	Carbonic acid, orthallium (I) salt	1*	4	U215	X	1## (0.454)
Thallium(I) chloride	7791120		1*	4	U216	X	1## (0.454)
Thallium(I) nitrate	10102451		1*	4	U217	X	1## (0.454)
Thallium(III) oxide	1314325	Thallic oxide	1*	4	P113	X	1## (0.454)
Thallium(I) selenide	12039520		1*	4	P114	X	1## (0.454)
Thallium(I) sulfate	7445186 10031591	Sulfuric acid, thallium(I) salt	1000	1,4	P115	C	1000## (454)
Thioacetamide	62555	Ethanethioamide	1*	4	U218	X	1# (0.454)
Thioanox	39199184	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino) carbonyl] oxime	1*	4	P045	B	100 (45.4)
Thioimidodicarbonic diamide	541537	2,4-Dithiobiuret	1*	4	P049	B	100 (45.4)
Thiomethanol	74931	Methanethiol Methylmercaptan	100	1,4	U153	B	100 (45.4)
Thiophenol	106995	Benzenethiol	1*	4	P014	B	100 (45.4)
Thiosemicarbazide	79196	Hydrazinecarbothioamide	1*	4	P116	B	100 (45.4)
Thiourea	62566	Carbamide, thio	1*	4	U219	X	1# (0.454)
Thiourea, (2-chlorophenyl)-	5344821	1-(o-Chlorophenyl)thiourea	1*	4	P028	B	100 (45.4)
Thiourea, 1-naphthalenyl-	66884	alpha-Naphthylthiourea	1*	4	P072	B	100 (45.4)
Thiourea, phenyl-	103855	N-Phenylthiourea	1*	4	P093	B	100 (45.4)
Thiram	137268	Bis(dimethylthiocarbonyl) disulfide	1*	4	U244	A	10 (4.54)
Toluene	106893	Benzene, methyl	1000	1,2,4	U220	C	1000 (454)
Toluenediamine	95807 25376458 498720 823405	Diaminotoluene	1*	4	U221	X	1# (0.454)
Toluene diisocyanate	684849 91087 26471625	Benzene, 2,4-diisocyanatomethyl	1*	4	U223	B	100 (45.4)
o-Toluidine hydrochloride	636216	Benzenamine, 2-methyl-, hydrochloride	1*	4	U222	X	1# (0.454)
Toxaphene	8001352	Camphene, octachloro	1	1,2,4	P123	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
2,4,5-TP acid	93721	Propionic acid, 2-(2,4,5-trichlorophenoxy)- Silvex	100	1,4	U233	B	100 (45.4)
2,4,5-TP acid esters	32534955		100	1		B	100 (45.4)
1H-1,2,4-Triazol-3-amine	61825	Amitrole	1*	4	U011	X	1# (0.454)
Trichlorfon	52686		1000	1		C	1000# (454)
1,2,4-Trichlorobenzene	120621		1*	2		B	100 (45.4)
1,1,1-Trichloroethane	71586	Methyl chloroform	1*	2,4	U226	C	1000 (454)
1,1,2-Trichloroethane	79005	Ethane, 1,1,2-trichloro-	1*	2,4	U227	X	1# (0.454)
Trichloroethane	79016	Trichloroethylene	1000	1,2,4	U228	C	1000# (454)
Trichloroethylene	79016	Trichloroethene	1000	1,2,4	U228	C	1000# (454)
Trichloromethanesulfonyl chloride	594423	Methanesulfonyl chloride, trichloro-	1*	4	P118	B	100 (45.4)
Trichloromonofluoromethane	75694	Methane, trichlorofluoro-	1*	4	U121	D	5000 (2270)
Trichlorophenol	25167622		10	1		A	10# (4.54)
2,3,4-Trichlorophenol	15850860						
2,3,5-Trichlorophenol	933788						
2,3,6-Trichlorophenol	933755						
2,4,5-Trichlorophenol	95954	Phenol, 2,4,5-trichloro-					
2,4,6-Trichlorophenol	88062	Phenol, 2,4,6-trichloro-					
3,4,5-Trichlorophenol	608198						
2,4,6-Trichlorophenol	95954	Phenol, 2,4,5-trichloro-	10*	1,4	U230	A	10# (4.54)
2,4,6-Trichlorophenol	88062	Phenol, 2,4,6-trichloro-	10*	1,2,4	U231	A	10# (4.54)
2,4,6-Trichlorophenoxyacetic acid	93765	2,4,5-T 2,4,5-T acid	100	1,4	U232	C	1000 (454)
Triethanolamine dodecylbenzenesulfonate	27323417		1000	1		C	1000 (454)
Triethylaniline	121448		5000	1		D	5000 (2270)
Trimethylamine	75503		1000	1		C	1000# (454)
sym-Trinitrobenzene	99354	Benzene, 1,3,5-trinitro-	1*	4	U234	X	1# (0.454)
1,3,5-Trioxane, 2,4,6-trimethyl-	123637	Paraldehyde	1*	4	U182	C	1000 (454)
Tris(2,3-dibromopropyl) phosphate	126727	1-Propanol, 2,3-dibromo-, phosphate (3:1)	1*	4	U235	X	1# (0.454)
Trypan blue	72571	2,7-Naphthalenedisulfonic acid,3,3'-[(3,3'-dimethyl- (1,1'-biphenyl)-4,4'-diyl)- bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt	1*	4	U236	X	1# (0.454)
Unlisted Hazardous Wastes			1*	4			
Characteristic of Ignitability			1*	4	D001	B	100 (45.4)
Characteristic of Corrosivity			1*	4	D002	B	100 (45.4)
Characteristic of Reactivity			1*	4	D003	B	100 (45.4)
Characteristic of EP Toxicity			1*	4			
Arsenic			1*	4	D004	X	1# (0.454)
Barium			1*	4	D005	C	1000 (454)
Cadmium			1*	4	D006	X	1# (0.454)
Chromium			1*	4	D007	X	1# (0.454)
Lead			1*	4	D008	X	1# (0.454)
Mercury			1*	4	D009	X	1 (0.454)
Selenium			1*	4	D010	X	1# (0.454)
Silver			1*	4	D011	X	1 (0.454)
Endrin			1	1,4	D012	X	1 (0.454)
Lindane			1	1,4	D013	X	1# (0.454)
Methoxychlor			1	1,4	D014	X	1 (0.454)
Toxaphene			1	1,4	D015	X	1# (0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
2,4-D			100	1,4	D016	B	100 (45.4)
2,4,5-TP			100	1,4	D017	B	100 (45.4)
Uracil, 5-[bis(2-chloroethyl)amino]-	66751	Uracil mustard	1*	4	U237	X	1# (0.454)
Uracil mustard	66751	Uracil, 5-[bis(2-chloroethyl)amino]-	1*	4	U237	X	1# (0.454)
Uranyl acetate	541093		5000	1		D	5000## (2270)
Uranyl nitrate	10102084 39478789		5000	1		D	5000## (2270)
Vanadic acid, ammonium salt	7803556	Ammonium vanadate	1*	4	P119	C	1000 (454)
Vanadium(V) oxide	1314621	Vanadium pentoxide	1000	1,4	P120	C	1000## (454)
Vanadium pentoxide	1314621	Vanadium(V) oxide	1000	1,4	P120	C	1000## (454)
Vanadyl sulfate	27774136		1000	1		C	1000## (454)
Vinyl acetate	108054		1000	1		D	5000 (2270)
Vinyl chloride	75014	Ethene, chloro-	1*	2,3,4	U043	X	1# (0.454)
Vinylidene chloride	75354	1,1-Dichloroethylene Ethene, 1,1-dichloro-	5000	1,2,4	U076	D	5000## (2270)
Warfarin	61812	3-(alpha-Acetylbonyl)-4-hydroxycoumarin and salts	1*	4	P001	B	180 (45.4)
Xylene (mixed)	1330207	Benzene, dimethyl	1000	1,4	U239	C	1000 (454)
m-	108383	m-					
o-	95476	o-					
p-	106423	p-					
Xylenol	1300718		1000	1		C	1000 (454)
Yohimben-16-carboxylic acid, 11,17-dimethoxy- 18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester	50555	Rescorpine	1*	4	U200	D	5000 (2270)
Zinc ††	7440666		1*	2		X	1## (0.454)
ZINC AND COMPOUNDS			1*	2			
Zinc acetate	557346		1000	1		C	1000## (454)
Zinc ammonium chloride	52826258 14839975 14839986		5000	1		D	5000## (2270)
Zinc borate	1392078		1000	1		C	1000## (454)
Zinc bromide	7698458		5000	1		D	5000## (2270)
Zinc carbonate	8486359		1000	1		C	1000## (454)
Zinc chloride	7646657		5000	1		D	5000## (2270)
Zinc cyanide	557211		10	1,4	P121	A	10## (4.54)
Zinc fluoride	7783495		1000	1		C	1000## (454)
Zinc formate	557415		1000	1		C	1000## (454)
Zinc hydrosulfite	7779864		1000	1		C	1000## (454)
Zinc nitrate	7779866		5000	1		D	5000## (2270)
Zinc phenolsulfonate	127822		5000	1		D	5000## (2270)
Zinc phosphide	1314847		1000	1,4	P122	C	1000## (454)
Zinc silicofluoride	16871718		5000	1		D	5000## (2270)
Zinc sulfate	7733020		1000	1		C	1000## (454)
Zirconium nitrate	13748999		5000	1		D	5000 (2270)
Zirconium potassium fluoride	18923958		5000	1		C	1000 (454)
Zirconium sulfate	14644812		5000	1		D	5000 (2270)
Zirconium tetrachloride	10028116		5000	1		D	5000 (2270)
F001			1*	4	F001	X	1# (0.454)



TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code I	RCRA Waste Number	Category	Pounds(Kg)
The following spent halogenated solvents used in degreasing and sludges from the recovery of these solvents in degreasing operations:							
(a) Tetrachloroethylene	127184					X	1# (0.454)
(b) Trichloroethylene	78016					C	1000# (454)
(c) Methylene chloride	75092					C	1000 (454)
(d) 1,1,1-Trichloroethane	71556					C	1000 (454)
(e) Carbon tetrachloride	56235					D	5000# (2270)
(f) Chlorinated fluorocarbons	(N.A.)					D	5000 (2270)
<b>F002</b>			1*	4	F002	X	1# (0.454)
The following spent halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Tetrachloroethylene	127184					X	1# (0.454)
(b) Methylene Chloride	75092					C	1000 (454)
(c) Trichloroethylene	78016					C	1000# (454)
(d) 1,1,1-Trichloroethane	71556					C	1000 (454)
(e) Chlorobenzene	108907					B	100 (45.4)
(f) 1,1,2-Trichloro-1,2,2-trifluoroethane	76131					D	5000 (2270)
(g) o-Dichlorobenzene	106467					B	100 (45.4)
(h) Trichlorofluoromethane	75684					D	5000 (2270)
<b>F003</b>			1*	4	F003	B	100 (45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Xylene	1330207					C	1000 (454)
(b) Acetone	67641					D	5000 (2270)
(c) Ethyl acetate	141786					D	5000 (2270)
(d) Ethylbenzene	100414					C	1000 (454)
(e) Ethyl ether	60297					B	100 (45.4)
(f) Methyl isobutyl ketone	108101					D	5000 (2270)
(g) n-Butyl alcohol	71363					D	5000 (2270)
(h) Cyclohexanone	108941					D	5000 (2270)
(i) Methanol	67581					D	5000 (2270)
<b>F004</b>			1*	4	F004	X	1# (0.454)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Cresols/Cresylic acid	1318773					C	1000# (454)
(b) Nitrobenzene	98953					C	1000 (454)
<b>F005</b>			1*	4	F005	X	1# (0.454)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Toluene	108883					C	1000 (454)
(b) Methyl ethyl ketone	78933					D	5000 (2270)
(c) Carbon disulfide	75150					D	5000# (2270)
(d) Isobutanol	78831					D	5000 (2270)
(e) Pyridine	110861					X	1# (0.454)
<b>F006</b>			1*	4	F006	X	1# (0.454)
Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basals) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum							
<b>F007</b>			1*	4	F007	A	10 (4.54)
Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions)							
<b>F008</b>			1*	4	F008	A	0 (4.54)
Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges)							
<b>F009</b>			1*	4	F009	A	10 (4.54)
Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions)							
<b>F010</b>			1*	4	F010	A	10 (4.54)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching bath sludges)			1*	4	F011	A	10 (4.54)
F011 Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning)			1*	4	F012	A	10 (4.54)
F012 Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges)			1*	4	F019	X	1# (0.454)
F019 Wastewater treatment sludges from the chemical conversion coating of aluminum			1*	4	F024	X	1# (0.454)
F024 Wastes, including but not limited to distillation residues, heavy ends, tars, and reactor cleanout wastes, from the production of chlorinated aliphatic hydrocarbons having carbon content from one to five, utilizing free radical catalyzed processes. (This listing does not include light ends, spent fillers and filler aids, spent desiccants (sic), wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in Section 261.32.)			1*	4	K001	X	1# (0.454)
K001 Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol			1*	4	K002	X	1# (0.454)
K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments			1*	4	K003	X	1# (0.454)
K003 Wastewater treatment sludge from the production of molybdate orange pigments			1*	4	K004	X	1# (0.454)
K004 Wastewater treatment sludge from the production of zinc yellow pigments			1*	4	K005	X	1# (0.454)
K005 Wastewater treatment sludge from the production of chrome green pigments			1*	4	K006	X	1# (0.454)
K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)			1*	4	K007	X	1# (0.454)
K007 Wastewater treatment sludge from the production of iron blue pigments			1*	4	K008	X	1# (0.454)
K008 Oven residue from the production of chrome oxide green pigments			1*	4	K009	X	1# (0.454)
K009 Distillation bottoms from the production of acetaldehyde from ethylene			1*	4	K010	X	1# (0.454)
K010 Distillation side cuts from the production of acetaldehyde from ethylene			1*	4	K011	X	1# (0.454)
K011 Bottom stream from the wastewater stripper in the production of acrylonitrile			1*	4	K013	X	1# (0.454)
K013 Bottom stream from the acetonitrile column in the production of acrylonitrile			1*	4	K014	D	5000 (2270)
K014 Bottoms from the acetonitrile purification column in the production of acrylonitrile							

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code	RCRA Waste Number	Category	Pounds(Kg)
K015 Still bottoms from the distillation of benzyl chloride			1*	4	K015	X	1# (0.454)
K016 Heavy ends or distillation residues from the production of carbon tetrachloride			1*	4	K016	X	1# (0.454)
K017 Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin			1*	4	K017	X	1# (0.454)
K018 Heavy ends from the fractionation column in ethyl chloride production			1*	4	K018	X	1# (0.454)
K019 Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production			1*	4	K019	X	1# (0.454)
K020 Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production			1*	4	K020	X	1# (0.454)
K021 Aqueous spent antimony catalyst waste from fluoromethanes production			1*	4	K021	X	1# (0.454)
K022 Distillation bottom tars from the production of phenol/acetone from cumene			1*	4	K022	X	1# (0.454)
K023 Distillation light ends from the production of phthalic anhydride from naphthalene			1*	4	K023	F	5000 (2270)
K024 Distillation bottoms from the production of phthalic anhydride from naphthalene			1*	4	K024	D	5000 (2270)
K025 Distillation bottoms from the production of nitrobenzene by the nitration of benzene			1*	4	K025	X	1# (0.454)
K026 Stripping still tails from the production of methyl ethyl pyridines			1*	4	K026	X	1# (0.454)
K027 Centrifuge and distillation residues from toluene diisocyanate production			1*	4	K027	X	1# (0.454)
K028 Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane			1*	4	K028	X	1# (0.454)
K029 Waste from the product steam stripper in the production of 1,1,1-trichloroethane			1*	4	K029	X	1# (0.454)
K030 Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene			1*	4	K030	X	1# (0.454)
K031 By-product salts generated in the production of MSMA and cacodylic acid			1*	4	K031	X	1# (0.454)
K032 Wastewater treatment sludge from the production of chlordane			1*	4	K032	X	1# (0.454)
K033 Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane			1*	4	K033	X	1# (0.454)
K034 Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane			1*	4	K034	X	1# (0.454)
K035 Wastewater treatment sludges generated in the production of creosote			1*	4	K035	X	1# (0.454)
K036			1*	4	K036	X	1 (0.454)

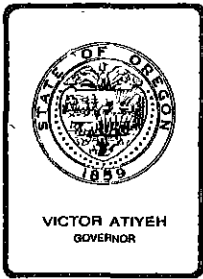
TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RC	
			RC	Code †	RCRA Waste Number	Category	Pounds(Kg)
Still bottoms from toluene reclamation distillation in the production of disulfoton			1*	4	K037	X	1 (0.454)
K037 Wastewater treatment sludges from the production of disulfoton			1*	4	K038	X	1# (0.454)
K038 Wastewater from the washing and stripping of phorate production			1*	4	K039	X	1## (0.454)
K039 Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate			1*	4	K040	X	1# (0.454)
K040 Wastewater treatment sludge from the production of phorate			1*	4	K041	X	1# (0.454)
K041 Wastewater treatment sludge from the production of toxaphene			1*	4	K042	X	1# (0.454)
K042 Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T			1*	4	K043	X	1# (0.454)
K043 2,6-Dichlorophenol waste from the production of 2,4-D			1*	4	K044	A	10 (4.54)
K044 Wastewater treatment sludges from the manufacturing and processing of explosives			1*	4	K045	A	10 (4.54)
K045 Spent carbon from the treatment of wastewater containing explosives			1*	4	K046	X	1## (0.454)
K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds			1*	4	K047	A	10 (4.54)
K047 Pink/red water from TNT operations			1*	4	K048	X	1# (0.454)
K048 Dissolved air flotation (DAF) float from the petroleum refining industry			1*	4	K049	X	1# (0.454)
K049 Slip oil emulsion solids from the petroleum refining industry			1*	4	K050	X	1# (0.454)
K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry			1*	4	K051	X	1# (0.454)
K051 API separator sludge from the petroleum refining industry			1*	4	K052	X	1## (0.454)
K052 Tank bottoms (loaded) from the petroleum refining industry			1*	4	K060	X	1# (0.454)
K060 Ammonia still lime sludge from coking operations			1*	4	K061	X	1# (0.454)
K061 Emission control dust/sludge from the primary production of steel in electric furnaces			1*	4	K062	X	1# (0.454)
K062 Spent pickle liquor from steel finishing operations			1*	4	K068	X	1# (0.454)
K068 Emission control dust/sludge from secondary lead smelting			1*	4	K071	X	1 (0.454)
K071 Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used							

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds(Kg)
K073 Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production			1*	4	K073	X	1# (0.454)
K083 Distillation bottoms from aniline extraction			1*	4	K083	B	100 (45.4)
K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds			1*	4	K084	X	1# (0.454)
K085 Distillation or fractionation column bottoms from the production of chlorobenzenes			1*	4	K085	X	1# (0.454)
K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead			1*	4	K086	X	1# (0.454)
K087 Decanter tank tar sludge from coking operations			1*	4	K087	X	1## (0.454)
K093 Distillation light ends from the production of phthalic anhydride from ortho-xylene			1*	4	K093	D	5000 (2270)
K094 Distillation bottoms from the production of phthalic anhydride from ortho-xylene			1*	4	K094	D	5000 (2270)
K095 Distillation bottoms from the production of 1,1,1-trichloroethane			1*	4	K095	X	1# (0.454)
K096 Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane			1*	4	K096	X	1# (0.454)
K097 Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane			1*	4	K097	X	1# (0.454)
K098 Untreated process wastewater from the production of toxaphene			1*	4	K098	X	1# (0.454)
K099 Untreated wastewater from the production of 2,4-D			1*	4	K099	X	1# (0.454)
K100 Waste leaching solution from acid leaching of emission control dust/sludges from secondary lead smelting (Components of this waste are identical with those of K069).			1*	4	K100	X	1# (0.454)
K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds			1*	4	K101	X	1# (0.454)
K102 Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds			1*	4	K102	X	1# (0.454)
K103 Process residues from aniline extraction from the production of aniline			1*	4	K103	B	100 (45.4)
K104 Combined wastewater streams generated from nitrobenzene/aniline chlorobenzenes			1*	4	K104	X	1# (0.454)
K105 Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes			1*	4	K105	X	1# (0.454)
K106 Wastewater treatment sludge from the mercury cell process in chlorine production			1*	4	K106	X	1 (0.454)

See footnotes on following page.



## *Environmental Quality Commission*

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### MEMORANDUM

**To:** Environmental Quality Commission  
**From:** Linda K. Zucker, Hearings Officer  
**Subject:** Agenda Item H, June 13, 1986, EQC Meeting  
Appeal of Hearing Officer's Order, DEQ v. Amos Funrue,  
Case Number 05-AQ-FB-84-141

Amos Funrue has appealed the hearings officer's decision finding him liable for a \$500 civil penalty.

Enclosed for the Commission's review are:

1. Hearings Officer's decision dated January 10, 1986.
2. Funrue's exceptions and proposed alternative order dated March 14, 1986.
3. DEQ's response dated May 20, 1986.

LKZ:y  
HY2763  
229-5383  
May 28, 1986

1                                   BEFORE THE ENVIRONMENTAL QUALITY COMMISSION  
2                                   OF THE STATE OF OREGON

3 DEPARTMENT OF ENVIRONMENTAL QUALITY     )  
4 OF THE STATE OF OREGON,                    )

5                                   v.                    Department,     )

6 AMOS FUNRUE,                                 )

7                                   Respondent.     )

HEARING OFFICER'S  
FINDINGS OF FACT,  
CONCLUSIONS OF LAW AND  
FINAL ORDER  
NO. 05-AQFB-84-141  
MARION COUNTY

8 BACKGROUND

9           Amos Funrue has appealed from a Notice of Assessment of Civil Penalty  
10 issued by the Department of Environmental Quality (DEQ). The notice  
11 alleged a violation of DEQ's open field burning rules by late burning.  
12 DEQ levied a civil penalty of \$500 asserting there were aggravating  
13 factors. Funrue denied burning late; offered evidence in avoidance of  
14 liability; and challenged the amount of the penalty.

15           A hearing was conducted on June 20, 1985. DEQ was represented by  
16 Glenn Klein, Assistant Attorney General. Amos Funrue presented his own  
17 defense.

18 FINDINGS OF FACT

- 19 1. At 3:16 on August 12, 1984, Funrue was authorized to burn 85 acres  
20 of grass seed. He knew 4:00 p.m. was fires-out time.
- 21 2. In past years the field had burned in less than 30 minute.
- 22 3. The weather was hot and dry that day and Funrue planned his burning  
23 tactics carefully. Field burning is not an exact science, but Funrue  
24 used particular caution in conducting his burning. Nonetheless,  
25 shortly before he finished burning, there was a "wild fire" which  
26 caused some delay in the conclusion of the burning.

- 1 4. Funrue was carrying a radio pager which he relied on to signal the  
2 burning prohibition--fires-out time. Funrue did not hear his pager  
3 signal the burning cut-off time. He mistakenly believed he had  
4 some time left for burning.
- 5 5. A significant portion of the field was still burning when the DEQ  
6 inspector arrived at the field sometime after 4:00 p.m. Funrue was  
7 not actively extinguishing the fire.
- 8 6. Funrue had three water rigs at the field. This equipment is geared  
9 to confining fire. Extinguishment of active fire requires fire  
10 department effort. The local fire district is staffed by volunteers.
- 11 7. All growers who testified believed there is a 30 minute "grace"  
12 period--a mop-up time after prohibition conditions are imposed during  
13 which penalties are not assessed. There was no evidence that DEQ  
14 or other smoke control personnel instilled or encouraged this belief.
- 15 8. In recent years Funrue's farm operation has not been profitable.  
16 He has deferred property taxes and drawn substantially from funds  
17 planned for retirement. However, he owns 350 acres which he agrees  
18 have significant value.
- 19 9. This was Funrue's first violation.
- 20 10. No air quality impact was established.
- 21 11. Active ignition after fires-out time was not established.

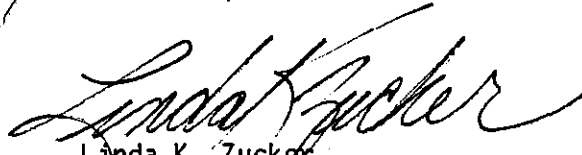
22 CONCLUSIONS OF LAW

- 23 1. The Commission has jurisdiction.
- 24 2. On August 12, 1984, Funrue violated OAR 340-26-010(6) by failing to  
25 actively extinguish his grass field fire at fires-out time. Funrue  
26 is liable for a civil penalty for the rule violation.



- 1 3. An aggravating factor existed in that a number of acres burned after  
2 fires-out time.
- 3 4. Mitigating factors existed, among them: this was Funrue's first  
4 violation; it was a single rather than repeated event; Funrue  
5 conducted his burning consciously; his monitor failed to signal  
6 the burning cut-off; his violation was not deliberate; he was  
7 cooperative in attempting to correct the violation; there was no  
8 adverse air quality impact from the violation; the violation was  
9 unintentional; and his income is modest.
- 10 5. The penalty range for the violation proved is \$300 to \$10,000.  
11 OAR 340-26-025(2)(b). Considering the above factors it is within  
12 DEQ's discretion to impose a penalty of \$500.

13  
14  
15 Dated this 10<sup>th</sup> day of January, 1986.

16  
17  
18   
19 Linda K. Zucker  
Hearings Officer

1                                   BEFORE THE ENVIRONMENTAL QUALITY COMMISSION  
2                                   OF THE STATE OF OREGON

3 DEPARTMENT OF ENVIRONMENTAL QUALITY )  
4 OF THE STATE OF OREGON,            )

5                                   Department,                            )

6                                   v.                                        )

7 AMOS FUNRUE,                            )

8                                   Respondent.                            )

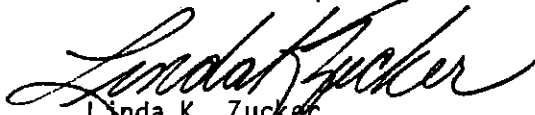
ORDER  
NO. 05-AQFB-84-141  
MARION COUNTY

9           The Commission, through its hearings officer orders that Amos Funrue  
10 is liable to the State of Oregon in the sum of \$500 and that the state have  
11 judgment for and recover that amount pursuant to a civil penalty assessment  
12 on February 25, 1985.

13           Review of this order is by appeal to the Environmental Quality  
14 Commission pursuant to OAR 340-11-132. A request for review must be filed  
15 within 30 days of the date of this order.

16  
17 Dated this 10<sup>th</sup> the day of January, 1986.

18  
19                                   Environmental Quality Commission

20                                     
21                                   Linda K. Zucker  
22                                   Hearings Officer

1                   BEFORE THE ENVIRONMENTAL QUALITY COMMISSION  
2                   OF THE STATE OF OREGON

3	DEPARTMENT OF ENVIRONMENTAL QUALITY	)	
	OF THE STATE OF OREGON,	)	RESPONDENTS
4	Department	)	FINDINGS OF FACT,
		)	CONCLUSIONS OF LAW,
5	v.	)	AND BACKGROUND
		)	No. 05-AQFB-84-141
6	AMOS FUNRUE,	)	MARION COUNTY
		)	
7	Respondent	)	

8    BACKGROUND

9           At 12:35 p.m. on August 12, 1984 the DEQ authorized a double  
10 charlie, single quota (600 acres) field burning order for the  
11 Silverton Fire District. Lee Kuenzi burned one field starting at  
12 12:42 p.m., Jack Riches burned two fields starting at 14:09 p.m.,  
13 and Funrue burned three contiguous fields (85 acres) starting at  
14 15:16 p.m. A total of 142 acres were burned that day in the Silverton  
15 Fire District of the 600 acre quota. The specific charge is that  
16 "Respondent failed to actively extinguish all flames and major  
17 smoke sources when prohibition conditions were imposed by the  
18 Department". OAR 340-26-010 (6). To this charge Respondent has  
19 pleaded not guilty based upon the fact that he was applying water  
20 to flames and fighting wild fire. Respondent does not claim that  
21 no acres were burned after 4:00 p.m. daylight saving time (3:00 p.m.  
22 standard time). Respondent has challenged the large amount of the  
23 penalty.

24           A hearing was conducted on June 20, 1985. DEQ was represented  
25 by Glenn Klein, Assistant Attorney General and Respondent presented  
26 his own defence.

1 FINDINGS OF FACT

2 1. At 3:16 on August 12, 1984, Funrue was authorized to burn  
3 five grass fields. Three of these fields were really one  
4 contiguous field consisting of 85 acres and were burned with  
5 the usual procedure as one field. They are now registered as  
6 one field. Two of the authorized fields were not burned that  
7 day. At the time of authorization Funrue was informed the fires out  
8 time was 4 p.m. daylight time (3:00p.m. standard time) until  
9 such time as it may be extended. Tr 29.

10 2. In past years the field had burned in less than 30 minutes .

11 3. The weather was hot and dry that day and Respondent planned his  
12 burning tactics carefully. Field burning is not an exact science,  
13 but Respondent used particular caution in conducting his burning.  
14 Nonetheless there were several wild fires caused by unpredictable  
15 wind conditions and a large tornado like whirlwind. The time  
16 required to control the wildfires was the direct cause of the  
17 extended burning time beyond the normal 30 minutes. Tr. 113,  
18 115-120 (details of burning).

19 4. Respondent was carrying a radio pager which he relied upon to  
20 signal fires out time or a time extension as the case may be.  
21 Respondent did not hear his pager and was not aware cut off time  
22 had indeed arrived.

23 5. DEQ investigator, Randy Bees, who arrived sometime after 4:00  
24 p.m. could not see Funrue because Funrue was out of his sight  
25 in the back of the field fighting wild fire with his water rig.  
26

- 1 6: Funrue had three water rigs at the field. This equipment is  
2 geared to confining fire. Extinguishment of a large field  
3 fire on a hot, dry, and windy day requires fire department  
4 effort. The local fire department is staffed by volunteers.
- 5 7. All growers who testified believed there is a 30 minute "grace"  
6 period--a mop up time after prohibition conditions are imposed  
7 during which penalties are not assessed. John Duerst testified  
8 that this has been discussed at a smoke management committee  
9 meeting with Sean O'Connell with no definite conclusion either  
10 yes or no.
- 11 8. In recent years Funrue's farm operation has not been very  
12 profitable. His 1982, 1983, and 1984 average net farm income per  
13 year was \$8,613.59. He has not paid his property taxes and  
14 withdrawn most of his retirement funds. The land he owns has  
15 declined much in value due to the farm depression.
- 16 9. This was Funrue's first violation
- 17 10. There was no adverse air quality impact from the violation.  
18 Mixing height was a plus 5,000 feet and one of the five best burning  
19 days of the year. Tr. 154
- 20 11. The work of investigator, Randy Rees, is very sloppy and  
21 unreliable--address given for fire location does not exist;  
22 location given for picture "F" is not possible; conflicting  
23 statements of arrival time; he never signed original written  
24 memorandum of investigation; he was not present at the hearing  
25 and the telephone conference proved very unsatisfactory.
- 26 12. Respondent monitored wind direction in his area until sunset.  
27 It remained constant from the SW which was different from  
28 what was reported at weather stations in Salem and Woodburn. Tr 106, 162

1 13. Laws pertaining to this case--OAR 340-26-003(1) Policy of EQC  
2 to provide a maximum level of burning with a minimum level of  
3 smoke impact on the public. Tr 110. OAR 340-26-005(1) Actively  
4 extinguish means the direct application of water or other fire  
5 retardent--.Tr 110. Ch 465.453 (1) Smoke managed so that "a  
6 maximum numer of acres registered can be burned in a mininum  
7 number of days without potential imparment of air quality". Tr 111.  
8 Ch 468.300 Liability for violation excused when caused by act of God.  
9 Tr 112, 113. Ch 468.275 (5) Air pollution defined--the presence  
10 of one or more air contaminants in sufficient quantity and  
11 duration that are likely to be injurious to public welfare and  
12 health. Tr 133, 134.

13 CONCLUSIONS OF LAW

- 14 1. The Commission has jurisdiction, the Department carries the burden  
15 of proof, and Respondent has jurisdiction over his pocketbook.
- 16 2. It is to be determined if Respondent violated OAR 340-26-010(6)  
17 on August 12, 1984 by failing to "actively extinguish all flames  
18 and major smoke sources when prohibition conditions were imposed  
19 by the Department". Respondent was applying water to flames and  
20 fighting wild fire.
- 21 3. Mitigating factors existed, among them: this was Funrue's first  
22 violation; it was a single rather than repeated event; Funrue  
23 conducted his burning consciously; his monitor failed to signal  
24 the burning cut-off; his violation was not deliberate; he was  
25 cooperative in attempting to correct the violation; there was no  
26 adverse air quality impact from the violation; the violation was  
27 unintentional; and his income is modest.

1 4. The Commission has jurisdiction to refute or reduce the \$500.00  
2 penalty imposed by the DEQ in accordance with what they determine  
3 to be just and reasonable and in the best interest of a good  
4 smoke management program.

5 FINAL COMMENT FOR THOUGHT

6 Rules too frozen become destructive to elemental needs. Ex 27. Tr 91

7

8 Dated this 14 day of March, 1986.

9

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*Amos Funrue*

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Amos Funrue  
Respondent

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October 22, 1985

Linda Zucker  
Hearings Officer  
Environmental Quality Commission  
PO Box 1760  
Portland, OR 97204  
Re: DEQ v. Funrue  
Case No. 05-AQ-FB-141 Response to Department's Brief

Dear Linda:

I want to thank you for the opportunity to respond to the Department's Brief because there is a need to do so. It seems to be extremely difficult if not impossible to explain field burning to someone not familiar with it so that they really understand it clearly. The explanation I gave of burning the 85 acres with my map at the hearing was clearly understood by the farmers and fire chiefs present but evidently not so by the Department or their attorney. Hence some wrong assumptions and conclusions to which I will now respond to. I will try and be as articulate as possible to clarify the true facts.

Department's Brief, page 2, par 1 "The question at this stage is whether the Department established by a preponderance of evidence that Mr. Funrue failed to actively extinguish the flames by fires out time". Response--Prohibition conditions were imposed at 4:00 p.m. at which time the order was given to extinguish all flames and major smoke sources so naturally the act of extinguishing the flames comes after the order is given or after 4:00 p.m. in this case and not by the fires out time. We are required by law to have a radio pager in our possession which I did have but we are not required to have a watch in our possession. We rely upon the pager for all information of prohibitions or time extensions as the case may be. The large majority of time we do receive extensions beyond 4:00 p.m. Concerning the preponderance of evidence I must point out that I had nine voluntary witnesses (none subpoenaed) and a letter from a state legislator on my behalf plus maps and my personal testimony. I know more of the true facts about burning those 85 acres than any other living person.

Department's Brief, page 2, par 4 "At 4:35 Randy drove to field 1763-6---" Response--Conflicting testimony; exhibit 18 says 4:30 p.m. Another example of exaggeration and error. See Respondent's Brief, page 3, par 2.

Department's Brief, page 4, par 1 "Mr. Funrue testified that he had been talking to Randy about 20 minutes before seeing the notice. Tr 143". Response--My final recorded statement of the discussion was 20 or 30 minutes. Tr. 143. Another example of exaggeration and error.

Department's Brief, page 4, par 2 "Mr. Funrue testified that although he wore a watch that day he never looked at it". Response--"Funrue: If I did check my watch, I don't remember---" Tr.144 Another example of exaggeration and error. I am not required by law to have a watch in my possession or to look at it if I do have one.



Departments Brief, page 5 par 4. "His testimony, plus that of Randy Rees, provides support for each of the mitigating and aggravating factors considered by the director".

Response--NOW HEAR THIS; taken directly from Fred Hansen's document of mitigating and aggravating factors.

Prior violations--None

Economic and financial condition of respondent--Unknown-not considered.

Whether violation was repeated or continuous--Single event.

Respondents cooperativeness--Respondent was cooperative.

And the last line of the document "There were no major mitigating factors".

How contradictory can one be. I say to you that the mitigating factors have been given very little or no consideration whatsoever. Furthermore the aggravating factors continue to be grossly over exaggerated.

Departments brief, page 6, par 2 "It was not until some time after he finished lighting the fire that he would have been fighting wild fires."

Response--In fact I was fighting wild fires long before the field was all lit and this is precisely why it took me so long. In 1983 and 1985 I burned this 85 acres in approximately 30 minutes with no wild fires to contend with. Let me try and summarize once more just what really took place on Aug. 12, 1984. I was authorized to start burning at 3:16 p.m. after a long wait since about noon. At approximately 3:30 to 3:35 p.m. I had completed lighting on the north and east sides of the field to the two spots marked with an x on the large map which I used at the hearing. At this point in time I had very good reason to believe that I could finish burning the 85 acres by 4:00 p.m. so all plans were made to do that. I was on the east side (backfire side) and needed to do some catching up with the lighting on the north and west side (wind side). To accomplish this I sent the jeep, which we normally use for trouble shooting and communication, to the north side to continue the burn there on around the west side, and with orders for the tractor that was there to come over to my side and wet down ahead of the person walking and lighting on my side. This would have worked out fine if we had not encountered wind conditions beyond our control and wild fires. My time was completely occupied with either fighting wild fire or applying water to the fire on both sides of the fire trail and doing everything possible to get the backfire burned back a safe distance before the fire from the other side (wind side) reached my side of the field. A backfire of a least 20 feet was necessary to prevent the roaring wind whipped fire from jumping everything. I had no way of getting a stop lighting order to the jeep on the west side so it was mandatory to keep lighting the backfire on my side. Had we stopped the lighting on my side we surely would have had a big wild fire beyond our control. I am willing to prove this to you next summer with a live burning demonstration but we will have to have the fire department there when we do it. The lighting on both sides of the field have to be coordinated and finish together.

Departments Conclusion, page 7 "The department's testimony and exhibits establish by a preponderance of the evidence (1) that Mr. Funrue failed

to actively extinguish all flames when prohibition conditions were imposed and (2) that the director properly considered the cited aggravating and mitigating factors. The department therefore submits that its assessment of a \$500.00 penalty against Mr. Funrue should be upheld".

Response--I do not agree with any of these conclusions. On the contrary my testimony and exhibits, testimonies from nine voluntary witnesses, and a supporting letter from a state legislator establish by a preponderance of the evidence that respondent is not guilty of the specific charge that "Respondent failed to actively extinguish all flames and major smoke sources when prohibition conditions were imposed by the department". Furthermore I have refuted the claim that the director has properly considered mitigating and aggravating factors even though I don't think the aggravating factors can legally be charged against me if the specific charge is false and untrue. Please correct me if I am wrong. The department's attorney has not controverted my statement to this effect in my brief of August 29, page 2, par 2. All things considered I cannot agree that there is any justice to a \$500.00 penalty. I simply cannot understand why the department is so insistent upon nailing me to the cross for an unintentional act that caused no harm to anyone. This is really unnecessary and unjust harassment to a hard working farmer doing the best he can. There can be little doubt that such a hard line policy will in the long run be counterproductive to the department and to a truly good smoke management program.

#### CONCLUSION

Respondent's testimony and exhibits, testimonies on his behalf of nine voluntary witnesses, and a supporting letter from a state legislator establish by a preponderance of the evidence that the respondent is not guilty of the specific charge that "Respondent failed to actively extinguish all flames and major smoke sources when prohibition conditions were imposed by the department".

Respectfully yours,

*Amos Funrue*

Amos Funrue

Attachment

August 29, 1985

Linda Zucker  
Hearings Officer  
Environmental Quality Commission  
PO Box 1760  
Portland, OR 97204

Hearing Section

SEP 04 1985

Re: DEQ v. Funrue  
Case No. 05-AQ-FB-141

Dear Linda:

I want to thank everyone who attended the hearing for their time and for the opportunity to air some very important field burning problems. Hopefully some good things for our field burning program will come as a result in due time.

Now the time has come for me to answer the specific charge against me that "Respondent failed to actively extinguish all flames and major smoke sources when prohibition conditions were imposed by the Department". To this charge I plead not guilty based on what we have said and the following facts and reasons. I was applying water to the flames of my fire until about five minutes before I met the investigator, Randy Rees. By the time I had finished extinguishing the flames in my field fence posts and other wild fires the main fire was practically burned out and was certainly no longer a major smoke source to any reasonable minded person. It most certainly was not causing any air pollution as defined in 468.275 no. 5 "Air pollution" means the presence in the outdoor atmosphere of one or more air contaminants, or any combination thereof, in sufficient quantities and of such characteristics and of a duration as are likely to be injurious to public welfare, to the health of human, plant or animal life or to interfere unreasonably with enjoyment of life and property throughout such areas of the state as shall be affected thereby". If there was no air pollution at that point in time then I think that any reasonable minded person would concur that it was not a major smoke source. Surely no one can expect a farmer to extinguish every smouldering ember when an open field fire has burned out and there is no air pollution.

At this point we need to consider an important question and seek the right answer for it. That question is basically "What should any prudent person do in a situation where unpredictable delays (equipment breakdown or Acts of God such as whirlwinds and other uncontrollable wind factors) have prevented him from completing his burning when fire out time arrives and he is ordered to extinguish all flames and at the same time he is fighting wild fires"?

Should he let the wild fire go and attempt to extinguish the flames of the field fire which according to testimony of my witnesses (especially John Duerst) is not possible in a large field without calling the fire department, Or should he first control the wild fire and then give his attention to whatever is left burning of his open field fire? My automatic response was to fight the wild fire and bring it completely under control and then I gave my attention to the open field fire which as previously stated was practically burned out. Was this the prudent thing to do? I say to you that all things considered it was the only prudent thing to do.

As I understand the specific charge I am not charged with the late burn which occurred and I have never denied. So perhaps from the strictly legal aspect I do not need to address it. However since as a layman I don't really know for sure I will volunteer a few comments anyway. First of all as I have previously stated I am very sorry that the late burn occurred and I certainly apologize for it. I think it is very important that all farmers do everything humanly possible to abide by the fires out time. This is and always has been my attitude. At the same time however we need to look at all of the laws. The major smoke management directive 468.453 no. 1 is to burn the maximum number of acres in the minimum number of days without substantial impairment of air quality. This is exactly what I was attempting to do on Aug. 12, 1984. Furthermore hindsight reveals this is exactly what took place. My expert witness Bruce Meland has testified this was one of the five best days for mixing height of smoke in the year and that my smoke went high up in the sky and was transported over the Mt. Hood area with no problems of smoke impact. Indeed the Department has never said that the smoke created any problem either. So lets all agree that beyond any reasonable doubt my smoke was not an air pollution problem on Aug. 12, 1984. In order to burn the maximum number of acres in the minimum number of days you cannot stop burning 15 or 20 minutes before shut off time if you have every good reason to believe you can complete burning the next field by fires out time. There will always be a calculated risk because you can never predict exactly what is going to happen when you burn a field as my witnesses (especially Larry Carpenter) have testified to. Hence the need for flexibility in enforcing the law. It is usually much more productive in the long run to enforce the law in a reasonable manner with a carrot than to use a big stick as a tyrant would do. The Department may have to learn this lesson the hard way. Furthermore it is only human to err. We all do it and I include myself as well as others and I respect all good people who have what it takes to admit their errors. Let me list some of the more important errors in this case other than what I have already covered.

1. Wrong address given by Randy Rees as location of field. The address of Edison and Drift Creek Road is non existant. There is no such place in the world. The correct address is Lorence and Victor Point Road. Many civil cases have been thrown out of court for smaller mistakes than this.

2. Wrong location of photograph no. 6 which is the picture with branches of a large bush in the upper right hand corner and unburned grass in the lower foreground. There is no way in the world that this picture could have been taken out in the burned field where Rany Rees indicated on his map. This is self evident to anyone looking at the picture and Randy's map. Since Randy had neither picture or map where he was talking on the telephone, the telephone conference was totally unsatisfactory to establish this fact. If further hearings or trials become necessary I am most certainly going to ask that I be given the right to be faced by my accuser in a face to face meeting. Furthermore much important discussion and testimony of the telephone conference was not recorded while the recorder was not turned on.

3. Conflicting statement in exhibits 18 and 26.  
Exhibit 18, page 1, lines 17-19 "After arriving at field 1763-6 (42 acres) at 4:30 p.m., I saw a strip of active flame about 40 feet long and three to five feet wide".

Exhibit 26, page 2, lines 5-7 "At 4:35 p.m., I drove to field 1763-6 (42 acres) and saw a strip of active flame about 40 feet long and three to five feet wide".

Now I ask was it 4:30 or 4:35 p.m. that this took place. It cannot be both for the same thing. Errors such as this strongly suggests that the supposedly accurate times used in this case are in reality fabricated to simply build their case against me and to exaggerate and twist the true facts. Furthermore it appears to be impossible to know just who the real author of all this really is. Was it Randy Rees, or was it Brian Finneran, or was it Glenn Klein, or was it all three?

#### 4. Errors in transcript

So many errors and omissions that it is nearly impossible just to count them all. Perhaps these errors are not quite so important for all those who were in attendance at the hearing and heard all the original testimony but most certainly it is not satisfactory without corrections if it is to be used in future hearings or trials where other people will be involved.

I have spoken of eleven mitigating factors and will not repeat them all at this time. I do want to emphasize two of them however. First of all the geographical differences. My expert witness Bruce Meland has testified that the climate and especially wind conditions are often quite different in the Silverton Hills than on the valley floor around Salem and further south. This is due primarily to the higher elevation (much of it over 1,000 feet) and the location on the east side of the Willamette Valley in the Cascade Mountain foothills and fortunately no large population centers to the east of us. This accounts for the better burning conditions more of the time than the rest of the valley enjoys. We are very thankful for this and simply want it to be recognized as a natural geographical fact.

I also want to emphasize the economic and financial crisis most farmers are now facing. I have given you a summary of my records for the three past years and they clearly show that unless my cash flow problems soon change that I am on a collision course with disaster. In a situation such as this the paying of any fine is like rubbing salt in an open wound.

I am enclosing a copy of the letter from State Representative Fred Parkinson and would like very much for this to be a part of the record for possible future use. If it needs an exhibit number would you please take care of it. At least one state legislator thinks I am a prudent person.

As a point of interest it took 31 minutes to burn the same 85 acres this year that gave me so many problems in 1984. No large whirlwinds or other wind problems and no wild fires. A very normal burn.

As an introduction to my case at the hearing I used my church bulletin and read where Jesus was being criticised for gathering grain on the sabbath and his reply "The sabbath was made for man and not man for the sabbath". I would like to close in the same vein with words of Jesus in answer to real life situations. Matthew 7:3 "And why do you look at the speck in your brothers eye, but do not notice the log that is in your own eye". And again when the scribes and Pharisees brought a woman caught in the act of adultery to Jesus reminding Jesus that the law of Moses commanded them to stone her, and asking Him what then do you say? Jesus answered John 8:7 "He who is without sin among you, let him be first to throw a stone at her". One by one they walked away until there were none left. Then Jesus said that neither do I accuse you.

Very truly yours,

*Anos Funrue*  
Anos Funrue

FRED PARKINSON  
MARION AND CLACKAMAS COUNTIES  
DISTRICT 28



REPLY TO ADDRESS INDICATED:

- House of Representatives  
Salem, Oregon 97310
- 301 West Main  
Silverton, Oregon 97381

HOUSE OF REPRESENTATIVES  
SALEM, OREGON  
97310

June 14, 1985

Linda K. Zucker  
Hearings Officer  
Department of Environmental Quality  
522 SW Fifth  
Portland, OR 97204

Re: Amos "Bud" Funrue

I have known Amos "Bud" Funrue for over twenty years. He is a very well respected member of the farming community near Silverton.

He is active in community organizations and activities and his church. He is a past president of Rotary Club and I have worked with him in that organization for many years.

"Bud" is an experienced and prudent farmer and I seriously doubt if he would knowingly extend a fire past burning hours.

Sincerely,

A handwritten signature in cursive script that reads "Fred Parkinson".

Representative Fred Parkinson  
STATE REPRESENTATIVE  
DISTRICT 28

FP:sb

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BEFORE THE ENVIRONMENTAL QUALITY COMMISSION  
OF THE STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL )  
QUALITY OF THE STATE OF )  
OREGON, )  
 )  
Department, )  
 )  
v. )  
 )  
AMOS FUNRUE, )  
 )  
Respondent. )

Case No. 05-AQ-FB-84-141  
DEPARTMENT'S RESPONSE TO  
RESPONDENT'S EXCEPTIONS TO  
HEARING OFFICER'S DECISION

I. INTRODUCTION

On August 12, 1984, Mr. Funrue burned three grass seed fields. Because he failed to actively extinguish all flames when prohibition conditions were imposed, and, in fact, continued to actively light the field for 15-30 minutes after all flames were to have been extinguished, the Department of Environmental Quality (the department) assessed a \$500 penalty. Following a contested case hearing on June 20, 1985, the hearing officer affirmed the penalty. Respondent Funrue filed this appeal seeking a reduction or an elimination of the \$500 penalty, even though he continues to concede that he violated DEQ's regulations by burning after the fires-out time. The department submits that based on the record--which supports a penalty even greater than the penalty assessed--the \$500 penalty should be affirmed.

II. DISCUSSION

A. Summary of the Facts

Mr. Funrue was assessed a penalty for failing to actively extinguish all flames when prohibition conditions were



1 imposed. As the discussion below will show, not only did  
2 Mr. Funrue fail to actively extinguish the flames, but by his own  
3 admission, he continued to light the field after the fires-out  
4 time.

5 At 3:16 p.m. on August 12, 1984, Mr. Funrue was given  
6 permission to burn his three fields. Exhibits 11, 13. The  
7 fires-out time for August 12 was 4:00 p.m., exhibit 14, which,  
8 Mr. Funrue admitted, he knew when he received his permit.  
9 Transcript (Tr.) 103.

10 At 4:12 p.m. on that date, Randy Rees, an inspector employed  
11 by the department, observed a smoke plume in the Silverton Fire  
12 District. Exhibit 26. Randy knew that it was 4:12 because he  
13 had looked at his watch. Tr. 47. Randy observed moderate to  
14 heavy smoke from the field. Tr. 39.

15 At 4:35 p.m., Randy arrived at field 1763-6 and observed a  
16 strip of active flame about 40 feet long and three to five feet  
17 wide. Exhibit 26. Randy waited for about five minutes for  
18 Mr. Amos Funrue to leave the field, but then, at 4:40, Randy  
19 observed a rapid increase in the size of the smoke plume. Id.  
20 At that point, Randy drove into the field and took pictures as he  
21 did. Id.; see also exhibits 20-25 (exhibits 20-25 are the  
22 pictures Randy took; the back of each picture indicates the  
23 precise time the picture was taken). As Randy drove around the  
24 field, he noticed a large area, approximately 20-25 acres which  
25 were not yet burned, surrounded by active flames. Exhibit 26.  
26 Although Mr. Funrue disputes the amount of acres which were

1 unburned at that time, Mr. Funrue testified that Randy would have  
2 observed at least 10-12 unburned acres at that time, acres which  
3 did burn later that afternoon. Tr. 146.

4 At 4:50 p.m., Randy met Mr. Funrue's daughter, Cindy, who  
5 stated that the Funrues had finished lighting the field about  
6 "15-20 minutes ago," or about 4:30. Exhibit 26. At 4:55 p.m.,  
7 Randy met Mr. Funrue, who stated that he had finished lighting  
8 the field about 4:30. Id. Randy testified at the hearing that  
9 he remembered Mr. Funrue stating 4:30 as the time because it  
10 coincided with the time that Cindy Funrue had indicated. At the  
11 hearing, Mr. Funrue disputed ever stating 4:30 as the time  
12 because, he testified, he did not know what time he finished  
13 lighting the fire. Tr. 142. (Note: line 7 of Tr. 142 should  
14 state "lighting," not "fighting.") According to the testimony,  
15 Mr. Funrue could have finished lighting the fire at 4:30; he did  
16 not know. Mr. Funrue did testify, however, that he thought that  
17 he completed the lighting "between 4:15 and 4:20." Tr. 148.  
18 Thus, even Mr. Funrue's own testimony establishes he was lighting  
19 the fire 15-20 minutes after he was required to have actively  
20 extinguished all flames.<sup>1</sup>

21

22

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23 <sup>1</sup> Based on all of the evidence discussed, and Mr. Funrue's own  
24 admission, the department takes strong exception to the hearing  
25 officer's Finding of Fact No. 11--i.e., that active ignition  
26 after the fires-out time was not established. Mr. Funrue  
admitted the fact, and there was no evidence contradicting the  
department's evidence and claim that Mr. Funrue continued to  
light the field even after the fire was to have been  
extinguished. (Continued next page)

1 At 5:11 p.m., Mr. Funrue signed the notice of investigation.  
2 Exhibit 8. Mr. Funrue testified that he had been talking to  
3 Randy for about 20 minutes before signing the notice. Tr. 143.  
4 Thus, Mr. Funrue and Randy would have started talking a little  
5 after 4:50, which further corroborates Randy's testimony.

6 Mr. Funrue testified that although he wore a watch that day,  
7 he never looked at it. Tr. 143-44. Mrs. Funrue also testified  
8 that she never looked at a watch. Tr. 203-204.

9 B. The Evidence Supports a Finding of a Violation

10 The fires-out time on August 12, 1984, was 4:00 p.m.  
11 Mr. Funrue admitted that he knew the fires-out time. Mr. Funrue,  
12 along with all other growers, received a letter which told them  
13 that "FIRES-OUT TIME means the time when all fires and smoke  
14 should be out. When 'prohibition conditions' are imposed, [the  
15 grower] should cease burning and actively extinguishing all  
16 flames . . . This rule is strictly enforced, so it's best not to  
17 start a burn if it can't be out by the fires-out time."  
18 Exhibit 12.

19 Mr. Funrue testified that he thought he finished lighting  
20 the fire at 4:15-4:20 and that he finished burning about 4:50.  
21  
22

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23 1 (Continued) The department also takes exception to the last  
24 sentence in Finding of Fact No. 4--i.e., that Mr. Funrue  
25 "mistakenly believed he had some time left for burning." This  
26 finding lacks any support in the record and is contradicted by  
Mr. Funrue's statement that he did not finish lighting until 4:15  
to 4:20 and did not finish burning until 4:50. Mr. Funrue  
admitted that he knew he was burning past the fires-out time.

1 Thus, even if the department had not put on any other evidence,  
2 Mr. Funrue's own testimony establishes that he violated OAR  
3 340-26-010(6), which required him to actively extinguish all  
4 flames at 4:00 p.m.; by his own estimate, he continued to light  
5 flames for another 15-20 minutes.

6 Randy Rees, the department's inspector on this case,  
7 testified that according to Cindy and Mr. Funrue, the lighting  
8 was not completed until 4:30. Randy also testified that he  
9 observed flames and an increase in smoke after 4:40 p.m., and  
10 Randy's testimony is supported by the pictures he took, with the  
11 times on the back of each photograph indicating the time between  
12 4:40 and 4:50 that each picture was taken. Although Mr. Funrue  
13 disputed the times, Mr. and Mrs. Funrue testified that they never  
14 looked at a watch after 3:16 p.m.; Randy, on the other hand,  
15 testified that he did look at his watch.

16 Randy's testimony is also supported by Mr. Funrue's  
17 admissions. Mr. Funrue signed the notice of violation at 5:11  
18 p.m., exhibit 8, and testified that he and Randy had begun  
19 talking about 20 minutes before that, which is consistent with  
20 Randy's testimony.

21 Although Mr. Funrue disputes Randy's version of the times,  
22 Mr. Funrue's testimony is essentially consistent with Randy's  
23 testimony, except for particular times. Randy testified that  
24 he wore a watch and looked at it; Mr. and Mrs. Funrue testified  
25 that they never looked at a watch. Because they never looked at

26 / / /

1 a watch, their guestimates as to the time cannot outweigh Randy's  
2 precise times which were recorded after looking at his watch.

3 In sum, Mr. Funrue's own testimony and the other evidence in  
4 the record establishes that Mr. Funrue violated the field burning  
5 regulations.

6 C. Mr. Funrue's Argument Lacks Merit

7 Mr. Funrue implies that he was applying water to the  
8 flames until about five minutes before he met Randy. Mr. Funrue  
9 implies that he could not actively extinguish the field fire  
10 because he was fighting wild fires.<sup>2</sup> Mr. Funrue asks: "What  
11 should any prudent person do in a situation where unpredictable  
12 delays . . . have prevented him from completing his burning when  
13 fires-out time arrives and he is ordered to extinguish all flames  
14 and at the same time he is fighting wild fires?" By this  
15 question, Mr. Funrue suggests that when the fires-out time  
16 arrived, he could not actively extinguish the field because he  
17 was fighting wild fires. However, the department's evidence, as  
18 well as Mr. Funrue's own testimony, established that he was still  
19 lighting the fire 15-30 minutes after the fires-out time arrived.  
20 It was not until some time after he finished lighting the fire  
21 that he would have been fighting wild fires. Moreover, the wild  
22 fire only delayed him five minutes. See n 2, supra.

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24  
25 <sup>2</sup> The hearing officer found that a wild fire "caused some  
26 delay in the conclusion of the burning." Finding of Fact No. 3.  
However, Mr. Funrue testified that the wild fire did not delay  
burning "any more than five minutes or so." (Tr. 150.)

1 Mr. Funrue simply cannot claim that he was attempting to  
2 actively extinguish the flames in the field by the fires-out  
3 time. The flames to which he was applying water were from a  
4 fence-post fire, which was not a problem (i.e., on fire) at the  
5 fires-out time (4:00). Mr. Funrue testified that he did not  
6 finish lighting the fire until 4:15-4:20, and Randy testified  
7 that on August 12, 1984, Mr. Funrue and his daughter Cindy  
8 indicated that the fire was lit at 4:30.

9 III. CONCLUSION

10 The department's testimony and exhibits established that  
11 (1) Mr. Funrue failed to actively extinguish all flames when  
12 prohibition conditions were imposed and (2) the director properly  
13 considered the cited aggravating and mitigating factors. The  
14 department therefore submits that the hearing officer's order  
15 affirming the assessment of a \$500 penalty against Mr. Funrue  
16 should be upheld.

17 Respectfully submitted,

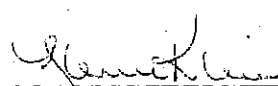
18  
19   
20 \_\_\_\_\_  
21 GLENN KLEIN (OSB #83110)  
22 Assistant Attorney General  
23 Of Attorneys for the Department  
24 of Environmental Quality  
25  
26

1 CERTIFICATE OF SERVICE

2 I hereby certify that I served the foregoing Department's  
3 Response to Respondent's Exceptions to Hearing Officer's Decision  
4 on May 21, 1986, by placing in the United States Post  
5 Office, at Salem, Oregon, A true and correct copy thereof,  
6 addressed to:

7 Amos Funrue  
8 2557 Driftcreek Road NE  
9 Silverton, OR 97381

10 and prepaying the postage thereon.

11   
12 Glenn Klein (OSB #83110)  
13 Assistant Attorney General  
14 Of Attorneys for Department of  
15 Environmental Quality  
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DEQ vs Funrue  
Case # 05-AQ-FB-84-141

I. Introduction--perspective

1. Story--point of view
2. The six blind men and the elephant--I hope we may have a little better perspective than they did.

II. Orientation of burning site--raised relief map.

III. Background--Funrue's brief March 14, 1986

"At 12:35 p.m. on August 12, 1984 the DEQ authorized a double charlie, single quota (600 acres) field burning order for the Silverton Fire District. Lee Kuezi burned one field starting at 12:42 p.m., Jack Riches burned two fields starting at 14:09 p.m., and Funrue burned three contiguous fields (85 acres) starting at 15:16 p.m. A total of 142 acres were burned that day in the Silverton Fire District of the 600 acre quota. The specific charge is that 'Respondent failed to actively extinguish all flames and major smoke sources when prohibition conditions were imposed by the Department'. OAR 340-26-010 (6). To this charge Respondent has pleaded not guilty based upon the fact that he was applying water to flames and fighting wild fire. Respondent does not claim that no acres were burned after 4:00 p.m. daylight time (3:00 p.m. standard time). Respondent has challenged the large amount of the penalty". Rules too frozen become destructive to elemental needs.

IV. Focal point question--Respondents brief August 29, 1985

"What should any prudent person do in a situation where unpredictable delays (equipment breakdowns or Acts of God such as whirlwinds and other uncontrollable wind factors) have prevented him from completing his burning when fires out time arrives and he is ordered to extinguish all flames and at the same time he is fighting wild fire?" Should he let the wild fire burn uncontrolled and extinguish all the flames in the field which in this case was not possible, or should he first fight and control the wildfire? Damage from uncontrolled wildfire can be extremely high. I will answer this question more complete later on.

V. Findings of Fact--Respondents brief March 14, 1986

1. At 3:16 p.m. on August 12, 1984, Funrue was authorized to burn five grass fields. Three of these fields were really one contiguous field consisting of 85 acres and were burned with the usual procedure as one field. They are now registered as one field. Two of the authorized fields were not burned that day. At the time of authorization Funrue was informed the fires out time was 4:00 p.m. until such time as it may be extended. Tr 29

2. In past years the field had burned in less than 30 minutes. In 1985 the field was burned in 31 minutes.

3. The weather was hot and dry that day and Respondent planned his burning tactics carefully. Field burning is not an exact science, but Respondent used particular caution in conducting the burning. Nevertheless there were several wild fires caused by unpredictable wind conditions and a large tornado like whirlwind. The time required to control the wildfires was the direct cause of the burning time beyond the normal 30 minutes. Tr 113, 115-120  
Explain burning with map also see response to DEQ brief page 2



4. Respondent was carrying a radio pager which he relied upon to signal fires out time or a time extension as the case may be. Respondent did not hear his pager and was not aware cut off time had indeed arrived.

5. DEQ investigator , Randy Rees, who arrived sometime after 4:00 p.m. could not see Funrue because Funrue was out of his sight in the back of the field fighting wild fire with his water rig.

6. Funrue had three water rigs at the field. This equipment is geared to confining fire. Extinguishment of a large field fire on a hot, dry, and windy day requires fire department effort. The local fire department is staffed by volunteers.

7. All growers who testified believed there is a 30 minute "grace" period--a mop up time after prohibition conditions are imposed during which penalties are not assessed. John Duerst testified that this has been discussed at a smoke management committee meeting with Sean O'Connell with no definite conclusion either yes or no.

8. In recent years Funrue's farm operation has not been very profitable. His 1982, 1983, and 1984 average net farm income per year was \$8,613.59. He has not paid his property taxes and withdrawn most of his retirement funds. The land he owns has declined much in value due to the farm depression. It would be easier for someone with an income of \$30,000.00 a year to pay a fine of \$500.00 than for someone with an income of less than \$10,000.00 a year to pay a fine of \$50.00.

9. This was Funrue's first violation.

10. There was no adverse air quality impact from the violation. Mixing height was a plus 5000 feet and one of the five best burning days of the year, Tr 154

11. The work of investigator, Randy Rees, is very sloppy and unreliable--address given for fire location does not exist; location given for picture "F" is not possible; conflicting statements of arrival time; he never signed original written memorandum of investigation; he was not present at the hearing and the telephone conference proved very unsatisfactory.

12. Respondent monitored wind direction in his area until sunset. It remained constant from the SW which was different from what was reported at weather stations in Salem and Woodburn. Tr 106, 162

13. Laws pertaining to this case--OAR 340-26-003 (1) Policy of EQC to provide a maximum level of burning with a minimum level of smoke impact on the public. Tr 110 OAR 340-26-005 (1) actively extinguish means the direct application of water or other fire retardent--Tr 110 Ch 465.453 (1) Smoke managed so that "a maximum number of acres registered can be burned in a minimum number of days without potential imparment of air quality". Tr 111 Ch 468.300 Liability for violation excused when caused by Act of God. Tr 112, 113. Ch 468.275 (5) Air pollution defined--the presence

of one or more air contaminants in sufficient quantity and duration that are likely to be injurious to public welfare and health. Tr 133, 134.

VI. Vindicating scenario Tr 165, 167, 168

165 Zucker: Okay, I am going to interrupt for a moment, just to give you a sense of where I am with this. Department has the burden of proving that this burning caused an adverse smoke impact in terms of establishing an aggravating factor as a result - that aggravating factor. It is my preliminary view that Department has not met that burden.

165 Klein: He never alleged that this smoke caused an impact in any particular community.

167 Zucker: Mr. Allen asks an interesting question. We were talking about whether the Department had asserted that smoke impact was an aggravating factor. And I see - Well, he is asking if - why do you list as aggravating factor 2 - did not attempt to actively extinguish the flames and major smoke sources. Why do you list that as an aggravating factor, if there was no impact from the smoke? Okay, I asked incorrectly. Why is #4 - moderate to heavy amounts of smoke significant, if there is no issue as to smoke impact?

168 Klein: Would you like Mr. Finneran to address that?

Zucker: Sure.

Finneran: Strictly as an additional pollutant, whether it is light pollutant or moderate pollutant or heavy pollutant.

Zucker: But you are saying that it had to have been a pollutant. That is fine, thank you.

Klein: May I question the witness.

Zucker: Sure.

Klein: When you say pollutant, what do you mean? Do you mean legally a pollutant under the statute Mr. Finneran read, or do you mean it in another sense?

Finneran: The pollutant as he read it, the smoke source.

A preponderance of the evidence establishes beyond any reasonable doubt that there was no air pollution as defined Ch 468.275 (5) from the late burn. As an established finding of fact that there was no adverse air quality impact from the late burn, what is the significance of the exact time or acres burned in the aggravating factors. Why are the aggravating factors so important if there was no air pollution or adverse smoke impact from the late burn? From the standpoint of good smoke management and the true facts of this case I cannot agree with nor accept the unreasonable penalty the Department has imposed upon me. I do agree with and support reasonable law enforcement and endeavor

to be a law abiding citizen. We should all be thankful and happy that the wildfires were all contained and there was no adverse smoke impact. Instead we are spending days arguing about a penalty. Rules too frozen become destructive to elemental needs.

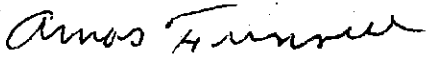
VII. Focal point answer--Respondents brief August 29, 1985

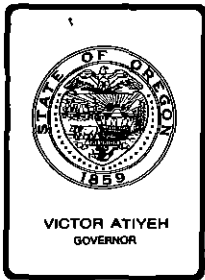
Question restated--What should any prudent person do when fires out time arrives and he is ordered to extinguish all flames and at the same time he is fighting wild fire? Important fact--I did not hear my pager and was not aware of the order. How do you follow an order you do not hear? What I did was an automatic response to the situation. "My automatic response was to fight the wild fire and bring it completely under control and then I gave my attention to the open field fire which as previously stated was practically burned out. Was this the prudent thing to do? I say to you that all things considered it was the only prudent thing to do".

VIII. Conclusions

1. The Commission has jurisdiction, the Department carries the burden of proof of wrong doing and damages, and Respondent has jurisdiction over his pocketbook and has right of appeal.
2. It is to be determined if Respondent violated OAR 340-26-010 (6) on August 12, 1984 by failing to "actively extinguish all flames and major smoke sources when prohibition conditions were imposed by the Department". Respondent was applying water to flames and fighting wild fire.
3. Mitigating factors existed, among them: this was Funrue's first violation; it was a single rather than repeated event; Funrue conducted his burning consciously; his monitor failed to signal the burning cut-off; his violation was not deliberate; he was cooperative in attempting to correct the violation; there was no adverse air quality impact from the violation; the violation was imintentional; and his income is modest.
4. The Commission has jurisdiction to refute or reduce the \$500.00 penalty imposed by the DEQ in accordance with what they determine to be just and reasonable and in the best interest of a good smoke management program.
5. Respondent requests fair and just consideration to all the true facts and truly hopes he can respond positively to the Commissions decision. The other alternative will be an appeal if necessary. Rules too frozen become destructive to elemental needs.

Dated this 13 day of June, 1986

  
Amos Funrue  
Respondent



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item K, June 13, 1986, EQC Meeting

Request for a Variance From Gasoline Vapor Balance Requirements [OAR 340-22-120(1)(b)] for Mt. Hood Oil Company

### Background and Problem Statement

The Mt. Hood Oil Company is a distributor operating a gasoline bulk plant owned by Unocal located at 2716 S.E. First, Gresham, Oregon. The deliveries of gasoline from bulk plants to gasoline stations in the Portland area are regulated by OAR 340-22-120(1)(b), which requires the installation and use of a vapor balance system to control the gasoline vapors displaced when filling a storage tank. OAR 340-22-120(1)(c) allows an exemption for the bulk plant and its customers if the bulk plant delivers less than 4,000 gallons per day (1,400,000 gallons per year for a 5 day per week operation) or if no single customer receives 10,000 or more gallons per month. The Mt. Hood Oil Company does not qualify for the exemption since it delivers a total of more than 4,000 gallons per day and has two customers that sometimes receive more than 10,000 gallons per month.

All of the other bulk plants in the Portland area and their customers are in compliance with the DEQ rules by directly delivering less than 4,000 gallons per day from their bulk plants and providing deliveries directly to their 10,000 gallon per month and greater customers from a gasoline terminal which is equipped with vapor balance. The Mt. Hood Oil Company cannot provide deliveries directly from the terminal because Unocal does not allow its bulk plant distributors to use the Unocal terminal. Mt. Hood Oil Company is unable to negotiate an arrangement with Unocal to allow deliveries directly from the terminal.

The difference in VOC emissions with and without vapor balance for gasoline stations receiving 10,000 gallons per month is 3 lbs/month versus 73 lbs/month, or on an annual basis 0.02 tons/year versus 0.44 tons/year.

Previously, Mt. Hood Oil Company had requested that the VOC Rule changes proposed for adoption at the January 31, 1986 EQC meeting include a change to raise the exemption point for single gasoline station deliveries from 10,000 to 20,000 gallons per month to exempt its deliveries to the two gasoline stations. This proposal was not recommended by the Department and was not adopted by the Commission. The basis for the Department's recommendation was to maintain equity with the other gasoline distribution systems that have made changes in order to meet the rules and to meet EPA rule requirements.

At this time, Mt. Hood Oil Company is requesting that the Commission grant a variance to Mt. Hood Oil Company and its customers from OAR 340-22-120(1)(b) in accordance with ORS 468.345(b) "Special circumstances render strict compliance unreasonable, burdensome or impractical due to special physical conditions or cause."

#### Evaluation and Alternatives

The emission control rules for gasoline bulk plants treat the bulk plant and its customers as a single entity. That is, unless specifically exempted, they must have vapor control systems. The two customers of Mt. Hood Oil Company who receive over 10,000 gallons per month have both installed the necessary vapor balance equipment. Mt. Hood Oil Company could complete the vapor balance system by fitting their trucks with the correct equipment and modifying the loading rack at the bulk plant for vapor balance. Under the rules, all of the customers in the control area are required to install vapor balance equipment. It is probable that the customers would switch to an exempt bulk plant rather than pay to install vapor balance equipment. This happened to one supplier who did not have a bulk plant but operated by filling delivery trucks at a terminal using vapor balance. He lost most of his customers when they found out that they could avoid the cost of installing vapor balance equipment by changing suppliers.

Unocal is the only oil company that still owns its bulk plant distribution network. Mr. Ron Tyree, the Area Manager of Commercial Sales for Unocal in Portland, stated on April 16, 1986 that a distributor cannot load gasoline at the terminal and that if there is no other alternative, Unocal will have to lose the sales to these two gasoline stations that are over 10,000 gallons per month. Two other major oil companies (Mobil and Chevron) sold the bulk plants they owned which were affected by the rule at the time the rule took effect. This action removed these two companies from the bulk plant distribution of gasoline. The supplier who operated without a bulk plant (D & H Oil) had an exclusive arrangement with Chevron to deliver small loads of gasoline directly from the Chevron terminal. This supplier went out of business when customers started switching to exempt bulk plants. Another change in gasoline distribution occurred when the Chevron bulk plant in Washington County (Metro West Oil Company) went out of business in 1985. The buyer of that business (Priestly Oil & Chemical Company) did not buy the bulk plant but rather makes deliveries directly from the terminal or makes deliveries from an exempt bulk plant the company already operates in Portland.

Mt. Hood Oil Company competitors make most deliveries directly from a gasoline terminal using vapor balance and make the remaining deliveries from their bulk plants without vapor balance.

Mt. Hood Oil Company requests a variance from 340-22-110 to operate as an exempt bulk plant even though two customers, J.S. Matheny, 13928 N.E. Glisan, Portland, OR 97230 and Jennings and Elston, 19751 S.E. Highway 212, Boring (Damascus), Oregon, 97009 receive deliveries of 10,000 or more gallons per month. The variance was requested for seven years. The seven years is based on an assumption that the two customers will be out of the gasoline sales business by then.

The Commission could consider denying the variance. This would require Mt. Hood Oil Company to adopt one of the following options:

- 1) Mt. Hood Oil could stop delivering to these two gas stations and thereby become an exempt bulk plant for the other customers. Mt. Hood Oil Company would lose about 14 percent of current gasoline sales. The two gas stations could be supplied directly from a terminal using vapor balance by other bulk plants which would involve a change in the brand of gasoline sold by those stations.
- 2) Mt. Hood Oil could continue to deliver gasoline to the two gas stations by using delivery trucks equipped with vapor balance and by converting the existing loading rack at the bulk plant into a vapor balance loading rack. However, this would require all the other customers in the controlled area to install vapor balance equipment under the rule requirements since Mt. Hood Oil would then be operating as a nonexempt bulk plant. The other customers would have the choice of changing suppliers to avoid installing vapor balance equipment.
- 3) Another option is similar to the second option except that a delivery truck and a second loading rack would be dedicated to vapor balance loading. This option would make the bulk plant into two bulk plants--one exempt and one nonexempt. The other customers would be unaffected by this option.
- 4) Mt. Hood Oil Company could equip a delivery truck with vapor balance and supply these two gas stations out of the Unocal bulk plant in Estacada since it is operated by the same party as the Mt. Hood Oil Company and is located outside the control area. This option would double the travel distance to the Damascus gas station and increase it four times to the Portland gas station. The distance the gasoline is hauled by Unocal would also be doubled. This arrangement would be in compliance with the rules since the two gas stations already have vapor balance equipment installed and the Estacada bulk plant is located outside of the control area. (This is how the large volume gasoline stations in the Medford area operate in compliance with the rules.)

By denying the variance request the Commission would provide equitable treatment for the other affected oil companies that made operating changes to achieve compliance with the rule.

The Commission could consider the alternative of granting a one-time variance for a maximum of six months to allow Mt. Hood Oil Company time to study the options available to it and take whatever action it chooses to achieve compliance by December 13, 1986. Specifically, Mt. Hood Oil Company could adopt one of the options discussed above to achieve compliance with the rule. The Department recommends this alternative.

The Commission may grant a variance in accordance with ORS 468.345(1)(b). "Special circumstances render strict compliance unreasonable, burdensome or impractical due to special physical conditions or cause" where the special cause is that Unocal will not allow its bulk plant distributors to use its terminal for some customers and the bulk plant for other customers. The other competitive suppliers have to make deliveries from both a terminal and a bulk plant to achieve compliance.

#### Summation

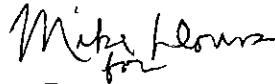
1. OAR 340-22-120(1)(b) requires gasoline bulk plants and their customers in the Portland area to use a vapor balance system when filling the customers' storage tanks, except if the bulk plant and its customers are exempt under OAR 340-22-120(1)(c).
2. OAR 340-22-120(1)(c) allows an exemption if the bulk plant delivers less than 4,000 gallons per day or if no single customer receives 10,000 or more gallons per month.
3. The Mt. Hood Oil Company does not qualify for the exemption because it delivers more than 4,000 gallons per day, and it has two customers which receive more than 10,000 gallons per month.
4. The other large volume gasoline distributors operate a divided business with smaller customers being served out of a bulk plant without using vapor balance because the bulk plant is exempt and large customers being served directly from a terminal using vapor balance.
5. Other oil companies have changed their bulk plant distribution arrangements in order to achieve compliance.
6. The Mt. Hood Oil Company's supplier, Unocal, does not allow a distributor to make deliveries directly from its terminal.
7. The Mt. Hood Oil Company requests a variance to operate as an exempt bulk plant, even if two customers receive over 10,000 gallons per month. The variance was requested for a period of seven years.
8. The Department recommends that the variance be granted as requested but for a maximum period of six months. This recommendation would give Mt. Hood Oil Company time to choose the compliance options, while ultimately providing equity for those facilities that have already achieved compliance.

9. ORS 468.325 provides that the Commission may grant specific variances if it finds that strict compliance with the rule or standard is inappropriate because:
  - a. Conditions exist that are beyond the control of the persons granted such variance;
  - b. Special circumstances render strict compliance unreasonable, burdensome, or impractical due to special physical conditions or cause;
  - c. Strict compliance would result in substantial curtailment or closing down of a business, plant, or operation; or
  - d. No other alternative facility or method of handling is yet available.
10. In granting a variance for a six month period, the Commission should find that special circumstances render strict compliance burdensome or impractical due to special cause.

Director's Recommendation

Based upon the findings in the Summation, it is recommended that the Commission grant a variance for the Mt. Hood Oil Company with the following conditions:

1. The Mt. Hood Oil Company be granted a variance from OAR 340-22-120(1)(b) until December 13, 1986.
2. Only two customers can receive deliveries of 10,000 or more gallons per month during the variance period and they are J.S. Matheny, 13928 N.E. Glisan, Portland, Oregon, and Jennings and Elston, 19751 S.E. Highway 212, Boring (Damascus), Oregon.
3. The Mt. Hood Oil Company is required to select the best option for achieving compliance and operate in compliance after December 13, 1986.

  
Fred Hansen

- Attachments:
1. Letter from Mr. Felker of Mt. Hood Oil Company requesting a rule change, dated 11-16-85.
  2. Memorandum to the EOC from the Director, Agenda Item N, 1-31-86, Proposed Adoption of - - - Changes to the Volatile Organic Compound Rules - - -.
  3. Letter from Mr. Felker requesting a variance from OAR 340-22-110(1)(b), stamp dated 3-24-86.
  4. Letter from Mr. Felker's lawyer supporting the variance request, dated 4-4-86.

RAY POTTS:a  
AA5345  
229-6093  
May 30, 1986





P. O. BOX 192 - GRESHAM, OREGON 97030 - 665-2188

November 16, 1985

Mr. Peter B. Bosserman  
Dept. of Environmental Quality  
Air Quality Division  
P. O. Box 1760  
Portland, Or. 97207

Hearing: Volatile Organic  
Compound rules, November 19, 1985  
Request for addition to "Changes  
Proposed:" Item 16 and addition  
to Rule 340-22-120

Dear Mr. Bosserman:

This is our request for an additional change to be included in subject hearing for Item #16 "Gasoline Bulk Plant Exception" under "Evaluation" add paragraph 340-22-120 (6) to provide exemption from the rule for bulk plants with individual customers exceeding the 10,000 gallon a month rule and not over 20,000 gallons per month individually if such customers' total accumulated throughput of gasoline does not exceed 600,000 gallons a year.

The requested rule change would read:

(6) Rule 340-22-120 shall not apply to exempt bulk plants with individual customers exceeding the 10,000 gallon a month rule and not over 20,000 gallons per month individually if such customers' total accumulated throughput of gasoline does not exceed 600,000 gallons a year.

For background I am including copies of my letter dated Feb. 15, 1983, subject: Requesting a variance from rule: 340-22-110 and a copy of the D.E.Q. map showing the dealer locations involved. The letter is still pertinent in outlining the problem of the three small dealer units we serve who have monthly gasoline volumes exceeding 10,000 gallons a month. The following is general information concerning the units:

J. S. Matheny, 13928 N. E. Glisan, Portland, Or. 97230

1. 79 years of age.
2. Station major source of income - son works there.
3. Union Oil dealer over 30 years.
4. Location: middle of block - with limited room and access.
5. Storage: 3,000 gallons total.

Handy Service, 146 W. Columbia, Troutdale, Or. 97060

1. Station - Building over 50 years old.
2. Location: middle of block not on paved cross street.
3. Union Oil dealer for over 35 years.
4. Storage: 5,000 gallons total with 2" fill pipes on 2 of the 3 tanks at the location.
5. Located close to Sandy River, the AQMA boundary (within 5 or 6 blocks).

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
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NOV 18 1985

Jennings and Elston, 19751 S. E. Hwy. 212, Boring, Or. 97009

1. Location: not on corner location.
2. Storage: 12,000 gallons.
3. Located in Damascus relatively close to the AQMA boundary at 232nd St. and Hwy. 212

We have included pictures of the three locations involved.

The letter attached dated February 15, 1983, gives you additional facts which we feel are pertinent to our request to the commission for authorization of an addition to Rule 340-22-120.

We are a small distributor serving primarily small gasoline customers with storage around 1,000 gallons and average consumption of 1,000 gallons or less. As stated in the next to the last paragraph of our attached letter it would create a hardship for us as small distributors, and a hardship for our small volume customers if we are required to go vapor recovery in our operation. We are, therefore, requesting the above change to the rules as shown above.

We again wish to thank you for the time given to our problem with a strong request for the commission's positive consideration of our problem.

MT. HOOD OIL COMPANY



W. C. Felker





## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item N, January 31, 1986, EQC Meeting

Proposed Adoption of Amendments to the State Implementation Plan Involving Changes to the Volatile Organic Compound Rules OAR 340-22-100 to 220, and Permit Rules 340-20-155(1) Table 1

### Background and Problem Statement

Three areas of Oregon were violating the ambient ozone standard in the late 1970's and were designated as ozone nonattainment areas by the Environmental Protection Agency (EPA). High ozone levels are caused by a photochemical reaction of Volatile Organic Compounds (VOCs), Nitrogen Oxides, and strong sunlight. Ozone (O<sub>3</sub>) is a highly reactive form of oxygen, which is destructive to human tissue, certain materials (i.e., rubber, nylon) and plant life. In 1979 and 1980 the Commission adopted the VOC rules, applicable to the Medford, Salem, and Portland areas. These rules, as part of the Oregon Clean Air Act's State Implementation Plan, are providing VOC reductions so the ozone standard can be attained and maintained.

The rules, when adopted, were supposed to represent Reasonable Available Control Technology (RACT). However a number of industrial painting sources have found rules to be technology forcing and have been unable to attain compliance. The Commission has adopted a blanket variance (and granted an extension) from this rule, to exempt industrial painting sources, who have been unsuccessful in identifying acceptable, lower-VOC coatings. The blanket variance expires on January 31, 1986.

Also, experience in implementing the original rules has shown that a number of minor changes are needed. EPA has also suggested some minor changes.

Authority for the Commission to Act

ORS 468.295 authorizes the Commission to establish air quality rules and standards. A "Rulemaking Statement" is included as Attachment 4.

Rule Development Process

The Commission authorized a public hearing on these proposed VOC rule changes at their September 27, 1985 meeting. Notice of the public hearing was published in newspapers and in the Secretary of State's bulletin of October 15, 1985. Letters announcing the hearing were sent to over a hundred firms whose interests were affected and to over 500 interested parties. At the November 19, 1985 hearing, three people gave verbal testimony, eight letters with testimony have been received, and seven others attended the hearing but did not testify verbally. See the Hearing Officer's Report, Attachment 2, and the Memorandum for Authorizing the Hearing, Attachment 3.

Alternatives and Evaluation

The rule changes discussed below will allow a net increase of VOC to the airshed of less than one percent. This increase will not jeopardize attainment of the ozone standard by 1987, when total VOC airshed emissions are projected to be less than 150,000 kg/day.

The hearing officer's report (Attachment 2) summarizes the individual oral testimony and contains the written testimony received. The following are the major points raised at the hearing:

A. EPA Letter, November 20, 1985

1. EPA was concerned about the proposed increase in the exemption point from 15 lb/day to 40 ton/year for miscellaneous coating firms, rule OAR 340-22-170(4)(j). EPA asked for additional information on:
  - a. impact on airshed ozone levels,
  - b. daily averaging vs annual or monthly averaging of emissions,
  - c. applicability of Reasonably Available Control Technology (RACT), and
  - d. feasibility of add-on control equipment.

The Department provided additional information and has resolved these issues with EPA staff personnel in a telephone conference on December 13, 1985. Of most significance, the proposed increase in the exemption point would increase total allowable emissions by only 380 kg/day, or less than 0.3 percent of airshed capacity. Additional documentation of the airshed capacity is outlined in a separate agenda item (Item No. M). Total VOC emissions in 1987 are projected to be less than 150,000 kg/day; well below the airshed capacity.

Daily monitoring and reporting of VOC emissions is not feasible for small sources. For small sources, daily average emissions are calculated from annual use of paint. Thus annual emissions are used to determine compliance with the applicable limit, regardless of whether the limit is defined as daily (lb/day) or annual (ton/year).

The Department reviewed the miscellaneous metal coating rules in the Los Angeles, San Francisco, Seattle, and Vancouver areas. The miscellaneous metal coating limits identified in the EPA Control Technology Guideline do not appear to be reasonably available control technology (RACT) based on numerous variances, exceptions and compliance schedule extensions in the Los Angeles, and San Francisco areas. Seattle does not have a miscellaneous metal coating rule. The exemption point in Vancouver, Washington, for miscellaneous metal coaters is 235 lb/day (30 to 43 ton/year, depending on days/year of operation).

The responsible air pollution control officials in Los Angeles and San Francisco were unable to identify a single example of add-on control equipment (i.e., afterburners, etc.) that had been used to control miscellaneous metal coating emissions. The miscellaneous metal coaters that have met the limits (in Los Angeles, San Francisco, and Portland) have done it by means of conforming paints (waterbase or high solids paints). Conforming paints are not yet available for all applications, especially for smaller operations.

Both EPA and the Department recognize 40 tons/year as the significant emission rate for VOC emissions for new source review purposes. EPA has approved exemption points at 10 to 50 tons/year for miscellaneous metal coating sources in other states.

In conclusion, the proposed change for raising the exemption point from 15 lb/day to 40 ton/year will exempt all the small painting operations (who have not found complying coatings). The expiration of the blanket variances from rule 340-22-170(4)(j) on January 31, 1986, together with the adoption of this proposed rule change, will allow all miscellaneous coating processes to be in conformance with the Department's rules.

2. EPA asked where exterior drum coating is covered in the rules. Under the existing rules, the Department has considered drum coating to be covered within the miscellaneous coating rule, 340-22-170(4)(j). The proposed rule would place drum coating under the existing can coating rule. This change would result in Portland's one drum manufacturing plant being able to meet the less stringent can coating rule; at present their interior clear

coating (a minor part of their coating) does not meet 340-22-170(4)(j)(A). EPA has already approved a similar rule change for Los Angeles.

3. EPA requested, for the record, the following details concerning the new precision paper coating rule: The precision coating rule applies only to the precision coating process at 3M's plant in the Medford AQMA. It does not apply to the other two large VOC sources in Oregon, the plants run by Crown-Zellerbach and by Simpson Timber in North Portland. The proposed rule, which establishes a new emission standard based upon monthly averaging of emissions, was developed after a joint EPA/DEQ evaluation of the 3M operation. Since the Medford airshed has achieved compliance with the ozone standard, no further VOC reductions are necessary. Should further reductions of VOC in the Medford airshed become necessary, a lower rule limit may have to be established that more reflects the better destruction efficiency of VOC, recommended in EPA's control technology guideline document for paper coating. No adverse airshed impacts are projected because of this action.

The Department rephrased this rule from "precision paper coating" to "existing paper and film coating in the Medford-Ashland AQMA," because of the lack of enough precise technical detail for separating regular paper coating from precision paper coating.

4. EPA requested that the higher limit of 6.2 lb/gal allowed for High Performance Architectural Coatings on Aluminum be restricted to panels on high-rise buildings.

The Department examined how such a rule would apply to the one such coating line in Oregon, at Pacific Coatings in Multnomah County. Pacific Coatings only paint these panels and strips. They neither fabricate nor market these pieces. Therefore, it would be difficult, if not impossible, for either Pacific Coatings or for the Department, to determine which pieces are going to be used on high rise, and which pieces are going to be used on low rise structures. EPA was notified of these facts, and has verbally assented to foregoing their request.

5. EPA disapproved the exempting of 10 tons/year and smaller painting sources from the permit process. The emission reduction from regulating these small sources is negligible, and they are labor intensive for the regulating agencies. Therefore, the Department proposes merely to record information (where available) on painting sources of 10 tons/year or smaller. Although sources between 10 and 40 tons/year are not subject to

the emission limit, the Department requires permits for these sources. Annual reporting of solvent usage would be required in order for the Department to track these VOC emissions. The VOC rules will remain in force for significant VOC painting sources at 40 tons/year and larger. This rule modification is justified not only by the lack of RACT for these sources, but also from the minimal VOC reduction caused by this rule (compared to the 90 percent reductions seen in gasoline marketing rules).

6. An ozone season is that warmer part of the year when there is enough heat from sunshine to cause ozone to be formed from VOC and Oxides of Nitrogen. EPA has established the ozone season for Oregon as April 1 through October 31, but has yet to legalize this by rulemaking action. The information EPA has requested to justify shortening it to May 1 through September 30 has been sent. This report shows no ozone standard violations from 1975 to 1985 anywhere in Oregon in April and October, and shows current ozone values more than 20 percent below the standard in April and October.
7. EPA's reluctance to approve small relaxations in the gasoline marketing rules and in the dry cleaning rule stems from a fear that these small emissions may be a necessary part of the attainment strategy.

The Department has carefully considered each of these changes proposed and finds them to have negligible impact on the strategy. It is the Department's belief that the revised strategy and rules will result in compliance with the ozone standard by 1987. EPA now concurs with our position.

These small rule relaxations resemble EPA-approved rules in Seattle, Vancouver (Washington), San Francisco, and Los Angeles.

- B. The 3M Company testified how and why the proposed 55 lb VOC per 1,000 sq yds per pass rule was developed. This rule applies only to the 3M plant in the Medford AQMA. Because of the VOC reductions by newer, cleaner automobiles, and by sources like the 3M Co., the ozone standard is now being met by a wide margin in the Medford AQMA. Therefore, the 3M Co. testifies (and prior agreement was given by the DEQ and by EPA's Region X office) that no further VOC reductions are needed from the 3M Co. plant.

Part of 3M Company's testimony urges a change in the ozone season from April-October to May-September because of the margin of attainment with the ozone standard in both April and October. Item A.6. above covers this proposed change, also.



- C. Mr. Felker, Mt. Hood Oil Company, Gresham, requested further exemptions for his gasoline delivery operation, and especially for three of his customers, three Union 76 gas stations. Two of these stations are very close to the Portland AQMA border and one is 139 blocks from the centroid of VOC emissions. Mr. Felker's bulk plant is in Gresham, near the edge of the AQMA.

Mr. Felker asked that his wholesale gasoline delivery business be allowed to serve larger customers without capturing the vapors released during wholesale delivery. The exemption point now stands at 10,000 gallons/month for each service station, or 600,000 gallons/year for a wholesale bulk plant (like Mr. Felker's). Mr. Felker requested that service stations receiving less than 20,000 gallons/month and less than 600,000 gallons/year be exempted from capturing gasoline vapor during wholesale delivery from exempted bulk plants.

The basic problem is that unless a service station has large gasoline tanks (bigger than 7,000 gallons), it cannot get truck and trailer delivery from the terminal, causing a significant price increase. Mr. Felker argues that it is too costly to provide air pollution controls for these facilities.

The Department recommends that the Commission not change the present rule's exemption point of 10,000 gallons/month from an equity standpoint. Mr. Felker and his three medium-sized customers have several alternatives open to them. First, the Department prefers that they conform to the existing rules, as have the other bulk plants and service stations. Second, they could apply for limited duration variances from the rules, if accompanied by a schedule for the vapor capture fittings installation.

- D. Carnation Company testified that the low VOC end-sealing compound tried by their Hillsboro pet food plant resulted in spoilage. The end-sealing compound complied with rule 340-22-170(4)(a)(D) but had to be discontinued. Carnation requested relief from this rule in the form of a new rule that would recognize their present technology. See a proposed new rule, 340-22-170(4)(a)(E) End sealing compound for fatty foods...4.4 lb VOC/gal. The present rule allows only 3.7 lb VOC/gal.

The Department concurs with this testimony and offers the Commission a new rule, as requested by Carnation, to cover their problem. The effect on the airshed is only an additional several tons of VOC per year, emitted near the western edge of the AQMA.

- E. 1. Simpson Timber favored shortening the ozone season from April through October to May through September.

This issue is fully discussed in A.6. above. The shortened ozone season also proposed by the Department, could save Simpson

some operating costs. They are installing an afterburner to destroy the visible VOCs from their ovens. Should they solve their visible emission problem by altering their paper coating process, they would like to turn off this afterburner in April and October, as it would not be needed to lower the ozone in those months.

2. Simpson asked for a rule change from daily to monthly averaging for their plant. They have one product, made about one day per month, which emits more VOC than rule 340-22-170(4)(d) allows. Since their other products use much more water, and much less solvent, monthly averaging brings them into compliance.

Simpson will attain compliance with daily averaging when their afterburner (now under construction) comes on line about May 1986. The Department is reluctant to write a rule change for a six month problem. Therefore, the Department proposes to bridge this gap by issuing administratively a six month compliance schedule in Simpson's permit. This action will cover Simpson's noncompliance until the afterburner comes on line.

- F. Mrs. Engleheart, a resident of Northeast Portland, wrote that she got conflicting statements from the Oregonian's article and from a Department spokesperson and wanted clarification.

Mrs. Engleheart has been written a letter clarifying the Department's proposed actions. We have written her that any rule modification which reflects an increase in allowable emission are so small they will not adversely affect air quality. The major improvements in ozone air pollution have been brought about by people using modern, low polluting, new cars, the Department's vehicle inspection/maintenance program, and by major reductions from the Department's rules in paper coating and gasoline marketing.

- G. Three other people sent in testimony supporting the Department's proposed changes. See the Hearing Officer's Report, Attachment 2, for testimony by Mr. Wagner, Mr. Kuenzli, and Mr. Siegel.

Many of the changes proposed by the Department on September 27, 1985 received no comment. These changes are explained in Attachment 3, and consist of: clarifying changes to the Petroleum Refinery Leak rule, to the Secondary Seal rule, to the Permit rule, to the Degreasing rules; additions to the Printing rule, Surface Coating rule, Gasoline Marketing rules, Degreasing rules, and Dry Cleaning rule; deleting an unnecessary coil coating rule, past compliance dates, and part of a VOC storage tank rule; exempting painting by stencils; updating a reference in the Gasoline Delivery Truck rule; exempting extremely small dry cleaners; deleting references to vapor pressure in the VOC definition, and replacing with a photochemically reactive requirement.

### Rule Description

The proposed changes, and the existing VOC rules, are included as Attachment 1. These rules are also part of the State Implementation Plan to attain the ambient air standards. In general the rules limit the amount of VOC (in the form of solvents, gasoline vapors, etc.) that certain industrial and commercial establishments can emit.

### Summation

1. Volatile Organic Compounds (VOC) Rules are an important part of the Department's ozone control strategies. During the period of VOC rule implementation, the Department has identified a number of problems which require correction.
2. On September 27, 1985, the Commission authorized a hearing on VOC rule changes. The hearing was publicized by many mailed notices, and by being advertised in the Secretary of State's bulletin on October 15, 1985.
3. The November 19, 1985 hearing on these rule changes brought out several more requested changes. The Commission is needs to adopt the following proposed changes in the VOC rules:
  - a. A relaxation of the rule affecting small surface coating operations presently covered by variance who have not found complying coatings. Their five year search for this technology has been unsuccessful, so relief by rule change is being proposed. The rule change would allow a small increase in VOC of about 380 kg/day in the Portland airshed, which has a present capacity of 154,000 kg/day;
  - b. A decrease in the ozone season from April through October to May through September;
  - c. A small increase for end-sealing compound VOCs where fatty foods are being canned;
  - d. A small increase in VOC allowed for the smallest gasoline bulk plants, but no increase (as requested) for larger bulk plants and their larger customers;
  - e. Other changes addressing problems encountered in the application of the rules over the last five years, which will not significantly affect attainment of the ozone standard but will improve enforceability, are explained in Attachment 3.

4. VOC rule changes are also proposed as changes in the State Implementation Plan. Agenda Item No. M further describes the effect of these and other changes on the overall control strategy for ozone.
5. These rule changes have been carefully evaluated and coordinated with Oregon's Ozone attainment strategy. It is the Department's opinion these changes will not adversely affect attaining the standard. The increase in emissions represent less than one percent of the airshed capacity.
6. The EPA has concurred with the Department's proposed action.

Director's Recommendation

Based on the Summation, it is recommended that the Commission adopt the attached proposed changes for permit rule 340-20-155(1) and for the VOC rules 340-22-100 to 340-22-220, as amendments to the State Implementation Plan.



Fred Hansen

- Attachments:
1. Proposed VOC Rules Revisions:  
340-22-100 to 340-22-220, and 340-20-155(1) Table 1
  2. Hearing Officer's Report
  3. Agenda Item G, September 27, 1985 EQC Meeting  
Authorizing a Hearing on VOC Rules.
  4. Rulemaking Statements

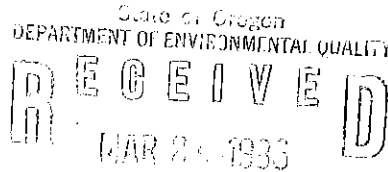
Peter B. Bosserman:s  
229-6278  
January 17, 1986

AS2204



P. O. BOX 192 — GRESHAM, OREGON 97030 — 665-2188

Mr. James E. Petersen, Chairman  
Oregon Environmental Quality Commission  
Box 1760  
Portland OR 97207



AIR QUALITY CONTROL

Variance Request from rule:  
340-22-110 1(b); 1(c) and 2(c)  
Mt Hood Oil Co., Gresham OR 97030

We are requesting a variance from subject rule. We presently serve two (2) small resellers (dealers) who's average monthly purchases of gasoline ranges between 9,000 & 14,000 gallons. Our normal single delivery to these accounts will be 2,000 to 4,000 gallons maximum. We normally deliver these two accounts once a week. The two deliveries spread over the period of a week should have a minimal effect on the VOC released to the atmosphere.

We are a tank wagon distributor. By that I mean thar we do not operate any large truck and trailer or semi trailer vehicles that normally haul their petroleum products from large terminal facilities and are equiped with vapor recovery equipment. We are unique in that respect. We supply several small resellers from our exempt bulk plant. All but two of these resellers are in the AQMA area and buy less than 10,000 gallons a month of gasoline. The majority of our accounts are commercial customers with small storage, buying an average of 500 to 1000 gallons of gasoline a month. Union Oil Co., our supplier, doesn't allow their distributors (jobbers) access to their terminal loading facilities. Therefore as a Union Oil Co. distributor I have no need for a truck and trailer or semi equipment with vapor recovery equipment.

In comparison the other jobbers in the area operate one or more truck and trailer or semi rigs equiped with vapor recovery equipment which they use to pick up their gasoline products at the terminals. In many cases these jobbers also maintain small exempt bulk plant facilities from which they deliver small commercial customers. In this manner the other jobbers are able to deliver the small customers with their exempt bulk plant trucks and any customers using over 10,000 gallons a month with their truck and trailer or semi trucks equiped with vapor recovery equipment. There are several of these jobbers that show 400,000 to 600,000 in exempt bulk plant sales annually and yet show 100,000 to 600,000 gallons monthly Multnomah County taxable sales, the majority of which is delivered in their truck and trailers and semi trailers equiped for vapor recovery.



P. O. BOX 192 — GRESHAM, OREGON 97030 — 665-2188

We are not allowed to use our own truck and trailer equipment to haul product from Union Oil Co.'s terminal. We therefore are unable to serve these two reseller accounts as our competitors do from this kind of equipment.

We cannot afford to give up these two reseller units, nor do the resellers wish to give up their association with us as their supplier and Union Oil branded products.

If we were to be required to use vapor recovery on our tank wagons, in order to continue to serve these two small resellers, it is very possible that we would not be able to competitively retain many of our small commercial gasoline customers because they would not be able to justify spending \$200.00 or more to install the necessary vapor recovery equipment. The loss of these small commercial customers could be the difference between our ability to stay in business or go out of business.

These two resellers gasoline sales of 9,000 to 14,000 gallons a month are considered marginal in today's market. We are requesting the commission to grant us, a basically one of a kind type distributor, a variance from rule 340-22-110 for these two resellers that we estimate will be phased out of operation within the next seven years.

We believe that we have a unique condition in that our supplier does not allow distributors to pick up gasoline at the Portland terminal the same as the other jobbers in the area.

For this reason and others elicited above, we believe that we should qualify under special circumstances that would render strict compliances in serving these two accounts, unreasonable and burdensome to the two small resellers and ourselves.

We wish to thank you for your time given to our problem with a strong request for your positive consideration of our request.

Mt Hood Oil Co.

A handwritten signature in black ink, appearing to read "W.C. Felker".

W.C. Felker

**Meyer, O'Malley & Vial**

Attorneys at Law

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William R. Meyer\*  
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District of Columbia,  
New York, and Virginia

April 4, 1986

Mr. Ray Potts  
Oregon Environmental Quality Commission  
Box 1760  
Portland, OR 97207

Re: Mt. Hood Oil Co.  
Variance Request

Dear Mr. Potts:

I represent Mt. Hood Oil. This letter is in regard to Mt. Hood Oil's request for a variance from Rule 340-22-110 1(b), 1(c) and 2(c).

Enclosed please find a copy of a letter William Felker of Mt. Hood Oil Co. has sent to the Commission. The letter outlines the facts underlying the delivery situation Mt. Hood Oil faces with respect to two commercial customers.

The situation Mt. Hood Oil faces is unique as a result of Union Oil Co.'s operating requirements, something Mt. Hood Oil Co. has no control over. To require Mt. Hood Oil Co. to comply with the new rule will result in loss of these accounts to Mt. Hood Oil and resulting financial loss.

Mt. Hood Oil is a small petroleum products distributor and it cannot easily afford to reduce its customer base. If the Commission requires Mt. Hood Oil Co. to lose these accounts, it will be jeopardizing the company's viability.

Given the relatively small amount of gasoline deliveries involved and the limited nature and application of the variance, allowance of the variance would not be a material detriment to the quality of air within the applicable AQMA. Weighing this fact against the potential economic harm to Mt. Hood Oil Co. it is only equitable that the variance be granted.

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
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APR 07 1986  
AIR QUALITY CONTROL

Meyer, O'Malley & Vial  
Attorneys at Law

Mr. Ray Potts  
April 4, 1986  
Page 2

Mr. Felker can provide you with any additional facts concerning this situation that you might desire. In the meantime, we would urge the staff to recommend approval of the variance in this situation.

Very truly yours,

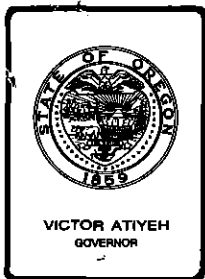
MEYER, O'MALLEY & VIAL

  
J. Patrick O'Malley

JPO:de  
(175-1)  
Enclosure

cc: Mt. Hood Oil Co.





## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item I, June 13, 1986, EQC Meeting

Request for a Variance from Rules Prohibiting Open Burning of Solid Waste, OAR 340-16-040(2) for 20 Disposal Sites (List of Disposal Sites - Attachment II)

### Background

As a result of an informational report, "Status of Open Burning Solid Waste Disposal Sites," presented to the Commission at the September 14, 1984 EQC meeting, a Department interdivisional task force was established. The task force examined the practice of open burning for impact on air and groundwater quality.

Based on the work of the task force, proposed rules were drafted. At the January 25, 1985 EQC meeting, the Commission granted authorization to conduct public hearings relating to these proposed rules.

Six public hearings were held throughout the state in March 1985. At all of the public hearings, except Portland, objections were voiced to the proposed rules. The Department reevaluated the proposed rules and at the January 31, 1986 EQC Meeting, the Department recommended to the Commission (Agenda Item R - Attachment I) that the proposed rules not be adopted, but rather the remaining disposal sites that open burn garbage be contacted and a variance procedure be initiated to allow for continued open burning.

The Department has received requests for the continuation of open burning at 20 disposal sites. A list of these sites and their letter requests are attached (Attachments II and III).

The 20 sites serve a combined population of approximately 6,000 persons. They vary in size from Troy in Wallowa County with a population of 50 to Powers in Coos County with a population of 775. The majority of the sites serve under 400 persons.

### Alternatives

There are three alternatives available. They are to deny the variance requests, approve the variance requests with conditions or approve the variance requests with no conditions.

#### 1. Deny the Variance Requests

The Department believes that open burning of solid waste in most cases is not an acceptable practice. Reasons for prohibition far outweigh advantages. The practice is in violation of Federal sanitary landfill criteria which prohibits all burning of domestic, commercial, and industrial waste at disposal sites. Operators are subject to citizen suit to force closure or upgrade to sanitary landfill criteria under the Federal Resource Conservation and Recovery Act (RCRA). The 1984 amendments to RCRA direct EPA to rewrite the criteria (with emphasis placed on groundwater and small quantities of hazardous waste) by March 1988. If states do not have a permit program at that time which enforces the new criteria, EPA is given enforcement authority to over-ride the state.

Denying the variances would require the Department to order open burning stopped at the disposal sites. They would have to be upgraded to sanitary landfills or closed. The applicants for variances have cited lack of funds, inadequate equipment, small acreage sites that would not allow for conversion to landfill, and lack of alternative landfill locations.

#### 2. Approve the Variance Requests with Conditions

In approving variances, the EQC could impose operational conditions. An example of conditions which could be imposed closely follow the operational criteria which were established by the open burning dump task force and were contained in the proposed rules. They are:

- (1) Controlled access (site fenced with a gate).
- (2) Attendant on duty while site is open and while burning solid waste.
- (3) Burning limited to two times per week and only when the site is closed.
- (4) Ash buried at least twice per year.
- (5) No burning of tires, asphaltic shingles or hazardous waste.

Imposing these conditions on the variances would likely result in noncompliance at many of the sites and the need to take enforcement action that would have very little environmental benefit.

3. Approve the Variance Request with No Conditions

The variances could be approved as requested without special conditions. This would allow the 20 disposal sites that presently open burn and have requested a variance to continue the present practice.

Evaluation

Before granting a variance under ORS 459.225, the Commission must find that:

- a. Conditions exist that are beyond the control of the applicant; or
- b. Special conditions exist that render strict compliance unreasonable, burdensome or impractical; or
- c. Strict compliance would result in substantial curtailment or closure of the disposal sites and no alternative facility or alternative method of solid waste management is available at this time.

The Department believes that open burning, while not an accepted solid waste disposal practice, should be allowed in a few rural areas for specified periods. All of the applicants for a variance have cited significant increased cost of operation, lack of equipment and distance from any other active disposal site. Most have a limited area for their sites. The Department concurs with the applicants' reasons for variance requests.

The January 31, 1986 staff report indicated the Department's position that variances should only be granted by exception with the permittee taking the burden of showing need. It was also indicated that variances could be conditioned to maintain the most possible control over the disposal sites.

Subsequent to the January 31 meeting, however, 4 FTE from the Solid Waste Program have been transferred to the Hazardous Waste Program resulting in the need to reassess program priorities. Staff prioritized disposal sites according to environmental impact since then and all of the open burning disposal sites requesting variance fell into the lowest category of concern. It is anticipated that very little attention can be directed toward these sites. Therefore, we are now recommending that only the most environmentally significant conditions of the variances be adopted.

With the exception of the city of Powers, the Department recommends that only two conditions, 1) no tires, asphaltic shingles or hazardous waste may

be disposed by burning (these items cause dense, black smoke and heavy particulate or other health hazards); and 2) when EPA adopts new criteria, variances will be reviewed and may have to be terminated; be imposed by the Commission as conditions of the variance.

The Department feels that the city of Powers presents a special problem and would impose the conditions listed in alternative 2. Powers is the largest site (775 population) and is the only remaining open burning disposal site in Western Oregon. The city in the past has agreed to operate under the listed conditions. In fact the city has mandatory collection and only opens the disposal site to the collection vehicle. By imposing the conditions, the status of the site would remain unchanged.

After evaluation of the requests for variances by the local jurisdictions and weighing the environmental effects of allowing continued open burning at the 20 disposal sites, the Department concurs with the applicants that variances should be granted. To ensure a review of the status of open burning disposal sites in the future, variance length should be limited to no more than five years. Should any environmental or public health hazards occur at these disposal sites, the Department could return to the EQC for action, such as a revocation of the variance.

#### Summation

1. On January 31, 1986, the Commission accepted a staff report recommending that small rural open burning dumps be allowed to continue open burning with a variance from the Commission.
2. Local governments representing 20 open burning dumps have requested a variance to allow continued open burning of solid waste.
3. Environmental impact at small, rural disposal sites is minimal.
4. Applicants have cited high costs, lack of equipment and distance from any acceptable landfill as reasons to allow the variance.
5. The Department concurs with the applicants that a variance should be granted for the following reasons which comply with ORS 459.225:
  - a. Conditions exist that are beyond the control of the applicant.
  - b. Special conditions exist that render strict compliance unreasonable, burdensome or impractical.
  - c. Strict compliance would result in substantial curtailment or closure of the disposal sites and no alternative facility or alternative method of solid waste management is available at this time.

6. Because of the size and location of the city of Powers' disposal site, operating conditions as outlined in alternative number 2 should be a condition of the variance.
7. The Department feels that tires, asphaltic shingles, and hazardous wastes should not be burned and that variances should be limited to five years, with a review at the time EPA adopts new criteria to determine if variances should be terminated.

Director's Recommendation

Based upon the findings in the summation, it is recommended that variances be granted for five years to allow continued open burning of solid waste at the 20 disposal sites listed in Attachment II with the following conditions:

1. Tires, asphaltic shingles and hazardous wastes shall not be disposed by open burning.
2. When EPA adopts new criteria, variances will be reviewed and may have to be revoked or modified.

It further recommended that the city of Powers also be required to comply with the following additional conditions:

1. Controlled access (site fenced with a gate).
2. Attendant on duty while site is open and while burning solid waste.
3. Burning limited to two times per week and only when the site is closed.
4. Ash burial at least twice per year.

  
Fred Hansen

Attachments: I. Agenda Item No. R, January 31, 1986, EQC Meeting  
II. List of Sites  
III. Application Letters

R.L.Brown:b  
229-6237  
May 14, 1986  
SB5696



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item R, January 31, 1986, EQC Meeting

Proposed Rules: Open Burning of Solid Waste at Disposal Sites (OAR 340-61-015 and 340-61-040(2))

### Background

At the time of passage of ORS 459 (Solid Waste Statutes) in 1971, approximately 70 percent of the 200 existing disposal sites were open burning dumps. As a result of a statewide planning effort in the 1973-75 period and subsequent cooperative effort between DEQ and local government, most of these open dumps have been closed, upgraded to landfill, or converted to a transfer station.

Since the passage of ORS 459, the Department has worked to eliminate open burning dumps. Emphasis has been placed on larger Western Oregon disposal sites. The coastal counties of Lincoln, Tillamook, and Clatsop were the last major areas to stop open burning. Only one Western Oregon city (Powers) is now allowed to open burn with a variance granted by the Commission.

Emphasis can now be directed to the more rural areas in Eastern Oregon. A current status of open burning dumps is attached (Attachment I).

As a result of an informational report, "Status of Open Burning Solid Waste Disposal Sites," presented to the Commission at the September 14, 1984 EQC meeting (Agenda Item K--Attachment II), a Department interdivisional task force was established. The task force examined the practice of open burning for impact on air and groundwater quality, and developed two sets of criteria. The first set of criteria would have to be met for an operator to be permitted to continue open burning. The second set was operational conditions for those sites allowed to continue open burning.

Based on the work of the task force, proposed rules were drafted. At the January 25, 1985 EQC meeting, the Commission granted authorization to conduct public hearings relating to these proposed rules (Agenda Item D--Attachment III).

The two sets of criteria which were established in the proposed rules follow:

1. Site operators must meet these criteria to open burn domestic solid waste:
  - A. Must have minimal air quality impact.
  - B. Located outside city or urban growth boundary with little impact on nearby residents.
  - C. Must have a dry climate with rainfall less than 25" annually.
  - D. Total population served less than 450 persons.
  - E. Shall not accept hazardous waste or burn industrial waste.
2. Minimum operational conditions:
  - A. Access must be controlled (site fenced with a gate).
  - B. Attendant must be on duty while site is open and while burning solid waste.
  - C. Burning must be limited to two times per week and only when the site is closed.
  - D. Must have a fire permit from local fire agency.
  - E. Ash must be buried at least twice per year.

The Statement of Need for Rulemaking, Land Use Consistency and Draft Rules are attached (Attachments IV, V and VI).

Six public hearings were held throughout the state in March 1985 as summarized below. Hearing Officer's reports are attached (Attachment VII).

	<u>Portland</u>	<u>Vale</u>	<u>Coquille</u>	<u>Baker</u>	<u>Canyon City</u>	<u>Lakeview</u>
Number Attending	5	5	11	20	4	6
Verbal Testimony	0	1	2	3	1	3
Written Testimony	17*	0	11	1	0	0

\* All testimony regarded backyard burning in the burn ban area (see Hearing Officer's report)

At all public hearings but Portland, objection was voiced to the 450 population cutoff. Statements were that 450 was an arbitrary number and should be raised. Most persons giving testimony recommended a figure of 900-1000 persons.

At the Canyon City and Lakeview hearings an objection was also raised to the operational criteria. The criteria objected to were controlled access, attendant on site while open and while burning, and burial of ash twice a year.

A representative of Union County, where there is no open burning of solid waste, stated that a site operator should be required to demonstrate need in order for open burning of solid waste to be allowed. He indicated that the three transfer sites in Union County would most likely revert to open burning if the rules were adopted.

Considerable verbal and written testimony was received in support of burning at the city of Powers' disposal site. Major points raised were great distance to the nearest disposal site (transportation costs), poor economic climate in the Powers area and the rough area topography. An extensive discussion on Powers is included in the Hearing Officer's report for the Coquille public hearing.

The Department's response to public comment is attached (Attachment VIII).

#### Alternatives and Evaluation

The Department believes that open burning of solid waste in most cases is not an acceptable practice. Reasons for prohibition far outweigh advantages. The practice is in violation of Federal criteria which prohibits all burning of domestic, commercial, and industrial waste at disposal sites. Operators are subject to citizen suit for closure under RCRA. The 1984 RCRA Amendments, passed by Congress in late 1984, direct EPA to rewrite the criteria (with emphasis placed on groundwater and small quantities of hazardous waste) by March 1988. If states do not have a permit program which enforces the new criteria, EPA is given enforcement authority. Prior to the amendment, EPA had no solid waste enforcement authority.

Federal solid waste program grants to states were also authorized by the 1984 Amendments, however, to date this money has not been allocated. In all probability grants, if made, will not be available to states allowing open dumps in violation of the federal criteria. It is problematic whether the federal criteria will be changed to allow open burning.

While the Department is not at risk from a citizen's suit (citizens' suits are for closure of the disposal site only and would therefore be directed at the owner/operator), under RCRA there may be some liability involved by allowing open burning to continue. For example if a neighbor proves civil damages as a result of a site operator burning and an award is made, then the site operator may attempt to involve the Department for allowing the condition to occur.

There is very little control over what items are burned at open burning dumps. In addition to normal household wastes, most people dispose of



such items as empty or even partially full containers of pesticides, paints and other small quantities of hazardous wastes. Waste tires and plastics are also disposed. A large percentage of modern furniture, which is often disposed, contains upholstery which is composed of plastic foam material.

Polyvinyl chloride is an example of a plastic that emits toxic gases when burned. Phosgene, hydrogen chloride and carbon monoxide gases are among the products of combustion. Burning tires also emit highly toxic gases and large quantities of particulate. For comparison sake, the following table shows the relative emissions from burning tires and agricultural field burning:

	<u>Tires</u>	<u>Ag. Field Burning</u>
Particulate (lb/ton)	100	17
Carbon monoxide (lb/ton)	125	100
Hydrocarbons (lb/ton)	30	20
Nitrogen oxides (lb/ton)	4	2

Open burning dumps are also a safety hazard. Uncontrolled burning can cause range and forest fires. The most recent range fires started around the Dayville dump. Users are subject to burns if they enter the burning area. A fire can be smoldering under a relatively stable looking area and an uncautious person may fall in.

The low cost of disposal at an open burning dump (usually free to the user) discourages the state's higher priorities for solid waste management. These priorities have been mandated by the Legislature. In order of priority they are reduction of waste at the source, reuse, recycle, energy recovery, and finally landfilling on those portions remaining. With low cost disposal, there is no incentive to attempt any of the higher priority methods.

The main reason which favors open burning is related to cost. For those small communities that have limited financial resources, open burning is an attractive, low-cost disposal alternative. Almost one-half of the disposal sites are operated in areas that are not incorporated cities. Many, if not all, of the cities involved are on a very limited budget. At the public hearing held at Vale, it was stated that to operate the disposal site at Jordan Valley without burning would cost more than the entire present city budget.

Most small rural sites have a relatively small impact on the environment. This is why the Department has given rural open burning sites a lower priority than large sites. The larger open burning disposal sites were located principally along the Oregon coast. With the EQC action at the September 14, 1984 meeting, which denied continuation of open burning variances for Seaside and Cannon Beach disposal sites, only one western Oregon city continues to open burn solid waste.

It should be noted that 13 of the 24 sites listed in Attachment I continue to open burn solid waste in violation of permit conditions. Because of the relatively small environmental impact, this has been allowed to continue. However, with the closure of the remaining western Oregon burning sites (except for Powers), attention can be focused on the smaller sites and enforcement proceedings could be initiated.

Following is a summary of the reasons for and against open burning:

Why Stop Open Burning

1. Practice is in violation of federal criteria. In March 1988, EPA may assume enforcement in those states not following criteria. (Federal solid waste money may become available.)
2. No control over what is burned (hazardous waste, tires, explosives, etc.).
3. Smoke may be harmful to attendants and those using the site.
4. Site users are subject to safety hazards. Burning may cause range fires.
5. Low cost discourages other more acceptable forms of solid waste management (recycling, waste reduction, landfilling).

Why Allow Open Burning

1. Low cost. Small communities with limited disposal site areas can't afford better.
2. Low environmental impact. Minimal population affected.
3. Low priority. Staff time is limited and should be used where more severe environmental problems occur.

The Department believes that open burning, while not an accepted solid waste disposal practice, should be allowed in some form in a few rural areas. It should only be done by exception, with the permittee taking the burden of showing why a landfill is not practicable at their location.

There are two alternatives available to the EQC. First, the proposed rules may be adopted either in the present form or in a modified version. The second alternative is for the Commission to decline to adopt the proposed rule. This would continue the prohibition on open burning at disposal sites without the site operator obtaining a variance from the Commission.

By adopting the rules as proposed, or with slight modifications, the EQC would allow any site that could meet the acceptability criteria to continue, or begin, to open burn. Under these criteria as written, sixteen of the twenty-four sites that presently open burn would be allowed to continue (Attachment I). In addition, other disposal sites that have burned in the past but have been converted to landfills could request to again open burn.

There are presently 22 disposal sites being operated as landfills or transfer stations in rural Eastern Oregon that would be eligible to begin open burning if the rules are adopted as written (see Attachment IX). If the rules were modified as requested in the public hearings to increase the population figures from the proposed 450 to 1,000, nine additional sites would become eligible (see Attachment IX). The Commission could, however, limit the rules to address only those sites which presently open burn.

The Department feels that there is a matter of equity involved. If the rule is changed to allow open burning of solid waste, all sites that meet the criteria should be allowed to apply for such an exemption. To do otherwise would punish those site operators who have made the effort to meet the rules and reward those site operators who have continued the practice of open burning.

In response to the public testimony to an increase in the population served, the Department cannot agree that the 450 figure should be raised. The Open Dump Task Force established the 450 population figure as a point where there should be an economic base for a more responsible program. Sites serving populations from 500-1000 persons are presently being operated as landfills or transfer stations in Douglas, Gilliam, Grant, Klamath, Malheur, Union and Wallowa Counties. It is therefore recommended that, if the proposed rules are adopted, the figure remain at 450.

In response to the public comments regarding access control, an attendant on site while open and while burning, and coverage of ash at least twice a year, the Department again cannot agree with the testimony. Disposal sites in Baker, Malheur and Wallowa Counties presently operate with access control, are only open one to two days a week, and have an attendant on duty while the site is open. A small fee is charged to support the cost of the operator. Having an operator gives some control over what is dumped (tires, hazardous wastes, etc. can be excluded) and control over placement of the material for burning. The material can be burned at one time while the site is closed instead of burning at the discretion of the site users.

The Department also feels that some minimum form of maintenance must occur at the site and that ash disposal at least twice a year is a minimum program. Again, the Department recommends that if the proposed rules are adopted, they be adopted as written.

The second alternative is for the EQC to decline to adopt the proposed rules. This would make continued open burning illegal without the site operator obtaining a variance or a conditional permit under ORS 459.225 from the EQC. An important part of the variance procedure is that the EQC can require applicants to establish the need for the variance and can properly tailor the permit conditions to be site specific. Many of the operational criteria from the proposed rules could be included as conditions of the variance. Time limits could be imposed and the local jurisdiction might be required to submit periodic reports indicating their effort toward upgrading the disposal site. In this way, the status of open

burning disposal sites can be reviewed periodically as the variances expire. The variance procedure does require additional staff time, receiving and processing the variance requests.

The Department would like to maintain the most control possible over open burning of garbage at disposal sites. Only those remote rural sites that can demonstrate a need for the practice of open burning should be allowed to continue. In addition, a condition could be added to each permit giving the EQC the option of terminating the variance if federal regulations so dictate. At the time of application for a variance, any impact on possible recycling could be evaluated and taken into account in the conditions attached to the variance.

Members of the original Department task force were contacted regarding the alternatives. The members agree that the variance procedure is the most acceptable way to allow for continued open burning at a limited number of sites while maintaining control of the operation of these sites by permit conditions. This procedure would also limit the number of open burning disposal sites to the minimum.

For the above reasons the Department is recommending that the proposed rule not be adopted and staff be directed to contact the operators of all sites presently known to be open burning with instructions that a variance will be required for continuation of that practice and procedures for their requesting such a variance.

In the past, variance requests have been presented to the EQC in a group by county. This process could, for the most part, be continued. There are eight counties presently with open burning disposal sites. Four of these counties contain 19 of the 24 sites.


#### Summation

1. As a result of an interdivisional task force, criteria were developed relating to open burning of solid waste at disposal sites. Proposed rules were drafted which contained these criteria.
2. The proposed rules consist of two sets of criteria as follows:
  - A. Criteria that must be met for a disposal site operator to be allowed to open burn solid waste.
  - B. Minimum operational conditions if open burning is allowed.
3. On January 25, 1985, the EQC granted permission to hold public hearings on the proposed rules regarding open burning of solid waste at small rural disposal sites.
4. Six public hearings were held in March 1985. There was opposition to the 450 population cutoff and to the operational conditions relating

- to site attendants and access control. One jurisdiction testified that the rule should require that need for open burning be established.
5. Site operators that open burn are subject to citizen suit in Federal Court for closure. While the Department is not subject to citizen suit, it is possible that it may be subject to suit if civil damages can be established.
  6. The EQC can either adopt the proposed rule or a modification or decline to adopt.
  7. If the Commission does not adopt the rules, all site operators presently open burning will be required to upgrade or obtain a variance or be subject to enforcement action.
  8. The Department believes that open burning at small rural disposal sites should be allowed on an exemption basis, not a blanket approval by rule. It does not believe that sites presently operated as landfills or transfer stations should be allowed to revert to open burning without an exceptional justification.
  9. Environmental impact at small, rural disposal sites is minimal.
  10. The Department believes that the variance procedure maintains the most control over open burning at disposal sites since this requires the operators to show a need and allows the Commission to properly condition variances to ensure open burning doesn't continue longer than necessary.

Director's Recommendations

Based on the Summation, it is recommended that the Commission decline to adopt the proposed rules. It is also recommended that staff be instructed to pursue option two in the "Alternatives and Evaluation" section and contact the operators presently open burning at disposal sites and indicate the need for and the submissions required to obtain a variance.

  
Fred Hansen

- Attachments:
- I. Current Status of Open Burning Dumps
  - II. Agenda Item K, September 14, 1984 EQC Meeting
  - III. Agenda Item D, January 25, 1985 EQC Meeting
  - IV. Statement of Need for Rulemaking
  - V. Land Use Consistency Statement
  - VI. Proposed Rules
  - VII. Hearing Officer's Reports
  - VIII. Department's Response to Public Comments
  - IX. Sites Allowed to Open Burn Under Proposed Rules

Robert L. Brown:l  
SL4790  
229-6237  
January 2, 1986

JURISDICTIONS REQUESTING OPEN BURNING VARIANCES

<u>Baker County</u>	<u>Population</u>
Halfway	400
Richland	180
<u>Coos County</u>	
Powers	775
<u>Grant County</u>	
Dayville	205
Long Creek	245
Monument	190
Seneca	270
<u>Lake County</u>	
Adel	150
Christmas Valley	500
Fort Rock	400
Plush	150
Silver Lake	600
Summer Lake	400
Paisley	500
<u>Malheur County</u>	
Jordan Valley	450
Juntura	150
McDermitt	200
<u>Wallowa County</u>	
Imnaha	60
Troy	50
<u>Wheeler</u>	
Mitchell	170

# CITY OF HALFWAY

Post Office Box 738

HALFWAY, OREGON 97834

Attachment III  
Agenda Item L

June 13, 1986 EQC Meeting

May 7, 1986

Ernest A. Schmidt, Manager  
Solid Waste Section  
Dept. of Environmental Quality  
522 S.W. Fifth Ave., Box 1760  
Portland, Oregon 97207

Dear Sir,

On behalf of the City of Halfway, I wish to submit a formal request for a variance allowing Open Burning at our Solid Waste Disposal Site.

On reviewing our BLM lease we find some burning under controlled conditions is permitted. By observing your conditions, as outlined in the letter dated April 3, 1986, we comply to those regulations.

Open burning on a regular basis at this site would greatly prolong its usefulness, and also enhance the environment by controlling the problems with flies and scavengers.

Our last Field Inspection Report indicated the need for an Open Burning Variance. There is no other alternative sites available to meet DEQ standard or any other operators available. The operator does attempt to maintain acceptable conditions.

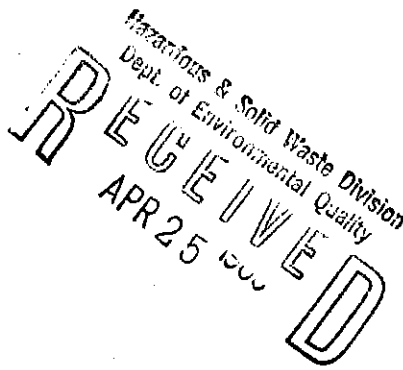
Sincerely,

*Edwardine Oliver*  
Edwardine Oliver, Mayor

EO/dg

DEPARTMENT OF ENVIRONMENTAL QUALITY  
SOLID WASTE DIVISION  
RECEIVED  
MAY 9 1986

**CITY OF RICHLAND**  
Richland, Oregon 97870



Department of Environmental  
Quality  
522 S.W. Fifth Avenue  
Box 1760  
Portland, OR 97207

RE: S.W. VARIANCE TO ALLOW  
OPEN BURNING

The City of Richland is hereby requesting a variance to allow open burning at the Richland Sanitary Landfill site.

The location of the site is approximately  $3\frac{1}{2}$  miles from the city limits, not included in our urban growth boundary, and about  $\frac{1}{2}$  mile from the nearest residence. The elevation is 2450 ft., with the prevailing winds from south and southwest blowing away from the populated area.

The access is controlled by the natural features of the terrain, it is completely fenced with an access road of about  $\frac{1}{4}$  mile and a gate that is kept locked when the site is closed.

Average precipitation is 10.44 inches mostly occurring during the winter in the form of snow.

The site is only open to the public one-half day per week, and the operator is on duty. The operator of the site also picks up the garbage from customers on a weekly basis. The original estimate of a population of 700 being served, with a weekly average of approximately 40-45 cu. yds. of loose material, has been proven over the years to be extremely high estimates. Most of the area served is composed mainly of single or two person households. Using a high estimate of 3 persons per household, this would be a population of between 180 and 200 persons utilizing the garbage pick up service. (Between 60-65 customers on the route.) When the landfill is open, the high average usage year round would probably be less than five persons each week and usually less, there is very little usage in the winter. A lot of those also are customers on the weekly route, hauling their own only when they have a large amount, such as spring and fall clean up time. The refuse from the small county park is also picked up by the landfill operator. This is difficult to estimate as the park is used mainly during the summer months. The usage depends greatly upon the water level and the fishing conditions. The park is open six months each year, but there is very little usage before Memorial Day and after Labor Day in September. The population is unstable and difficult to estimate. For example, the park was



## CITY OF RICHLAND

Richland, Oregon 97870

closed during the summer of 1985, for several weeks due to the water being lowered by Idaho Power. We feel a high estimate of the actual population being served by the site would be about 400 persons.

Figuring the size of the truck being used to pick up garbage and the number of trips each week that it takes to run the route, plus the amount of usage from the park and the usage on the one-half day that the site is open to the public, we feel that an estimate of between 25 & 30 cu. yds. would be a more realistic figure than the original estimate of between 40-45 cu. yds. weekly of loose material being deposited at the site.

Due to the low economic status of the community and the high level of elderly persons on fixed incomes, our resources are limited. The City does not own any equipment and due to the limited resources available is not in a position to purchase any. To maintain and operate the landfill without burning places an extreme financial hardship on the City as well as the operator. Because of the low volume of business, the operator does not make much over his own operational costs. In order to hire the needed equipment for the covering and compacting of the pit, the costs would have to be passed onto the customers. This would have to be a substantial increase in rates, placing a hardship on them. Such a hardship, that many would again resort to dumping along the roadsides and in the ravines. It is simply too far and weather conditions in the winter are too hazardous for people to have to haul their garbage to another site. The Halfway site is about 12-15 miles one way over a very hazardous road in the winter. Given the existing conditions at the site, it is extremely doubtful if it would even be available to accept more refuse. The Baker City site is over 45 miles one way in the other direction with even more hazardous winter driving conditions, to contend with.

If we are allowed to continue burning there would be no hazardous waste accepted. Tires on a limited basis would still be accepted, but would not be burned. They would be set aside and buried when the ash is covered at least twice during the year.

The burning would be confined to a pit area and only done once a week when the site is closed to the public. Burning would give us a longer pit life and therefore much more economical.

We feel that the environmental impact is minimal and the amount of waste accepted is minimal. Burning is by far the most economical and efficient method to operate our solid waste disposal site. Therefore, we respectfully request that the variance to allow open burning at our site be granted.

# City of Powers

P.O. Box 250  
Powers, Oregon 97466  
(503) 439-3331

March 5, 1986

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED  
MAR 6 1986

OFFICE OF THE DIRECTOR

Environmental Quality Commission  
Fred Hansen, Director  
P.O. Box 1760  
Portland, Oregon 97207

RE: Extension of variance - Powers

Dear Mr. Hansen:

The variance on our disposal site will expire May 1986.

The Mayor and members of the City Council, on behalf of the citizens of Powers, would like to ask EQC for an extension of the existing variance.

It is the Council's feeling that a request for an extension is justified because all of the factors considered in the present variance are still existing.

The City has completely restructured the methods of garbage collection and the operation and maintenance of the open burning dump as planned and submitted to you in January 1984.

The on site inspection reports have been good, confirming that the system is working and in compliance.

We have not been able to come up with a workable plan as a suitable alternative to our open burning dump.

Copies of written testimony and letters of support are enclosed. We respectfully request that an extension of our variance be granted.

Sincerely,  
*Carole E. Smith*  
Carole E. Smith  
City Recorder  
P.O. Box 250  
Powers, Oregon 97466

Hazardous & Solid Waste Division  
Dept. of Environmental Quality

enclosures

RECEIVED  
MAR 10 1986

# City of Monument

Monument, Oregon 97864

May 14, 1986

Re: Variance for  
Open Burning Dump

Ernest A. Schmidt, Manager  
Solid Waste Section  
Department of Environmental Quality  
522 S. W. Fifth Avenue, Box 1760  
Portland, Oregon 97207

Dear Mr. Schmidt,

We would like to respectfully request a variance for open burning of our dump.

We are in an economically depressed area and don't have the resources available to consider an alternative plan such as a new landfill or a conversion. We anticipate a decrease in revenue sharing funds which will affect our budget and there isn't enough activity at our dump to generate ample funds through a user fee system for a different facility.

We will institute an operational plan consistent to the one suggested in your letter dated April 3, 1986 (See attached schedule of procedures) in order to minimize the impacts of open burning.

Thank you for your consideration and if you need additional information then please give me a ring.

Sincerely,  
*Gayle Engle, Mayor*  
Gayle Engle, Mayor

Enc:

Hazardous & Solid Waste Division  
Dept. of Environmental Quality  
**RECEIVED**  
MAY 19 1986

City of Monument  
Monument, Oregon 97864

OPEN BURNING DUMPS WITH VARIANCES  
RECOMMENDED OPERATING PROCEDURES

- (A) Access should be controlled to restrict unauthorized entry.
- (B) There should be an attendant on duty during open hours and during burning operation.
- (C) Burning should take place no more than two times per week when the site is closed to public access and in some type of containment area such as a trench. Fire should be extinguished before dark.
- (D) If there is a local fire protection agency, then the operator should have a valid permit from that agency.
- (E) Disposal site should be maintained by burying ash on a routine schedule.

SF792.1

Items producing dense smoke such as tires will be dumped in a special place and covered rather than burned.

# THE CITY OF SENECA

SENECA, OREGON 97873

P.O. BOX 208

(503) 542-2161

May 12, 1986

D.E.Q.  
Attn. Bob Brown  
P.O. Box 1760  
Portland, OR 97207

Dear Mr. Brown:

Due to our situation at our disposal site it would be more economical and practical for us to be able to burn our garbage pit.

The City meets all the criteria mentioned in the new rulings concerning the burning of garbage.

Please take this in to consideration and let us know the outcome.

Sincerely,

*Diane Browning*  
Diane Browning  
Clerk/Recorder  
City of Seneca

Hazardous & Solid Waste Division  
Dept. of Environmental Quality  
**RECEIVED**  
MAY 15 1986

CITY OF PAISLEY

P. O. Box 100  
PAISLEY, OREGON 97636

613  
Hazardous & Solid Waste Division  
Dept. of Environmental Quality

RECEIVED  
AUG 1 1985

July 24, 1985

Department of Environmental Quality  
P.O. Box 1760  
Portland, Oregon 97207

Attn: Bill Dana

Re: Paisley Disposal Site  
WS - Permit #178  
Lake County

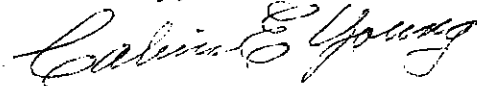
Dear Mr. Dana:

In answer to your request for further information on why we need an open burning permit.

1. We have 80 acres of land for a disposal site. Landfill would soon use up the land we have and no more is available.
2. The disposal site is far enough from town that the smoke does not drift over the town nor any residence near town.

We hope this will explain our position and the need for a Solid Waste Disposal Permit.

Sincerely,



Calvin E. Young, Mayor

cc  
CENTRAL REG WJ  
8-5-85

# CITY OF PAISLEY

P. O. Box 100  
PAISLEY, OREGON 97636

April 22, 2986

Hazardous & Solid Waste Division  
Dept. of Environmental Quality

RECEIVED  
APR 24 1986

Department of Environmental Quality  
Ernest A. Schmidt, Manager  
Solid Waste Section  
522 S.W. Fifth Avenue Box 1760  
Portland, Oregon 97207

Re: SW-Permit  
Open Burning Dump

Dear Mr. Schmidt:

In response to your letter of April 3, 1986. After the City Council studied the six operating procedures you recommended this is their decision.

- A. Controlled Access: To do this we would need to build a fence around the site and a locked gate. This would take money we don't have.
- B. An attendant during open hours: More money we don't have.
- C. Burning no more than twice a week: This we could handle as we only need to burn about twice a month.
- D. No problem City Volunteer Fire Department.
- E. The county brings their equipment and burries the old trench and digs a new one when needed. We have no hazardous waste and very few tires which are put aside and burried in the old trench.

A & B requirements would probably cause the closing of the dump. Therefore, the Paisley City Council is requesting a variance on our Solid Waste Permit for open burning.

Sincerely,



C.E. Young, Mayor



**Board of Commissioners**  
**Lake County**  
STATE OF OREGON  
LAKEVIEW, OREGON 97630



GEORGE CARLON      LOUIS LAMB      ARTHUR SHEER

July 3, 1985

Mr. Robert Brown  
Environmental Analyst  
Dept. of Environmental Quality  
522 S.W. Fifth Ave.  
Box 1760  
Portland, OR 97207

Hazardous & Solid Waste Division  
Dept. of Environmental Quality

**RECEIVED**  
JUL 10 1985

Dear Mr. Brown,

We are presently preparing our Solid Waste Disposal permits for Adel, Christmas Valley, Fort Rock, Plush, Silver Lake and Summer Lake.

We would like to burn the pits and request a continuation of the variance to open burn.

Our justification is as it has been in the past. The County is very large, the pits are located at remote points in the County and we cannot justify filling the sites when there is no objection to burning. Open burning is the only practical way for Lake County to handle the solid waste problem in the remote area, both cost wise and from the material handling position.

Please keep us informed as to what your policies are going to be on this matter.

Sincerely,

LOUIS V. LAMB, Chairman  
Lake County Board of Commissioners





# Malheur County Sanitarian

P.O. Box 277 • Vale, Oregon 97918  
(503) 473-3185

Department of Environmental Health

May 13, 1986

Bob Brown  
Department of Environmental Quality  
Solid Waste Division  
P. O. Box 1760  
Portland, OR 97207

Dear Bob,

As we discussed this morning Malheur County is requesting variances for burning on the Juntura, Jordan Valley and McDermitt landfills.

We have instituted controlled access at Jordan Valley, have a county ordinance in hearing process to establish controlled access at Juntura and are negotiating with the BLM and Humboldt County in an effort to either transfer ownership of the McDermitt Landfill to Humboldt County or close the site. We would like to accomplish this by the end of 1986, however, several legal problems have been encountered.

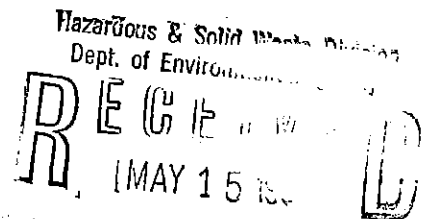
If I can provide additional information please give me a call.

Sincerely,

*J. Bruce Sarazin, R.S.*

J. Bruce Sarazin, R.S.  
Director  
Environmental Health

JBS:am



WALLOWA COUNTY COURT

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY

Office of the Judge  
Phone: 503-426-3586  
P.O. Box E

RECEIVED  
FEB 13 1986  
Enterprise, Oregon 97828  
PENDLETON

State of Oregon

February 12, 1986

Steve Gardels  
Department of Environmental Quality  
700 S.E. Emigrant  
Suite 330  
Pendleton, Oregon 97801

Dear Mr. Gardels:

As per your request, the Wallowa County Court is herewith renewing our request for a variance to permit open burning of refuse at the Imnaha and Troy modified landfills.

As previously stated, this variance is being requested due to the limited capabilities of the two sites and the lack of other available sites in these steep and narrow canyon areas.

This request for variance is being made to supplement our applications dated April 17, 1984.

Respectfully,

*LeRoy G. Childers*  
\_\_\_\_\_  
LeRoy G. Childers - Judge

*Mike O'Rourke*  
\_\_\_\_\_  
Mike O'Rourke - Commissioner

*Vern B. Werst*  
\_\_\_\_\_  
Vern B. Werst - Commissioner

LGC:sp

Hazardous & Solid Waste Division  
Dept. of Environmental Quality

RECEIVED  
FEB 19 1986

# WALLOWA COUNTY COURT

Office of the Judge  
Phone: 503-426-3586  
P.O. Box E

State of Oregon

Enterprise, Oregon 97828

TO: Steve Gardels, Eastern Oregon Region Office  
Department of Environmental Quality

FROM: Wallowa County, Oregon

SUBJECT: Request for Variance from Rules Prohibiting Open  
Burning Dumps - OAR 340-61-040(2) (c) for  
Troy and Imnaha Modified Landfill Sites

## FINDINGS:

(1) Applications for the Troy modified landfill and the Imnaha modified landfill were submitted to D.E.Q. on May 2, 1975 and permits were granted on September 26, 1977.

(2) Both of these landfills are located in very steep, narrow canyons of the Grande Ronde River and the Imnaha River. New or additional landfill sites are virtually non-existent.

(3) (a) The remaining life of the Troy landfill is estimated to be two years under the terms of the existing permit.

(b) The remaining life of the Imnaha landfill is estimated to be one and one-half years under the terms of the existing permit.

(4) Indiscriminate burning has been done at the above sites by County Road Personnel and by the landowners since the original permits were issued. This has served to reduce the amount of solid waste and has extended the usable life of the landfills by several years.

(5) On April 17, 1984, Wallowa County applied for renewal on these two sites requesting permission to allow burning at the landfills and were subsequently informed that a request for a variance would be required.

(6) We, therefore, are requesting a variance to permit opening burning at the two landfill sites under the terms and conditions outlined in our requests dated April 17, 1984.

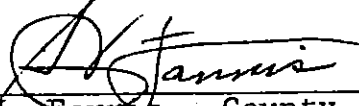
Granting of this variance is vital to the continued operation and successful performance of the solid waste program in these two areas.

Steve Gardels, D.E.Q.  
Request for Variance  
June 25, 1984  
Page 2-

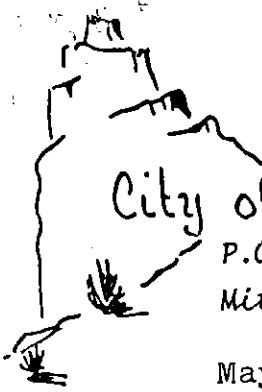
It is understood that E.P.A. regulations may nullify the terms of this variance request. However, if our request is granted for the interim period, it would give us time to re-assess our solid waste plan for these two areas, to acquire new sites, or decide upon acceptable alternatives.

Respectfully submitted,

WALLOWA COUNTY, OREGON

  
\_\_\_\_\_  
S. J. Farris - County Judge

SJF:sp



City of Mitchell

P.O. Box 97

Mitchell, Oregon

May 14, 1986<sup>97750</sup>

Hazardous & Solid Waste Division  
Dept. of Environmental Quality

RECEIVED  
MAY 19 1986

Department of Env. Quality  
Hazardous & Solid Waste Div.  
Bob Brown  
P.O. Box 1760  
Portland, Or 97207

Dear Mr. Brown,

The City of Mitchell would like to request a variance to continue to burn solid waste at our dump site. We are a small city with limited resources and do not have enough money to operate under the existing rules. We have had a variance to burn in the past and this seems to work best for us.

Respectfully,

Roy Critchlow, Mayor  
City of Mitchell

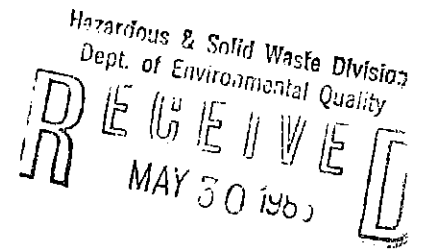
# CITY OF DAYVILLE

DAYVILLE, OREGON 97825

May 15, 1986

TO: Department of Environmental Quality  
522 SW Fifth Avenue, Box 1760  
Portland, OR 97207

RE: Request for Variance to Permit Burning of Solid Wastes



Dear Sir:

On behalf of the City of Dayville and the residents thereof, please accept this correspondence as a formal request by said City for a Variance to Permit Open Burning of Solid Wastes at the City of Dayville Disposal Site. The basis for this Variance Request is as follows:

1. The City of Dayville is a small, rural community of only 200 population of which more than 54% are low & moderate income households. The City's total property tax revenue is less than \$2,000 annually, and the increase in costs associated with any alternate method of disposal would be prohibitive, particularly for those low & moderate income households.
2. The transporting of solid wastes to alternate disposal sites, of which the closest site is 32 miles distant, would also be prohibitive in costs and equipment requirements.
3. The present site has operated as an Open Burning Dump Site for an extended period of time with no known adverse environmental impacts.
4. The City is so located that locational conditions alone render alternate and more strict compliance unreasonable, burdensome and impractical.
5. Failure to grant such a variance would effectively result in the closure of the current site or require such an unreasonable increase in disposal rates that most residents would be forced to seek alternate methods of disposal.
6. There are currently no known alternate sites or alternative methods of disposal which are reasonably or economically feasible.
7. Failure to grant the variance is estimated to cost the average household in the Community more than \$250 per year in operational costs alone.

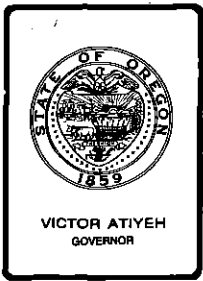
If the subject requested Variance is approved, the subject facility will continue to be operated under the following conditions:

1. Access to the Site is a controlled access regulated by the City.
2. City personnel are in attendant during open hours and during burning operations
3. Burning is restricted to no more than one time per week, and the site is closed to the public during this time. Fire trails are maintained around the site and burning is limited to daylight hours.
4. Burning is only accomplished with the approval of and under the supervision of the City Fire Department.

Respectfully Submitted,

  
Dick Brown

City Administrator



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item M, June 13, 1986, EQC Meeting

Proposed Adoption of Revisions to OAR 340, Division 30,  
Specific Air Pollution Control Rules for the Medford-Ashland  
Air Quality Maintenance Area Concerning Source Testing  
Requirements as an Amendment of the State Implementation  
Plan

### Background

Oregon Administrative Rules Chapter 340, Division 30, concern requirements for particulate matter in the Medford-Ashland AQMA. Under this rule, large woodwaste-fired boilers and charcoal plants are currently required to source test annually, and if they demonstrate an exceedance of the emission limit, they are placed on a quarterly testing schedule. Compliance would be determined based on the average of quarterly and annual tests. This rule has been ineffective as it results in delays in achieving compliance. More information concerning the background and problems associated with this rule are contained in the request for authorization to conduct a hearing, Agenda Item D, for the March 14, 1986 EQC meeting (Attachment A).

### Alternatives and Evaluation

The EQC authorized a public hearing to consider the proposed revision to OAR 340, Division 30, Specific Air Pollution Control Rules for the Medford-Ashland Air Quality Maintenance Area at its March 14, 1986 meeting. A copy of the Hearing Officer's Report summarizing testimony received at the hearing is also attached (Attachment B).

The current rule requirement for additional, more frequent testing creates problems for both the Department and the regulated sources. The quarterly testing requirement makes it difficult for the Department to determine the compliance status of sources and burdens industry with potentially ineffective and costly source testing. It is proposed that OAR 340-30-055(1) be revised to delete the section which requires quarterly testing following an emission standard exceedance on an annual source test. If such a rule amendment were adopted, the annual source test results would be used to determine compliance.

Such a rule change would allow the Department to require the responsible owner or operator of the facility to take expeditious corrective action to achieve compliance. Depending on the degree of exceedance and the corrective actions taken, another source test may or may not be required to demonstrate ongoing compliance.

In addition to the single annual test, the Department ensures source compliance by conducting plant inspections, exhaust plume visual observations, and responds to public complaints.

Oral testimony was received at the public hearing regarding the rule change. Representatives of two affected facilities gave testimony which demonstrated strong support in favor of the revision. In the opinion of those testifying, the proposed change would save industry costly testing while giving the Department a better means for assuring compliance. No testimony was presented against the rule change.

One industry representative made a request that all boilers, regardless of type and size, be tested, and not just the type and size listed in the current requirements. He did not understand why these smaller boilers were exempted. The Department continues to believe that the environmental benefits of regularly scheduled tests for small boilers is insignificant considering that the small boilers are a very small percentage of emissions in the Medford airshed. The Department can require source testing, and even continual monitoring, for any source (340-20-035) on a case-by-case basis regardless of size if surveillance or any other information indicates such action is needed. In addition, the Department can conduct its own emission sampling (340-20-045). Recently, the Department has required source sampling from one of the smaller boiler facilities not in the category under the Medford source test rules (340-30-015).

During the public hearing another industry representative requested an additional rule revision regarding testing frequency. He proposed that affected facilities be required to test for two (2) consecutive years after startup, and then the testing frequency be changed to once per permit period (usually five (5) years). The existing rule does contain a section which allows a waiver from testing to be granted by the Department (340-30-055(2)). Such a waiver could be granted if an adequate demonstration of consistently low emission levels is made. Generally though, the Department believes that boiler emission performance is somewhat variable and the magnitude of most, if not all, the Medford airshed problems warrants frequent compliance testing of large emission sources.



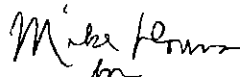
The EQC could adopt the proposed source testing rule revision as presented, including the proposed housekeeping amendment to eliminate the phrase "as an annual average" (Attachment A). As an alternative, the EQC could decide to keep the current rule as written.

Summation

1. The current rule regarding source testing for particulate emissions for large woodwaste boilers, and for charcoal plants, located in the Medford-Ashland Air Quality Maintenance Area requires quarterly testing subsequent to an emission limit exceedance as demonstrated in an annual test. This rule has resulted in delays in achieving compliance and is unreasonably costly to industry.
2. The average of the quarterly tests must be less than the emission limit to demonstrate compliance. The quarterly testing requirement makes it difficult, if not impossible, to determine the compliance status of sources.
3. Adoption of the proposed amendment to delete the quarterly testing requirement while requiring corrective action to achieve compliance with emission standards would expedite bringing a source into compliance.
4. Public hearing testimony was in complete support of the proposed rule revision. Industry representatives viewed the proposal as being advantageous to the Department and to the sources involved.

Director's Recommendation

Based on the summation, it is recommended that the EQC adopt the revision to OAR 340, Division 30, and amend the State Implementation Plan regarding source testing in the Medford-Ashland AQMA. The proposed amendments would omit from the testing regulation the requirement to conduct quarterly source testing on large woodwaste boilers and charcoal plants subsequent to an emission limit exceedance on an annual test. Compliance determination would be based on the annual test results.

  
for  
Fred Hansen

Attachments:

- A. Request for Authorization to Conduct a Public Hearing on Revisions to OAR 340, Division 30, Agenda Item D, March 14, 1986, EQC Meeting, Including Administrative Rule Changes, List of Affected Facilities.
- B. Hearing Officer's Report

Don Peters:s  
AS2984  
229-5988  
May 30, 1986

MEMORANDUM

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item D, March 14, 1986, EQC Meeting

Request for Authorization to Conduct a Public Hearing on Revisions to OAR 340, Division, 30, Specific Air Pollution Control Rules for the Medford-Ashland Air Quality Maintenance Area Concerning Source Testing Requirements as an Amendment of the State Implementation Plan

Background

Oregon Administrative Rules Chapter 340, Division 30, Specific Air Pollution Control Rules for the Medford-Ashland Air Quality Maintenance Area (AQMA), were adopted on April 7, 1978, to aid in Oregon's Clean Air Act Implementation Plan for particulate matter in the Medford-Ashland AQMA. Several industrial source categories are limited in the amount of total suspended particulate which can be emitted in their gaseous discharges. Sources subject to these regulations include woodwaste boilers, veneer dryers, wood particle dryers, hardboard manufacturing plants, and charcoal producing plants.

In order to demonstrate that these industrial processes are complying with their emission limits, a requirement to conduct scheduled tests of discharge gases to quantify particulate emissions was included in the regulations (OAR 340-30-055). Such tests are generally referred to as "source tests." The applicable industrial sources are required to test at a set frequency, generally once each year. A requirement for large woodwaste boilers and charcoal plants was also adopted which required additional quarterly tests if results of the annual test demonstrate an exceedance of the emission limit. Compliance would be determined based on the average of the quarterly tests and the annual source test.

### Alternatives and Evaluation

The requirement to conduct three (3) additional quarterly tests makes it difficult, if not impossible, for the Department to determine the compliance status of sources. The requirement that the quarterly tests be averaged delays the correction of process problems by stretching the compliance determination process over a year long period. This requirement also causes problems for the regulated industries because of the frequency of testing and the associated scheduling problems.

An example illustrated the ineffectiveness of the current requirement to conduct additional quarterly testing. A woodwaste boiler conducted its annual source test approximately two (2) years ago, and results demonstrated an exceedance of the emission limit. Seven (7) months later the Department issued a Notice of Violation and Intent to Assess Civil Penalty for not initiating quarterly testing. The company had, in fact, conducted its first "quarterly" test five (5) months after the annual test, but failed to report the test results. The delay in testing was attributed to conflicts with scheduled maintenance of the boiler and air pollution control equipment. Results of this second test demonstrated another emission limit exceedance. The company estimated that because of the degree of exceedance, the average emissions would still show noncompliance in spite of further quarterly testing. A third test was conducted eight (8) months later, and it too demonstrated noncompliance. The company then claimed that their boiler, due to arithmetically averaging test results to date, could never come into compliance with OAR 340-30-055(1). The fourth test has been conducted in February 1986 with results expected to be available in the near future. It is highly improbable that this source will demonstrate compliance under the current rule because of the test averaging requirement, even if the results are below the emission standard.

The current rule requirement for additional, more frequent testing creates problems for both the Department and the regulated sources. A final evaluation of a source to characterize its compliance/non-compliance cannot be made until the completion of all quarterly testing. As can be seen from the example, it is difficult to get a source to adhere to a strict quarterly test program due to scheduling conflicts. Source test reports may not be submitted in a timely manner, as required to keep the Department abreast of the current compliance status. An inherent problem with the rule is that it requires additional testing without a requirement to take corrective action to eliminate the cause of the exceedances. The rule allows a source to operate for a year or more above the emission limit before the final compliance determination can be made.

The current rule also poses problems for the sources. Affected facilities in the Medford-Ashland AQMA have complained of the high costs of repetitive testing (see Attachment B). It is acknowledged by the regulated industries that averaging results from repetitive tests does not help to achieve compliance.

It is proposed that OAR 340-30-055(1) be revised to delete the note which requires quarterly testing following a standard exceedance on an annual source test (see Attachment A). If such a rule amendment were adopted, the annual source test results would be used to determine compliance. Wood-waste boilers and charcoal plants in the Medford-Ashland AQMA would then be treated the same as other sources throughout Oregon which must demonstrate compliance through a single source test.

Such a rule change would allow the Department to require the responsible owner or operator of the facility to take expeditious corrective action to achieve compliance. Depending on the degree of exceedance, and the corrective actions taken, another source test may or may not be required to demonstrate compliance.

In addition to the single annual test, the Department conducts inspections, exhaust plume visual observations, and responds to public complaints.

An additional proposed housekeeping amendment is the elimination of the phrase "as an annual average" following the emission limits for woodwaste boilers (340-30-015(1)), wood particle dryers at particleboard plants (340-30-030), hardboard manufacturing plants (340-40-031), and charcoal producing plants (340-30-040(1)). "As an annual average" implies that sources are demonstrating compliance throughout the year based on only the one source test result. In reality, the annual test is only demonstrating the performance of the source during the period of the tests.

#### Summation

1. The current rule regarding source testing for particulate emissions for large woodwaste boilers, and for charcoal plants, requires quarterly testing subsequent to an emission limit exceedance as demonstrated in an annual test.
2. To demonstrate compliance, the average of the quarterly tests must be less than the emission limit. The quarterly testing requirement makes it difficult if not impossible to determine the compliance status of sources.
3. Adoption of the proposed amendment to delete the quarterly testing requirement while requiring corrective action to achieve compliance with emission standards would expedite bringing a source into compliance.
4. Additional housekeeping amendments to omit the phrase "an annual average" describing emission limits, would minimize misinterpretation and application of the results from annual source tests.

EQC Agenda Item D  
March 14, 1986  
Page 4

Director's Recommendation

Based on the summation, it is recommended that the EQC authorize a public hearing to consider amending the State Implementation Plan regarding source testing in the Medford-Ashland AQMA (see Attachment C). The proposed amendments would omit from the testing regulation the requirement to conduct quarterly source testing on large woodwaste boilers, and charcoal plants subsequent to an emission limit exceedance on an annual test.

Fred Hansen

Attachments

- A. Amendments to OAR 340, Division 30
- B. List of Affected Facilities
- C. Notice of Proposed Public Hearing and Rulemaking Statements

Don Peters:s  
229-5988  
February 25, 1986

AS2439

## RULEMAKING STATEMENTS

for

### The Proposed Amendment to Modify the Source Testing Requirements in the Medford-Ashland Air Quality Maintenance Area

Pursuant to ORS 183.335, these statements provide information on the intended action to amend a rule.

#### STATEMENT OF NEED:

##### Legal Authority

This proposal amends OAR 340-30-015, -030, -031, -040, -055. It is proposed under authority of ORS 468.340.

##### Need for the Rule

The existing rule OAR 340-30-055 requires additional, more frequent source tests for large woodwaste boilers and charcoal plants within the Medford-Ashland AQMA, subsequent to an exceedance of the emission limit as demonstrated by the annual source test. Additional tests do not help to achieve compliance. Deleting this requirement for additional tests will help industry and the Department to achieve compliance and will reduce costs of testing to industry.

##### Principal Documents Relied Upon

1. OAR Chapter 340, Division 30, Specific Air Pollution Control Rules for the Medford-Ashland Air Quality Maintenance Area, made effective April 7, 1978.
2. The Source Testing Manual, Volume I, January 1976, revised periodically.

#### FISCAL AND ECONOMIC IMPACT STATEMENT:

The proposed amendment to delete quarterly testing would result in minimal economic impact. The cost to industry of contracting source testing consultants should be reduced.

#### LAND USE CONSISTENCY STATEMENT:

This proposed amendment will have no affect on land use.

AS2439.B

OREGON ADMINISTRATIVE RULES  
CHAPTER 340, DIVISION 30 — DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 30

SPECIFIC AIR POLLUTION  
CONTROL RULES FOR THE  
MEDFORD-ASHLAND AIR QUALITY  
MAINTENANCE AREA

**Purposes and Application**

**340-30-005** The rules in this division shall apply in the Medford-Ashland Air Quality Maintenance Area (AQMA). The purpose of these rules is to deal specifically with the unique air quality control needs of the Medford-Ashland AQMA. 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 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

**Definitions**

**340-30-010** As used in these rules, and unless otherwise required by context:

(1) "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 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.

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

(3) "Air Conveying System" means an air moving device, such as a fan or blower, associated ductwork, and a cyclone or other collection device, the purpose of which is to move material from one point to another by entrainment in a moving airstream.

(4) "Particulate Matter" means any matter, except uncombined water, which exists as a liquid or solid at standard conditions.

(5) "Standard Conditions" means a temperature of 60 degrees Fahrenheit (15.6 degrees Celsius) and a pressure of 14.7 pounds per square inch absolute (1.03 Kilograms per square centimeter).

(6) "Wood Waste Boiler" means equipment which uses indirect heat transfer from the products of combustion of wood waste to provide heat or power.

(7) "Veneer Dryer" means equipment in which veneer is dried.

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

(9) "Collection Efficiency" means the overall performance of the air cleaning device in terms of ratio of weight of material collected to total weight of input to the collector.

(10) "Domestic Waste" means combustible household waste, other than wet garbage, such as paper, cardboard, leaves, yard clippings, wood, or similar materials generated in a dwelling housing four (4) families or less, or on the real property on which the dwelling is situated.

(11) "Open Burning" means burning conducted in such a manner that combustion air and combustion products may not be effectively controlled including, but not limited to, burning conducted in open outdoor fires, burn barrels, and backyard incinerators.

(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.

(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.

(14) "Facility" means an identifiable piece of process equipment. A stationary source may be comprised of one or more pollutant-emitting facilities.

(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.

(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 and regardless of any emission reductions achieved elsewhere in the source:

(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 source;

(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.

(17) "New Source" means any source not previously existing or permitted in the Medford-Ashland Air Quality Maintenance Area on the effective date of these rules.

(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.

(19) "Source" means any structure, building, facility, equipment, installation or operation, or combination thereof, which is located on one or more contiguous or adjacent

OREGON ADMINISTRATIVE RULES  
CHAPTER 340, DIVISION 30 — DEPARTMENT OF ENVIRONMENTAL QUALITY

properties and which is owned or operated by the same person, or by persons under common control.

(20) "Volatile Organic Compound", (VOC), means any compound of carbon that has a vapor pressure greater than 0.1 mm of Hg at standard conditions (temperature 20 °C, pressure 760 mm of Hg). Excluded from the category of Volatile Organic Compound 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, and trichlorotrifluoroethane.

(21) "Department" means Department of Environmental Quality.

(22) "Emission" means a release into the outdoor atmosphere of air contaminants.

(23) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.

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

(25) "Opacity" means the degree to which an emission reduces transmission of light and obscures the view of an object in the background.

(26) "Fugitive emissions" means dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof not easily given to measurement, collection and treatment by conventional pollution control methods.

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

(28) "Particleboard" means matformed flat panels consisting of wood particles bonded together with synthetic resin or other suitable binders.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, 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 (1.14 grams per cubic meter) of exhaust gas, corrected to 12 percent carbon dioxide, [as an annual average].

(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 percent opacity.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & ef. 4-7-78; DEQ 29-1980, f. & ef. 10-29-80

#### Veneer Dryer Emission Limitations

340-30-020 (1) No person shall operate any veneer dryer such that visible air contaminants emitted from any dryer stack or emission point exceed:

- (a) A design opacity of 10%,
- (b) An average operating opacity of 10%, and
- (c) A maximum opacity of 20%.

Where the presence of uncombined water is the only reason for the failure to meet the above requirements, said requirements shall not apply.

(2) No person shall operate a veneer dryer unless:

(a) The owner or operator has submitted a program and time schedule for installing an emission control system which has been approved in writing by the Department as being capable of complying with subsections (1)(a), (b) and (c),

(b) The veneer dryer is equipped with an emission control system which has been approved in writing by the Department and is capable of complying with subsections (1)(b) and (c), or

(c) The owner or operator has demonstrated and the Department has agreed in writing that the dryer is capable of being operated and is operated in continuous compliance with subsections (1)(b) and (c).

(3) Each veneer dryer shall be maintained and operated at all times such that air contaminant generating processes and all contaminant control equipment shall be at full efficiency and effectiveness so that the emission of air contaminants is kept at the lowest practicable levels.

(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) Air pollution control equipment installed to meet the opacity requirements of section (1) of this rule shall be designed such that the particulate collection efficiency can be practicably upgraded.

(7) Compliance with the 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.

Stat. Auth.: ORS Ch. 458

Hist: DEQ 4-1978, f. & ef. 4-7-78; DEQ 3-1980, f. & ef. 1-28-80

#### Air Conveying Systems

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 4-1978, f. & ef. 4-7-78

#### Wood Particle Dryers at Particleboard Plants

340-30-030 No person shall cause or permit the total emission of particulate matter from all wood particle dryers at a particleboard plant site to exceed 0.40 pounds per 1,000 square feet of board produced by the plant on a 3/4" basis of finished product equivalent [as an annual average].

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & ef. 4-7-78; DEQ 14-1981, f. & ef. 5-6-81

#### Hardboard Manufacturing Plants

340-30-031 No person shall cause or permit the total emissions of particulate matter from all facilities at a hardboard plant to exceed 0.25 pounds per 1,000 square feet of hardboard produced on a 1/8" basis of finished product equivalent [as an annual average].

Stat. Auth.: ORS Ch. 468

Hist: DEQ 14-1981, f. & ef. 5-6-81



**OREGON ADMINISTRATIVE RULES**  
**CHAPTER 340, DIVISION 30 — DEPARTMENT OF ENVIRONMENTAL QUALITY**

**Wigwam Waste Burners**

**340-30-035** No person owning or controlling any wigwam burner shall cause or permit the operation of the wigwam burner.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & cf. 4-7-78; DEQ 29-1980, f. & cf. 10-29-80

**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 charcoal produced (5.0 grams per Kilogram of charcoal produced) as an annual average.

(2) Emissions from char storage, briquet 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. & cf. 4-7-78

**Control of Fugitive Emissions**

**340-30-043** (1) Large sawmills, all plywood mills and veneer manufacturing plants, particleboard and hardboard plants, charcoal manufacturing plants, stationary asphalt plants and stationary rock crushers shall prepare and implement site-specific plans for the control of fugitive emissions. (The air contaminant sources listed are described in OAR 340-20-155, Table 1, paragraphs 10a, 14a, 14b, 15, 17, 18, 29, 34a and 42a, respectively.)

(2) Fugitive emission control plans shall identify reasonable measures to prevent particulate matter from becoming airborne. Such reasonable measures shall include, but not be limited to the following:

(a) Scheduled application of asphalt, oil, water, or other suitable chemicals on unpaved roads, log storage or sorting yards, materials stockpiles, and other surfaces which can create airborne dust;

(b) Full or partial enclosure of materials stockpiled in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;

(c) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;

(d) Adequate containment during sandblasting or other similar operations;

(e) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; and

(f) Procedures for the prompt removal from paved streets of earth or other material which does or may become airborne.

(3) Fugitive emission control plans shall be prepared and implemented in accordance with the schedule outlined in OAR 340-30-045.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 6-1983, f. & cf. 4-18-83

**Requirement for Operation and Maintenance Plans**

**340-30-044** (1) Operation and Maintenance Plans shall be prepared by all holders of Air Contaminant Discharge Permits except minimal source permits and special letter permits. All sources subject to regular permit requirements shall be subject to operation and maintenance requirements.

(2) The purposes of the operation and maintenance plans are to:

(a) Reduce the number of upsets and breakdowns in particulate control equipment;

(b) Reduce the duration of upsets and downtimes; and

(c) Improve the efficiency of control equipment during normal operations.

(3) The operation and maintenance plans should consider, but not be limited to, the following:

(a) Personnel training in operation and maintenance;

(b) Preventative maintenance procedures, schedule and records;

(c) Logging of the occurrence and duration of all upsets, breakdowns and malfunctions which result in excessive emissions;

(d) Routine follow-up evaluation of 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 OAR 340-30-045.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 6-1983, f. & cf. 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 1.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & cf. 4-7-78; DEQ 29-1980, f. & cf. 10-29-80; DEQ 14-1981, f. & cf. 5-6-81; DEQ 6-1983, f. & cf. 4-18-83

**Continuous Monitoring**

**340-30-050** The Department may require the installation and operation of instruments and recorders for measuring emissions and/or the parameters which affect the emission of air contaminants from sources covered by these rules to ensure that the sources and the air pollution control equipment are operated at all times at their full efficiency and effectiveness so that the emission of air contaminants is kept at the lowest practicable level. The instruments and recorders shall be periodically calibrated. The method and frequency of calibration shall be approved in writing by the Department. The recorded information shall be kept for a period of at least one year and shall be made available to the Department upon request.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & cf. 4-7-78

**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 — Once every year;

(b) Veneer Dryers — Once every year until January 1, 1983, and once every 2 years thereafter;

(c) Wood Particle Dryers at Hardboard and Particleboard Plants — Once every year;

(d) Charcoal Producing Plants — Once every year

3-Div. 30 with heat input greater than (June, 1983)  
35 million Btu/hr.

OREGON ADMINISTRATIVE RULES  
CHAPTER 340, DIVISION 30 — DEPARTMENT OF ENVIRONMENTAL QUALITY

~~[ \*NOTE: If this test exceeds the annual emission limitation their three (3) additional tests shall be required at three (3) month intervals with all four (4) tests being averaged to determine compliance with the annual standard. No single test shall be greater than twice the annual average emission limitation for that source. ]~~

(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.

(4) Source tests on wood waste boilers shall not be performed during periods of soot blowing, grate cleaning, or other operating conditions which may result in temporary excursions from normal.

(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

**Total Plant Site Emissions**

**340-30-060** [DEQ 4-1978, f. & ef. 4-7-78;  
Repealed by DEQ 25-1981, f. & ef. 9-8-81]

**New Sources**

**340-30-065** New sources shall be required to comply with rules 340-30-015 through 340-30-040 immediately upon initiation of operation.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & ef. 4-7-78

**Open Burning**

**340-30-070** No open burning of domestic waste shall be initiated on any day or at any time when the Department advises fire permit issuing agencies that open burning is not allowed because of adverse meteorological or air quality conditions.

Stat. Auth.: ORS Ch. 468

Hist: DEQ 4-1978, f. & ef. 4-7-78

**Emission Offsets**

**340-30-110** [DEQ 9-1979, f. & ef. 5-3-79;  
Repealed by DEQ 25-1981, f. & ef. 9-8-81]

## List of Affected Facilities

Medford Corporation  
PO Box 550  
Medford, OR 97501  
Files No. 15-0048

Timber Products Co.  
PO Box 269  
Springfield, OR 97477  
File No. 15-0025

Biomass One  
PO Box 2590  
White City, OR 97503  
File No. 15-0159

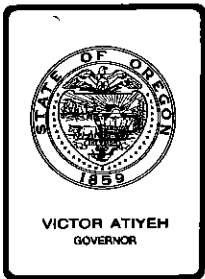
Husky Industries Inc.  
PO Box 2367  
White City, OR 97501  
File No. 15-0058

Boise Cascade  
PO Box 8329  
Boise, ID 83707  
File No. 15-0004

Croman Corp  
PO Box 610  
Ashland, OR 97520  
File No. 15-0016

Double Dee Lumber Co.  
PO Box 3517  
Central Point, OR 97502  
File No. 15-0010

AS2439.C



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Don L. Peters, Hearing Officer

Subject: Hearing Officer Report Regarding Proposed Rule Change for the Medford AQMA Concerning Source Testing Requirements

### Summary of Procedure

The EQC authorized a public hearing to consider the proposed revision to OAR 340, Division 30, Specific Air Pollution Control Rules for the Medford-Ashland Air Quality Maintenance Area at its March 14, 1986 meeting. This proposed rule change concerns source testing requirements of certain point sources, and would be an amendment of the State Implementation Plan. A Notice of Public Hearing was published in the Secretary of State Administrative Rules Bulletin on April 1, 1986. The hearing was also advertised in the April 4, 1986 edition of the Medford Mail Tribune newspaper. In addition, a copy of the public notice was mailed to the seven (7) affected facilities within the Medford-Ashland AQMA. The proposed action was distributed for intergovernmental review on April 3, 1986.

The public hearing was held on May 1, 1986 in a Conference Room at the DEQ Southwest Regional Office, Medford, at 10:00 a.m. Five persons attended the hearing. Three people offered oral testimony but did not offer any written testimony. No additional written comments were received by the end of the public comment period.

### Summary of Testimony

Lynn Newbry, Medford Corporation, Medford, testified that Medford Corporation (Medco) was in complete support of the proposed rule change. Mr. Newbry complimented the Department and staff in recognizing the problem and voluntarily correcting it. Mr. Newbry stated that industry was strenuously opposed to the existing rule when promulgated, especially the aspect of averaging source test results. Medco in particular has had difficulty with that aspect demonstrating compliance. Mr. Newbry believes that the averaging aspect was an unusual provision and did not exist in any

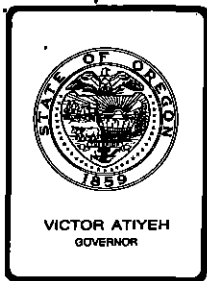
other rule. He said that it was arithmetically impossible to ever pass the compliance test, and felt that it was extremely appropriate to change the source testing rule. The proposed change would also give the Department a better opportunity for administering enforcement, even though Medco may suffer economically to a degree. Mr. Newbry made another comment, requesting that all boilers, regardless of type and size, be tested, and not just the type and size listed in the current requirements. Even older boilers having to meet a 0.2 gr/dscf particulate emission limit should have no problem in demonstrating compliance, particularly when newer or larger boilers such as Medco's, have to meet a 0.05 grain standard. Even though these smaller boilers don't contribute emissions to the same degree as the larger boilers, they should be tested, especially in light of the other required testing ongoing in the community which is being paid for by everyone. Mr. Newbry acknowledged he did not understand why these other boilers were excluded in the first place.

Milt Bailes, Central Point, was present during the hearing but made no formal oral testimony on the subject at hand. He explained that he was present only as an interested citizen and that he wanted familiarization with the regulatory process concerning woodwaste boilers in the Medford AQMA.

William H. Carlson, Husky Industries, White City, testified that Husky Industries has facilities of both types represented in the source testing rule; a charcoal plant and large woodwaste boiler. Husky Industries supports the rule change as being a more expeditious, yet economical route to solve any compliance problems with these sources. Mr. Carlson requested the Department to consider an additional rule revision beyond the proposal. He suggested that affected facilities be required to test for two (2) consecutive years after startup, and then the testing frequency be changed to once per permit period. He would like the Department to consider this as an additional rule change pending the current rule change proposal ratification.

Respectfully Submitted,

D. L. Peters  
Hearings Officer



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. N, June 13, 1986, EQC Meeting

Proposed Adoption of Amendments to Rules Governing On-Site Sewage Disposal, OAR Chapter 340, Divisions 71, 72, and 73

### Background

At its January 31, 1986, meeting, the Environmental Quality Commission authorized the Department to conduct four (4) public hearings on a series of proposed amendments to the On-Site Sewage Disposal Rules, contained in Oregon Administrative Rules, Divisions 71, 72, and 73. (See Exhibit "C" for a copy of the January 31, 1986, agenda item.)

Notice of Public Hearing was provided by publication in the February 1, 1986 edition of the Secretary of States' Bulletin. Notice was also mailed to the Department's general On-Site Sewage Disposal mailing list, all currently licensed sewage disposal service businesses, all septic tank manufacturers, and all plumbing and drain sewer cleaning businesses in the Portland area.

Public hearings were held in Bend, Medford, Newport, and Portland, on February 19, 20, 25, and 26, 1986, respectively. Thirty-five (35) people attended the hearings, with fourteen (14) offering oral testimony. Written comments were also received. The Hearings Officers' report summarizing all testimony is attached as Exhibit "B".

### Summary of Initial Proposals and Evaluation of Testimony

Following is a summary of the significant initial proposals for rule amendment followed by an evaluation and response to testimony and staff recommendations on each. Exhibit "A" contains the final recommended amended rule language proposed for adoption by the Commission.

1. The Department proposed to combine the glossary of terms (OAR 340-71-105) and the definitions (OAR 340-71-100) under one (1) rule. When seeking the meaning of a technical term, people have to look in both the glossary and definitions to find the meaning of a term. The proposed amendments would eliminate the confusion created by terms being located in two separate rules.

The comments favored this proposal. An additional suggestion was made to delete the definitions appearing in the first part of several other specific rules. Staff believe this suggestion has merit, and plan to develop the appropriate modifications for consideration by the Commission the next time rule amendments are proposed. At this time, the proposal to combine the glossary of terms with the definitions is the same as the original.

2. The Department proposed language to prohibit the placement of any material or substance into an on-site sewage system that is capable of causing an adverse impact upon the system or public waters (OAR 340-71-130). Numerous verbal complaints received by the Department led us to originally propose prohibitions on the various chemicals (strong acids, strong alkalies, and organic solvents) which have been used in an attempt to improve the performance of on-site systems and/or used to clean on-site systems as an alternative to having the systems pumped. The complaints alleged that the chemicals have damaged various portions of on-site systems and caused injury to some sewage disposal service personnel that have been called upon to pump systems that have been chemically treated. In addition, a number of reports received by the Department suggest that some pumpings of chemical treated systems have been rejected at various treatment plants because the pH has been outside an acceptable range. When some of these chemicals are placed into the absorption facility of a sewage disposal system (such as in a cesspool, disposal trenches, etc.), they may move downward through the soil profile and ultimately come into contact with and pollute groundwater. The proposed amendment would prohibit these types of practices when used to clean sewage disposal systems and specify that persons performing the service of cleaning septic tanks, cesspools or seepage pits not use these methods. Cleaning products typically found in the home used to unclog plumbing fixtures and used according to manufacturers' directions were viewed as not likely to cause system damage or groundwater pollution and therefore were not proposed to be regulated.

Nine (9) people offered specific testimony on this issue. In general, support was expressed for the intent of the rule. Septiclear, Inc. (a company that chemically treats systems) stated that even though their products have a pH less than 4, they do not believe their treatment process has an adverse impact upon the system or upon groundwater quality. Chasm Chemical Co., Inc. (another company that treats systems chemically) believes a prohibition on acidic treatment is going overboard and unreasonable, but supports a prohibition on the use of organic solvents and explosives to treat systems.

Mr. Doug Marshall, R.S. (Tillamook County), commented that janitorial and commercial grade products containing organic compounds are available to homeowners, and should therefore be subject to the proposed rule. Mr. Bruce Phillips (Cascade-Phillips Co.) stated he has observed damage to pipes and septic tanks as a result of acid treatments, and is aware of septage pumpings loads having been rejected at a sewage treatment plant. Mr. Michael Ebeling, R.S., testified that Multnomah County receives up to an estimated 200 calls a year about the use of chemicals in cesspools, and that he is not aware of any scientific data which show chemicals to be effective.

Staff have re-examined the proposal to prohibit chemical treatment of on-site systems to determine if the proposed rule language will prevent identified and potential problems. Chemical treatments may involve one or more of the following: (a) yeast, bacteria or enzyme treatments; (b) inorganic chemicals; and (c) non-biodegradable organic compounds. Category (a) does not appear to present a problem, and is viewed by the U.S. Public Health Service as ineffective. Category (b) includes compounds such as sulfuric acid and sodium hydroxide. When used in industrial quantities, the U.S. Public Health Service (Manual of Septics Tank Practice) indicates these materials may result in sludge bulking, cause a large increase in acidity or alkalinity, and may interfere with biological digestion. System components made of concrete (septic tanks and cesspool rings) can be attacked and weakened by these materials. The asphalt or coal-tar base protective coatings on steel septic tanks can be dissolved, exposing bare metal to rapid corrosion. Filter fabrics used within systems to prevent soil infiltration into gravel may also dissolve if exposed to strong acids. Soil structure within the system's disposal area may be severely damaged with the introduction of sodium hydroxide. In the Journal of Environmental Health (March - April 1983) Kaplan reports, these types of inorganic chemicals would not be expected to have a detrimental impact upon groundwater quality, and are also not likely to provide long-term relief for the homeowner. The organic compounds, category (c), may have a negative effect upon the treatment processes of an on-site system, but for the most part are not likely to cause physical damage to system components. They are of greatest concern with respect to groundwater quality and may present a significant health risk to the public. Septic tank and cesspool cleaning compounds and pipe cleaning compounds are likely to contain several solvents identified in the EPA priority pollutant list of toxic compounds, such as benzene,



toluene, trichloroethane, carbon tetrachloride, trichloroethylene (TCE), etc. To put these toxic compounds into perspective, less than one liter of TCE is sufficient to contaminate the total annual amount of water consumed in about 4000 average homes.

Staff contacted two (2) EPA officials concerning this issue and learned that several of the states in the northeast have adopted regulations prohibiting the sale and use of certain kinds of septic tank cleaning compounds because of their potential adverse impacts upon groundwaters. The proposed rule language staff developed is aimed at prohibiting the introduction of these materials into the system, but does not address sale. It was previously recognized that enforcement of the proposed rule could be difficult at best, particularly if applied to individual homeowners. However, the ability to enforce the proposed rule on companies that chemically treat and/or restore on-site sewage disposal facilities was expected to be manageable because those companies are obligated to obtain a sewage disposal service license from the Department. Currently none of the chemical treatment companies are licensed by the Department. If the proposed rule amendments were adopted, the companies would be unable to treat on-site facilities chemically, but the products they use would continue to be available.

Staff simplified the proposed amendments to clarify the intent.

3. The Department proposed to delete an outdated Lane County Fee Schedule. In March of 1981, the Environmental Quality Commission adopted a rule establishing a schedule of fees Lane County proposed to charge for performing on-site sewage disposal activities because some of Lane County's fees were higher than the fees previously in effect statewide. Since that time and pursuant to ORS 454.745(4), the Commission raised the fees the Department charges for on-site activities. Lane County recently adopted a new fee schedule which is consistent with the statewide fee schedule in OAR 340-71-140. Lane County requested reference to their fee schedule in OAR Chapter 340, Divisions 71 and 72 be repealed. The proposed amendments would eliminate an outdated fee schedule.

The Department did not receive testimony objecting to this proposal. The final proposal is the same as the original.

4. The Department proposed to delete an outdated Clackamas County Fee Schedule. In March of 1981, the Environmental Quality Commission

adopted a rule establishing a schedule of fees Clackamas County proposed to charge for performing on-site sewage disposal activities because some of the fees were higher than the fees previously in effect statewide. Since that time and pursuant to ORS 454.745(4), the Commission raised the fees the Department charges for on-site activities. Clackamas County has adopted a new fee schedule which does not exceed the statewide fee schedule in OAR 340-71-140. Clackamas County has requested reference to their fee schedule in OAR Chapter 340, Division 71 and 72 be repealed. The proposed amendments would eliminate an outdated fee schedule.

The Department did not receive testimony objecting to this proposal. The final proposal is the same as the original proposal.

5. The Department proposed to clarify language pertaining to necessary exhibits that must accompany permit application (OAR 340-71-160(3)). In the existing rule, it is not clear that plans need to be submitted to the Agent as an application attachment. The proposed amendment would re-structure a portion of this rule and specifically require system plans. It would also clarify that Agents can request additional information needed to process permit applications.

Two persons commented on different parts of this proposed amendment. It was suggested that in the land use compatibility statement the term "is consistent" should be replaced with the term "complies" when addressing the statewide planning goals. The second comment asked that the requirement for plans and specifications be discretionary rather than mandatory. Staff discussed the comments, and as a result incorporated the suggested language modification in the land-use compatibility statement. Staff believe a permit applicant must be responsible for preparing plans with sufficient detail to insure proper system construction and placement. Plans should reflect the construction limitations identified in the site evaluation report, and show the locations of proposed and existing property improvements (such as structures, driveways, wells, water lines, etc.). The proposed rule language would allow the permit issuing Agent latitude in determining the level of detail the plans must show. Staff do not recommend the proposed language be modified to allow plan submittal as an option.

6. The Department proposed to modify system abandonment procedure requirements (OAR 340-71-185(2)). Currently, system abandonment procedures require pumping and filling in of the septic tank, cesspool

or seepage pit, and permanently capping the system building sewer. The proposed amendment would allow the Agent to use professional judgment in determining when pumping and filling steps are necessary or reasonably practical to require. The waiver of these procedures could be allowed as long as such action would not adversely affect to public health, safety or welfare.

Favorable comment was received on this issue. In staff's opinion the intent is clearly conveyed in the proposed rule language. The final proposal is the same as the original.

7. The Department proposed to add definitions for "Active" and "Stabilized" dunes. The definition for "Unstable Landforms", OAR 340-71-105(92) states that "... Active sand dunes are unstable landforms". Rules prohibit installation of on-site sewage disposal systems on unstable landforms. Because a number of terms for sand dunes are in common use, definitions which characterize and differentiate between "unstable (active) dunes" and "stabilized" dunes were viewed as needed. The basis of the proposal recognizes that "Active" dune lands have fragile vegetative cover to no vegetative cover, and little or no soil development. Consequently, destruction of vegetation makes these lands subject to severe wind erosion hazard. In addition, many of these active dunes are subject to ocean undercutting and wave overtopping. Recent examples of this are the wave overtopping of the Salishan spit, the destruction of the spit at the mouth of the Alsea River, and loss of part of the fore dune at Bayshore. The proposed amendment would adopt definitions similar to those used by the Oregon Land Conservation and Development Commission to clarify the type of sand dunes on which on-site sewage disposal systems would be allowed or prohibited.

The Department received testimony both in support and in opposition to the proposed inclusion of definitions for "active dune" and "stabilized dune". Favorable response was offered by the Department of Land Conservation and Development (DLCD). They view the proposal as giving further recognition to the Beaches and Dunes Goal 18, which prohibits residential, commercial, and industrial development on beaches, active foredunes, other foredunes which are subject to ocean undercutting or wave overtopping, and inter-dune areas that are subject to ocean flooding. They noted, however, that the Land Conservation and Development Commission (LCDC) has granted some exceptions to this Goal through the land-use plan acknowledgment process. Several coastal cities and counties were granted exceptions and can allow development on these types of dunes. The exceptions were approved by LCDC based on several factors including local government demonstration of need, existing

committed development on active dunes, or conditional stabilized dunes and compatibility with existing land uses. However, DLCD also noted that the DEQ may choose to not acknowledge these exceptions and prohibit installation of on-site sewage disposal systems based on other factors such as environmental and public health considerations. They also suggested the definitions contain reference or explain how the two definitions would relate to other dune types.

Testimony from Lincoln, Tillamook, and Clatsop Counties opposed the proposed rule amendment. Lincoln County expressed concern that further development on areas such as Salishan Spit, Bayshore, and Sandpiper would be prohibited by the proposal. They took exception to the definition of active dune which ties the characteristics of sand (soil) to a Munsel color value of 4 or more. Tillamook County also objected to the proposed definition, citing that LCDC has granted them exceptions to Goal 18, allowing them to approve development on active dunes. Tillamook County suggested the rules be amended to recognize the exemptions granted by LCDC or allow on-site systems on lots legally created prior to adopted of the definitions as rule.

There appears to be some confusion as to the intent of the proposed rule amendment. Since September of 1975, installation of on-site sewage disposal systems on unstable land forms has been specifically prohibited. The definition of unstable land form was amended by the Commission on March 13, 1981, to reference active sand dunes as unstable. Unstable land forms are subject to mass wasting and subsidence conditions which could be exacerbated by placement of an on-site system.

Unfortunately, areas of active dunes are not thoroughly mapped. Most land-use comprehensive plans reference fairly large scale maps from Beaches and Dunes of the Oregon Coast, prepared by the Soil Conservation Service. These maps do not denote localized areas of "active" dunes according to DLCD. A permit to install new on-site sewage disposal systems requires a preliminary site evaluation by the Department or its Agent and findings as to the adequacy of the site for an on-site sewage disposal system. Since scientific and technical site characteristics serve as the primary basis on which site suitability is determined, the Department considers it appropriate to define "active" and "stabilized dunes" by their morphological characteristics, rather than have Department staff and Agents rely on observations and may use the maps to determine these types of land forms. In addition, the Department is not proposing

to prohibit development where currently allowed or ignore exceptions to Goal 18 approved by LCDC. Development compatible with land use and served by sewerage systems is not currently prevented, nor would it be in the future by the adoption of this definition for active dunes.

The Department considered DLCD's suggestion to relate these two definitions to other types of dunes defined by LCDC. These include: active foredune; conditional stable dune and foredune; older stabilized dune; conditionally stable dune and older foredune. It is the Department's view, however, that for purposes of on-site sewage disposal system site evaluations, unstable land forms can best be differentiated based on soil characteristics as defined by the proposed definitions for "active" and "stabilized" dunes.

Staff re-examined the proposed definitions for "active" and "stabilized" dunes and, to improve clarity, modified the "stabilized" dune definition to indicate the accumulation of plant litter that occurs over some of these dunes. The definition for "active" dune remains unchanged.

8. The Department proposed to add a definition for Strength of Wastewater and specify that, for certain applications, systems should be sized based on waste strength factor. The Department has found that the composition of sewage from commercial facilities frequently has a higher biochemical oxygen demand and/or has higher suspended solids than sewage from a residence. The existing rules size systems according to projected daily sewage flow (as measured in gallons) and a treatment factor (number of gallons of sewage that may be applied in or over a unit area of the treatment facility), based on household strength wastewater. With higher strength wastewaters, the application rate per unit area of treatment facility must be decreased in order to accomplish the same level of treatment that can be attained for residential sewage. The proposed amendments would take into account the strength of wastewater when sizing the treatment component of an on-site sewage disposal system and is intended to prevent system malfunctions, failures and pollution of waters.

Testimony was received from four individuals (1 soil consultant; 2 Columbia County Sanitarians; 1 Tillamook County Sanitarian). The consultant favored adoption of the proposed rule amendment, but suggested some factor other than the 1:1 relationship of domestic household 5-day biochemical oxygen (BOD<sub>5</sub>) demand or suspended solids (SS) might be appropriate. University of Wisconsin Civil Engineering Department laboratory lysimeter and field investigations conducted by Siegrist, et al., in 1983 and

1984 established a direct relationship between organic mass loading (soluble BOD<sub>5</sub> or SS) and system sizing. The 1:1 ratio proposed for commercial waste strength soil absorption system sizing is based on that study.

Columbia County Sanitarians suggested commercial systems were already oversized by up to double design flow. They concluded present rules currently provide an adequate basis for system sizing. Appendix A of the Environmental Protection Agency's "Management of Small Waste Flows" (EPA-600/2-78-173: September 1978) reviews several studies that characterize hydraulic and organic loading, from septic tanks attached to both commercial and residential sources. Most studies centered on flow, biological, and chemical characteristics for household septic tank effluents. Studies suggest design flows for commercial sources indicated average in Table 1 of the current rules fall well within the range of actual measured flows. In contrast, Oregon Experimental studies and studies cited in the EPA report indicate daily sewage flow for single family dwellings were actually less than 50 percent of design flow. Thus, design flow used for sizing single family dwelling on-site soil absorption systems is much more conservative than design flows currently used to size commercial on-site systems.

Columbia County Sanitarians also asked how waste strength data necessary to characterize commercial flows might be derived. In the past (October 1984 Annual DEQ On-Site Workshop), Water Quality Program sewage disposal staff advised contract agents to use statistics on waste strength reported in EPA's "Management of Small Waste Flows" in the absence of other more specific information. Where that study lacked adequate resource information, the Department requested counties contact Water Quality Program staff to obtain assistance as a means to predict commercial waste strength. DEQ Water Quality Program staff also provide prospective permittees the opportunity to characterize septic tank effluent waste strength sources similar to those being proposed and suggest sampling techniques and procedures for a direct study where appropriate. The burden of effluent characterization rests on the permit applicant. Acceptability of methods proposed by the permittee has been left to the discretion of the Department.

Columbia County sanitarians asked about the basis of the 200 mg/l single family dwelling BOD waste strength suggested in proposed rule language, pointing out another study which expressed values for this parameter ranging from 205 to

290 mg/l. The 200 mg/l BOD<sub>5</sub> value proposed in the rules reflects a value selected by staff after considering the findings of several reports characterizing single family dwelling septic tank effluents. A University of Wisconsin household septic tank effluent study of 78 separate systems by Harkin, et al., in 1979, established a mean value for BOD<sub>5</sub> of 132 mg/l. A comprehensive study of septic tank effluent from domestic sources investigated in conjunction with a pressure sewer project by Bill Bowne, et al., showed BOD<sub>5</sub> values varying from 118 to 189 mg/l. Bennett and Linstedt, in their characterization of household septic tank effluent from several field operated systems in Colorado, reported a mean BOD<sub>5</sub> value of 158 mg/l. BOD<sub>5</sub> values in that study ranged from 20 - 480 mg/l. The 95 percent confidence interval for systems studied ranged from 142 - 174 mg/l. Oregon sand filter system studies for single family dwelling septic tank effluents had a mean BOD<sub>5</sub> of 217 mg/l. BOD<sub>5</sub> at Oregon test systems ranged from 125 - 378 mg/l.

Columbia County Sanitarians asked if DEQ intended to furnish a table summarizing mass waste strength values for different types of commercial dwelling septic tank effluents. They cited a table from a 1973 Goldstein and Moberg study that DEQ Water Quality Program staff had provided during an October 1984 on-site educational conference. At that conference, DEQ staff indicated the Goldstein/Moberg table could be used as a reference for forecasting waste strength in the absence of more specific information from a particular variety of commercial establishment. DEQ staff also noted additional information characterizing waste strength would be made available to counties as it became available to the Department.

The Tillamook County Sanitarian provided an example of how he understood the proposed mass loading waste strength rule would affect sizing of soil absorption trenches following conventional sand filters. Although projected mass loading would affect sizing of the conventional sand filter itself, the sizing of soil absorption trenches following the sand filter would not be influenced since sand filter effluent quality would not change.

Based upon staff's evaluation of testimony, it was determined that the proposed amendments pertaining to strength of waste water should not be revised. The final amendments proposed for adoption are the same as those originally proposed.

9. The Department proposed to modify seepage bed sizing criteria (OAR 340-71-275(d)) because the existing rule does not take into account the strength of wastewater when determining the size of seepage bed needed for a particular sewage flow, and also requires a larger seepage bed than staff believe is needed for residential flows. The proposed amendments would reduce the seepage bed size for residential systems proposed for installation in medium and coarse sand, and introduce a waste strength factor for non-residential flows. The waste strength factor is described in (8) above.

The Department did not receive testimony objecting to this proposal. Staff re-examined the proposal to reduce seepage bed area and came to the conclusion that the fine and very fine beach and dune sand (typical to the Oregon coast) should not be included at this time. Size reduction was originally contemplated to be applicable to the coarser sands found inland from the coast. The proposed rule language was therefore modified to accomplish the intent.

10. The Department proposed to modify sand filter system design criteria in several ways. The definition of "medium sand" was viewed inadequate. Some sands appearing to meet the definition have an excess of silt and clay sized particles. These particles can cause the filter to become clogged, forcing incompletely treated septic tank effluent to surface. The addition of a sand equivalency requirement would give more complete assurance of sand quality. Proposed rules would also reduce the required horizontal separation distance between sand filter systems and surface public waters from 100 feet to 50 feet because of the high quality effluent resulting from system treatment. In addition, amendments are proposed to allow seepage trenches to be installed with sand filters to provide flexibility where sites lack sufficient area to use standard disposal trench sizing. That rule would apply to single family dwellings or commercial facilities with equivalent sewage flow. The wastewater strength factor, described in (8), was also proposed as a consideration for sizing for non-residential conventional sand filter systems.

Several persons offered testimony concerning the proposed amendments pertaining to sand filter systems. A summary of the comments and evaluation is presented as follows:

- (a) One person requested the sand filter rule be amended to allow disposal fields following sand filters to be installed on up to 45 percent slopes. The Rules currently allow sand filter systems to be installed on slopes up to 30 percent. Staff believe several significant factors (such as soil depth and



texture, perched groundwater, rainfall, land form stability, projected sewage flow, etc.) will influence the satisfactory operation of a system on slopes this steep. Therefore, requests to install sand filter systems on slopes greater than 30 percent should be evaluated on a case-by-case basis through established variance procedures.

- (b) Three persons suggested the proposed requirements for a sand equivalent test be eliminated. The medium sand specification is written in terms of the percentages (by weight) of particles that pass through or are retained on sieves of various sizes. If more than 4 percent of the particles in a sample pass through a number 100 sieve, then the sand does not meet the established criteria for use in a conventional sand filter (because of excess amounts of clay and silt) and must be rejected. A sand equivalent test would indicate where sand equivalent values are 80 or greater. The sand equivalent test is difficult to perform; is cumbersome and requires strict laboratory procedures, and would need to be performed in a laboratory. Staff's opines this test would be redundant to the sieve analysis and is not justified. Thus, a sand equivalent test is not being proposed as an additional requirement for medium sand. Instead, the Department will emphasize more care be taken in performing each sieve analysis.
- (c) One person recommended on-site rules prohibit the use of sand filters because out of concern filters cannot provide effective long-term treatment. The Department examined sand filter systems through an experimental systems program since 1976. The conventional sand filter system recognized in rules evolved from the experimental systems program and has been found to be a reliable, effective alternative to the standard septic tank-disposal field system when properly sited, constructed, operated and maintained. The Department does not propose to prohibit the use of sand filter systems.

- (d) Change the title of OAR 340-71-290, and modify the definition of "conventional sand filter". Staff agree with comment that this rule is more appropriately titled "Conventional Sand Filter Systems" and that the definition should recognize this type of filter could have more than 2 feet of medium sand. The amendments proposed for Commission consideration incorporate these changes.
- (e) Add "dissolved oxygen" as a parameter for testing on sand filter systems not considered to be of conventional design. Parameters to be addressed for non-conventional sand filter designs were selected to allow a comparison of treatment efficiency to the known parameters gathered in the study of conventional sand filter systems. Staff do not propose a rule amendment that would require submittal of "dissolved oxygen" data.
- (f) One person suggested the sand filter setback from surface public waters is inconsistent with other setback requirements. Staff have proposed a rule amendment allowing the sand filter disposal area to be no closer than 50 feet from surface public waters. The current disposal area setback for all kinds of systems is 100 feet, except that for lots created prior to May 1, 1973, a separation distance of 50 feet can be allowed, if in the judgment of the Department or its Agent, public health, safety and water quality are not jeopardized. The May 1, 1973 date is significant because that was when the 100-foot setback was first required by administrative rule. It is staff's view that because sand filter systems treat septic tank effluent to a very high quality, surface public waters are not likely to be adversely impacted when the sand filter disposal area is placed less than 100 feet away. A minimum separation distance of 50 feet appears to provide an appropriate level of protection to surface public waters, with a factor of safety. In staff's view, the sand filter disposal area should have the same level of protection from material hazards (predominantly flooding and erosion) as other

system components. Therefore, the proposed amendment is unchanged from the original.

11. The Department proposed to modify the sand filter PVC liner inspection procedure. The procedure currently provides that liner integrity be determined by an inspection of joints, seams and mechanical seals, with optional use of hydrostatic testing. The proposed amendment would clarify the existing procedures, and identify air lance testing as an optional procedure that could be used to determine seam integrity.

The Department did not receive testimony objecting to this proposal. The final proposal is the same as the original.

12. The Department proposed to modify language in the Geographical Area Rule - Clatsop Plains (OAR 340-71-400(5)). The current rules permitting use of on-site sewage disposal methods in the Clatsop Plains allow the use of sand filter and pressurized systems on small lots and parcels without limiting the maximum quantity of sewage that can be discharged per unit area. For individual single family dwellings or equivalent sized commercial facilities, this does not pose a significant threat to groundwater quality in the area. However, larger flows, and particularly those from high density residential and commercial developments, appear to cause the existing rule to be in conflict with the Department's general groundwater quality protection policy, as well as the public policy of the State of Oregon, as set forth in ORS 468.710. The proposed amendment would impose a maximum sewage flow limit on lots or parcels that are otherwise too small in area to fully comply with the provisions of OAR 340-71-275 and OAR 340-71-290, and would be consistent with the public policy. Review and approval of proposals for systems involving greater sewage flows on these properties would be required through established variance procedures or under Water Pollution Control Facility permit requirements, as appropriate.

The Department did not receive testimony objecting to this proposal. Staff re-examined the proposed amendment and modified the proposed rule language to eliminate awkward paragraph structure.

13. The Department proposed to add a Geographical Area Rule for low rainfall areas in Eastern Oregon. The Department has viewed that strict compliance with standard system siting criteria may be overly burdensome on large parcels of land in areas of Eastern Oregon where the annual precipitation does not exceed twenty (20) inches. The proposed amendment specifies minimum site criteria and conditions for

approval of a residential on-site sewage disposal system without compromising public health and safety or public waters of the state, and introduces a streamlined permit process. An applicant could submit one (1) application that would concurrently request both the site evaluation report and construction permit. After the system was constructed, the Agent would have the discretion to waive the pre-cover inspection.

One person was concerned that waiving pre-cover inspections for self-installed systems could likely result in these systems failing. This proposed geographical area rule would specify the use of standard system construction technology, and would obligate the permit issuing office to provide more detailed construction related information than is being given out now. Upon completion of the installation, the system installer would still be required to contact the permit issuing office and request a pre-cover inspection. At that time a decision would be made to either schedule the system for final inspection or waive the inspection. Certification of proper construction will be required from the system installer if the inspection is waived. Eastern Regional staff have indicated about half the systems installed there are by the property owners. In years past, pre-cover inspections were not usually performed, yet they have not found a significant number of failures that can be attributed to construction deficiencies. A licensed installer expressed support for this proposed rule. A third individual suggested this proposed rule should use the same language for the land use compatibility statement as is used in the rule pertaining to general permit application procedures.

Staff re-examined the proposed rule and evaluated the comments. Language pertaining to the land-use compatibility statement is re-written to be consistent with the existing general requirements for all permit applications. In addition, modifications were made to the minimum site criteria to provide more assurance that a system would be unlikely to fail because of adverse site limitations. Staff believe significant construction flaws are unlikely because the permit applicants installing their own systems do not want system problems and are therefore going to read and follow the construction details provided with the permit.

14. The Department proposed to modify septic tank specifications (OAR 340-73-025). The current rule requires steel septic tanks be coated in accordance with U.S. Department of Commerce Commercial Standard CS 177, which is no longer in effect. The proposed amendment would specify the national standard that replaced CS 177.

The Department did not receive testimony objecting to this proposal. Staff examined the proposed language and made a change to eliminate an installation requirement from the proposal.

15. The Department proposed to modify dosing tank specifications (OAR 340-73-050). Access into dosing tanks that serve some commercial facilities has been found to be too small to allow proper placement and servicing of submersible pumps and other interior components. The proposed amendment would require dosing tanks that are integral to some commercial systems to have larger manhole access measurements.

One person suggested the rules addressing dosing tanks allow some flexibility to be exercised when it would be unreasonable or impractical to require the larger manhole access for some large flow commercial facilities. Staff evaluated this comment and agree some degree of flexibility should be built into the dosing tank standard. The general rule (OAR 340-71-220(7)) requiring all dosing tanks meet a specific standard is therefore proposed to be modified to provide this latitude.

16. The Department proposed to clarify the criteria for operation of systems with two (2) pumps. Current rules require two (2) pumps in certain system applications. The existing rule does not clearly indicate how a two (2) pump system must be set up to function. The proposed amendment would clear up this confusion by specifying that the pumps be wired into the electrical control panel to function alternatively after each pump cycle and requiring a cycle counter be installed for each pump.

The Department did not receive testimony objecting to this proposal. The final proposal is the same as the original.

17. The Department proposed to modify smooth wall polyethylene pipe specifications (OAR 340-73-060). The Department developed a smooth wall polyethylene pipe standard in 1977 because a recognized national standard did not exist. Since then the American Society for Testing and Materials (ASTM) has developed and adopted a recognized national standard pertaining to this type of pipe. The proposed amendment would eliminate confusion by requiring the pipe be manufactured consistent with the national standard.

The Department did not receive testimony objecting to this proposal. The final proposal is the same as the original.

18. The Department proposed to add filter fabric standards. Filter fabric materials are required to be used in several types of on-site systems. The current rules do not provide a definition or a specification, and consequently some unsuitable fabrics have been used that offer the potential of causing some systems to fail because of the accumulation of a soil coating across the fabric surface.

The Department did not receive testimony objecting to this proposal. The final proposal is the same as the original.

Several of the proposed housekeeping amendments received comment. Staff evaluated these comments and modified rule language concerning effluent sewer, silt traps (the proposed amendment was eliminated), definitions of "loam" and "fragipan". Housekeeping changes are intended to provide clarity without changing rule intent or application.

In addition to testimony received on proposed rule language and issues for which public hearing notice was provided, the Department received testimony on other issues and existing rules. These included comment and suggestion related to: existing definitions at the beginning of several rules, gravel-less systems, septic tank manhole cover weight specifications, septic tank design standards, definitions for year-round and seasonal public waters, addition of wastewater treatment design standards and septic tank inspection requirements. The Department acknowledges receipt this testimony as a beneficial means of obtaining information on potential issues for consideration in future rule modification proposals. However, because these issues were not part of the hearing authorization request and public notice process, the Department does not consider it appropriate to propose any further rule modifications for adoption by the Commission at this time.

Several persons commented on not receiving hearing notice or not having sufficient time after receiving the notice to evaluate and respond to the proposed rule amendments. Department staff complied with the notice requirements as identified in ORS 183.335 and OAR 340-11-010. Notice of the Department's intended action to conduct public hearings on the proposed amendments to the on-site sewage disposal rules was published by the Secretary of State in the February 1, 1986 edition of the bulletin. Statutory law requires publication in the bulletin at least fifteen (15) days prior to the hearing dates. In addition, the Department provided notice to all persons known to the Department to have an interest in this matter by mailing the hearing notice, statement of need, and discussion of proposed rule modifications, on January 31, 1986. Persons requesting the Department notify them of intended actions have been added to the mailing list. The hearings were scheduled to begin on February 19, 1986, with the opportunity to provide written comment through February 28, 1986. All written comments, even those received after February 28, 1986, were considered in the preparation of the proposed amendments as presented in Exhibit "B" of this report.

Alternatives and Evaluation

The alternatives are as follows:

1. Adopt the original proposed rule amendments as presented to the Commission at the request to authorize public hearings on January 31, 1986. The original proposed amendments are contained in Exhibit "C" of this report.
2. Adopt the proposed rule amendments which have been modified from the original proposals, based upon staff review and analysis of testimony received through the hearings process. These are attached to this staff report and identified as Exhibit "A".
3. Adopt only a part of the proposed rule amendments.
4. Postpone adoption of proposed rule amendments to a future meeting.
5. Do not adopt any proposed rule amendments at this time.

The procedures the Commission must follow in the rule-making process are set forth in ORS Chapter 183 and OAR Chapter 340, Division 11.

Department staff and others believe a number of substantive and housekeeping rule amendments are necessary to allow continued efficient implementation of the on-site sewage disposal program. The reasons for these changes are described in a previous staff report to the Commission that requested authorization to hold hearings on these issues (Exhibit "C"). Rule-making hearings were conducted to allow comment from outside the Department on all of the proposed amendments being considered. The testimony received provided staff with insight on how the proposed amendments were viewed, and the impacts they would cause. Based on these comments, staff has made several positive changes to the amendments originally taken to hearing. The analysis of these comments is contained in this report under the heading of "Summary of Initial Proposals and Evaluation of Testimony". As a result of this refinement, procedure, the series of proposed rule amendments contained in Exhibit "A" consider and incorporate testimony and address most issues presented in the rule making process. Therefore, it is the Department's position that the Commission adopt the proposed rule amendments as presented in Exhibit "A", alternative 2.

Summation

1. ORS 454.625 provides that the Commission, after hearing, may adopt rules for on-site sewage disposal.
2. On January 31, 1986, the Commission authorized four (4) hearings to receive testimony on a series of rule amendments proposed to clarify

existing rules, introduce new rule language pertaining to issues not previously addressed, and generally provide for smoother on-site sewage disposal program implementation.

3. Notice of hearing was published in the Secretary of State's Bulletin on February 1, 1986, and mailed to various Department mailing lists of known interested individuals, in accordance with ORS Chapter 183 and OAR Chapter 340, Division 11.
4. Public hearings were held in Bend, Medford, Newport, and Portland in February.
5. Several initial proposed rule amendments have been modified based on input and testimony received during the hearing process. The final proposed rule amendments are contained in Exhibit "A".

Director's Recommendation

Based upon the summation, it is recommended that the Commission adopt the proposed amendments to OAR Chapter 340, Division 71, 72, 73, as presented in Exhibit "A".

*Mike Hansen*  
for  
Fred Hansen

Exhibits (3)

- "A" Proposed Rule Amendments
- "B" Hearings Officers' Report
- "C" Agenda Item No. F, January 31, 1986, EQC Meeting

Sherman O. Olson:h  
WH683  
229-6443  
March 27, 1986



DEPARTMENT OF ENVIRONMENTAL QUALITY

Proposed Rule Amendments:

OREGON ADMINISTRATIVE RULES

CHAPTER 340

DIVISIONS 71, 72, AND 73

April 25, 1986

Amend OAR 340-71-100 as follows:

340-71-100 As used in [these rules] OAR 340, Divisions 71, 72, and 73, unless otherwise specified:

- (1) "Absorption Facility" means a system of open-jointed or perforated piping, alternative distribution units, or other seepage systems for receiving the flow from septic tanks or other treatment facilities and designed to distribute effluent for oxidation and absorption by the soil within the zone of aeration. (See Diagrams 1 through 7 and 14 through 17)
- (2) "Active Sand Dune" means wind drifted ridges and intervening valleys, pockets, and swales of sand adjacent to the beach. The sand is grayish-brown (color value of four (4) or more), with little or no horizon, color, or textured differences. Active dunes are either bare of vegetation or lack sufficient vegetation to prevent blowing of sand.
- (3) "Aerobic Sewage Treatment Facility" means a sewage treatment plant which incorporates a means of introducing air and oxygen into the sewage so as to provide aerobic biochemical stabilization during a detention period.
- (4) [(1)] "Agent" means the Director or [his] that person's authorized representative.
- (5) [(2)] "Alteration" means expansion and/or change in location of an existing system, or any part thereof.
- (6) "Alternative System" means any Commission approved on-site sewage disposal system used in lieu of the standard subsurface system.
- (7) "Authorization Notice" means a written document issued by the Agent which establishes that an existing on-site sewage disposal system appears adequate to serve the purpose for which a particular application is made.
- (8) [(3)] "Authorized Representative" means the staff of the Department of Environmental Quality or staff of the local governmental unit performing duties for and under agreement with the Department of Environmental Quality.
- (9) "Automatic Siphon" means a hydraulic device designed to rapidly discharge the contents of a dosing tank between predetermined water or sewage levels.
- (10) "Bedroom" means any room within a dwelling which is accepted as such by the State of Oregon Department of Commerce building

Note: Underlined \_\_\_ material is new.  
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codes representative of the local authorized building official having jurisdiction.

- (11) "Black Waste" means human body wastes including feces, urine, other extraneous substances of body origin and toilet paper.
- (12) "Building Sewer" means that part of the system of drainage piping which conveys sewage into a septic tank, cesspool or other treatment facility that begins five feet (5) outside the building or structure within which the sewage originates. (See Diagrams 1, 2, 3, and 16)
- (13) "Cesspool" means a lined pit which receives raw sewage, allows separation of solids and liquids, retains the solids and allows liquids to seep into the surrounding soil through perforations in the lining. (See Diagram 16)
- (14) "Chemical Recirculating Toilet Facility" means a toilet facility wherein black wastes are deposited and carried from the bowl by a combination of liquid waste and water which has been chemically treated and filtered.
- (15) "Chemical Toilet Facility" means a non-flushing, non-recirculating toilet facility wherein black wastes are deposited directly into a chamber containing a solution of water and chemical.
- (16) "Clayey Soil" means mineral soil that is over forty (40) percent clay that shrinks and develops wide cracks when dry and swells and shears when rewet forming slickensides and wedge-shaped structure. Clayey soil is very hard or extremely hard when dry, very firm when moist, and very sticky and very plastic when wet.
- (17) "Claypan" means a dense, compact clay layer in the subsoil. It has a much higher clay content than the overlying soil horizon from which it is separated by an abrupt boundary. Claypans are hard when dry and very sticky and very plastic when wet. They impede movement of water and air and growth of plant roots.
- (18) Combustion Toilet Facility" means a toilet facility wherein black wastes are deposited directly into a combination chamber for incineration.
- (19) [(4)] "Commercial Facility" means any structure or building, or any portion thereof, other than a single-family dwelling.
- (20) [(5)] "Commission" means the Environmental Quality Commission.

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- (21) [(6)] "Community System" means an on-site system which will serve more than one (1) lot or parcel or more than one (1) condominium unit or more than one (1) unit of a planned unit development.
- (22) "Completed Application" means one in which the application form is completed in full, is signed by the owner or that person's authorized representative, is accompanied by all required exhibits and required fee.
- (23) "Conditions Associated With Saturation" means:
- (a) Reddish brown or brown soil horizons with gray (chromas of two (2) or less) and red or yellowish red mottles; or
- (b) Gray soil horizons, or gray soil horizons with red, yellowish red, or brown mottles; or
- (c) Dark colored highly organic soil horizons; or
- (d) Soil profiles with concentrations of soluble salt at or near the ground surface.
- (24) "Confining Layer" means a layer associated with an aquifer that because of its low permeability does not allow water to move through it perceptibly under head differences occurring in the groundwater system.
- (25) [(7)] "Construction" means installation of a new system or part thereof, or the alternation or repair of an existing system.
- (26) "Conventional Sand Filter" means a filter with two (2) feet or more of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure distribution system at an application rate not to exceed one and twenty-three hundredths (1.23) gallons per square foot sand surface area per day applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow per cycle.
- (27) "Curtain Drain" means a groundwater interceptor.
- (28) "Cut-Manmade" means a land surface resulting from mechanical land shaping operations where the modified slope is greater than fifty (50) percent, and the depth of cut exceeds thirty (30) inches.
- (29) [(8)] "Department" means the Department of Environmental Quality.
- (30) [(9)] "Director" means the Director of the Department of Environmental Quality.
- (31) "Disposal Area" means the entire area used for underground dispersion of the liquid portion of sewage including the area

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Bracketed [ ] material is deleted.

designated for the future replacement system. It may consist of a seepage pit or of a disposal field or of a combination of the two. It may also consist of a cesspool, seepage bed, bottomless sand filter, or evapotranspiration-absorption system.

- (32) "Disposal Field" means a system of disposal trenches or a seepage trench or system of seepage trenches.
- (33) "Disposal Trench" means a ditch or trench with vertical sides and substantially flat bottom with a minimum of twelve (12) inches of clean, coarse filter material into which a single distribution pipe has been laid, the trench then being backfilled with a minimum of six (6) inches of soil. (See Diagram 12)
- (34) "Distribution Box" means a watertight structure which receives septic tank or other treatment facility effluent and distributes it concurrently into two (2) or more header pipes leading to the disposal area. (See Rule 340-73-035.)
- (35) "Distribution Pipe" means an open-jointed or perforated pipe used in the dispersion of septic tank or other treatment facility effluent into disposal trenches, seepage trenches, or seepage beds. (See Diagrams 1 through 7 and 11)
- (36) "Distribution Unit" means a distribution box, dosing tank, diversion valve or box, header pipe, or other means of transmitting septic tank or other treatment unit effluent from the effluent sewer to the distribution pipes. (See Diagrams 1 through 7 and 11)
- (37) "Diversion Valve" means a watertight structure which receives septic tank or other treatment facility effluent through one (1) inlet, distributes it to two (2) outlets, only one (1) of which is utilized at a given time (See Diagram 11 and Rule 340-73-045.)
- (38) "Dosing Tank" means a watertight receptacle placed after a septic tank or other treatment facility equipped with an automatic siphon or pump designed to discharge treated effluent at a rate not to exceed twenty (20) percent of the projected daily sewage flow.
- (39) "Dosing Septic Tank" means a unitized device performing functions of both a septic tank and a dosing tank.
- (40) [(10)] " Dwelling" means any structure or building, or any portion thereof which is used, intended, or designed to be occupied for human living purposes including, but not limited to: [,] houses,

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houseboats, boathouses, mobile homes, travel trailers, hotels, motels, and apartments.

- (41) "Effective Seepage Area" means the sidewall area within a disposal trench or a seepage trench from the bottom of the trench to a level two (2) inches above the distribution pipes, or the sidewall area of any cesspool, seepage pit, unsealed earth pit privy, or gray water waste disposal sump seepage chamber; or the bottom area of a pressurized soil absorption facility installed in soil as defined in Section (114) of this rule. (See Diagrams 12, 14, 15, 16, and 17)
- (42) "Effective Soil Depth" means the depth of soil material above a layer that impedes movement of water, air, and growth of plant roots. Layers that differ from overlying soil material enough to limit effective soil depth are hardpans, claypans, fragipans, compacted soil, bedrock, saprolite, and clayey soil.
- (43) "Effluent Lift Pump" means a pump used to lift septic tank or other treatment facility effluent to a higher elevation. (See Rule 340-73-055.)
- (44) "Effluent Sewer" means that part of the system of drainage piping that conveys partially treated sewage from a septic tank or other treatment facility into a distribution unit or an absorption facility. (See Diagrams 1 through 7, 11, and 17, and Rule 340-73-060.)
- (45) "Emergency Repair" means repair of a failing system where immediate action is necessary to relieve a situation in which sewage is backing up into a dwelling or building, or repair of a broken pressure sewer pipe.
- (46) "Escarpment" means any naturally occurring slope greater than fifty (50) percent which extends vertically six (6) feet or more as measured from toe to top, and which is characterized by a long cliff or steep slope which separates two (2) or more comparatively level or gently sloping surfaces, and may intercept one (1) or more layers that limit effective soil depth. (See Diagrams 18 and 19)
- (47) "Evapotranspiration-Absorption (ETA) system" means an alternative system consisting of a septic tank or other treatment facility, effluent sewer and a disposal bed or disposal trenches, designed to distribute effluent for evaporation, transpiration by plants, and by absorption into the underlying soil. (See Diagrams 6 and 7)
- (48) [(11)] "Existing On-Site Sewage Disposal System" [(existing system)] means any installed on-site sewage disposal system constructed in conformance with the rules, laws and local ordinances in

Note: Underlined      material is new.  
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effect at the time of construction, or which would have conformed substantially with system design provided for in Commission, State Board of Health or State Health Division rules.

- (49) "Existing System" means "Existing On-Site Sewage Disposal System".
- (50) [(12)] "Failing System" means any system which discharges untreated or incompletely treated sewage or septic tank effluent directly or indirectly onto the ground surface or into public waters.
- (51) "Family Member" means any one (1) of two (2) or more persons related by blood or marriage.
- (52) "Filter Fabric" means a woven or spun-bonded sheet material used to impede or prevent the movement of sand, silt and clay into filter material. A specification for filter fabric is found in OAR 340-73-041.
- (53) "Filter Material" means clean, washed gravel ranging from three quarters (3/4) to two and one-half (2-1/2) inches in size, or clean crushed rock ranging in size from one and one-half (1-1/2) to two and one-half (2-1/2) inches. (See Diagrams 6, 7, 9, 12, 14, 15, 16, and 17)
- (54) "Five-Day Biochemical Oxygen Demand" (BOD<sub>5</sub>) means the quantity of oxygen used in the biochemical oxidation of organic matter in five days at twenty (20) degrees centigrade under specified conditions and reported as milligrams per liter (mg/L).
- (55) "Fragipan" means a loamy subsurface horizon with high bulk density relative to the horizon above, seemingly cemented when dry, and weakly to moderately brittle when moist. Fragipans are mottled and low in organic matter. They impede movement of water, air, and growth of plant roots.
- (56) [(13)] "Governmental Unit" means the state or any county, municipality, or political subdivision, or any agency thereof.
- (57) "Grade" means the rate of fall or drop in inches per foot or percentage of fall of a pipe.
- (58) "Gray Water" means household sewage other than "black wastes", such as bath water, kitchen waste water and laundry wastes.
- (59) "Groundwater Interceptor" means any natural or artificial groundwater or surface water drainage system including agricultural drain tile, cut banks, and ditches which intercept

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- and divert groundwater or surface water from the area of the absorption facility. (See Diagram 13)
- (60) "Hardpan" means a hardened layer in soil caused by cementation of soil particles with either silica, calcium carbonate, magnesium carbonate, or iron and/or organic matter. The hardness does not change appreciably with changes in moisture content. Hardpans impede movement of water and air and growth of plant roots.
- (61) "Header Pipe" means a tight jointed part of the sewage drainage conduit which receives septic tank effluent from the distribution box, or drop box, or effluent sewer and conveys it to the disposal area. (See Diagrams 1 through 5, 7, 11, and 17)
- (62) "Headwall" means a steep slope at the head or upper end of a land slump block or unstable landform. (See Diagrams 22 and 23)
- (63) "Holding Tank" means a watertight receptacle designed to receive and store sewage to facilitate disposal at another location.
- (64) "Incinerator Toilet Facility" means "Combustion Toilet Facility".
- (65) [(14)] "Individual System" means a system that is not a community system.
- (66) "Individual Water Supply" means a source of water and a distribution system which serves a residence or user for the purpose of supplying water for drinking, culinary, or household uses and which is not a public water supply system.
- (67) "Industrial Waste" means any liquid, gaseous, radioactive, or solid waste substance or a combination thereof resulting from any process of industry, manufacturing, trade, or business, or from the development or recovery of any natural resources.
- (68) "Intermittent Stream" means any surface public water or groundwater interceptor that continuously flows water for a period of greater than two months in any one year, but not continuously for that year.
- (69) "Invert" is the lowest portion of the internal cross section of a pipe or fitting. (See Diagram 12)
- (70) [(15)] "Large System" means any on-site system with a projected daily sewage flow greater than two thousand five hundred (2,500) gallons.

Note: Underlined \_\_\_ material is new.  
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(71) "Lateral Pipe" means "Distribution Pipe".

(72) "Mechanical Oxidation Sewage Treatment Facility" means an aerobic sewage treatment facility.

(73) "Medium Sand" means a mixture of sand with 100 percent passing the 3/8 inch sieve, 90 percent to 100 percent passing the No. 4 sieve, 62 percent to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 percent to 55 percent passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, and 4 percent or less passing the No. 100 sieve.

(74) "Nonwater-Carried Waste Disposal Facility" means any toilet facility which has no direct water connection, including pit privies, vault privies and portable toilets.

(75) [(16)] "Occupant" means any person living or sleeping in a dwelling.

(76) [(17)] "On-Site Sewage Disposal System" means any existing or proposed on-site sewage disposal system including, but not limited to a standard subsurface, alternative, experimental or non-water carried sewage disposal system, installed or proposed to be installed on land of the owner of the system or on other land as to which the owner of the system has the legal right to install the system.

(77) [(18)] "Owner" means any person who alone, or jointly, or severally with others:

(a) Has legal title to any single lot, dwelling, dwelling unit, or commercial facility; or

(b) Has care, charge, or control of any real property as agent, executor, executrix, administrator, administratrix, trustee, commercial lessee, or guardian of the estate of the holder of legal title; or

(c) Is the contract purchaser of real property.

NOTE: Each such person as described in subsections (b) and (c), thus representing the legal title holder, is bound to comply with the provisions of these rules as if he were the legal title holder.

(78) "Permanent Groundwater Table" means the upper surface of a saturated zone that exists year-round. The thickness of the saturated zone, and, as a result, the elevation of the permanent groundwater table may fluctuate as much as twenty (20) feet or more annually; but the saturated zone and associated permanent

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groundwater table will be present at some depth beneath land surface throughout the year.

- (79) [(19)] "Permit" means the written document issued and signed by the Agent which authorizes the permittee to install a system or any part thereof, which may also require operation and maintenance of the system.
- (80) [(20)] "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.
- (81) "Pollution" or "Water Pollution" means such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.
- (82) "Portable Toilet Shelter" means any readily relocatable structure built to house a toilet facility.
- (83) "Pressure Distribution Lateral" means piping and fittings in pressure distribution systems which distribute septic tank or other treatment unit effluent to filter material through small diameter orifices. (See Diagrams 8, 9, and 12)
- (84) "Pressure Distribution Manifold" means piping and fittings in a pressure distribution system which supply effluent from pressure transport piping to pressure distribution laterals. (See Diagrams 8 and 9)
- (85) "Pressure Distribution System" means any system designed to uniformly distribute septic tank or other treatment unit effluent under pressure in an absorption facility or sand filter. (See Diagrams 8 and 9)
- (86) "Pressure Transport Piping" means piping which conveys septic tank or other treatment unit effluent to a pressure distribution manifold by means of a pump. (See Diagrams 8 and 9)
- (87) "Prior Approval" means a written approval for on-site sewage disposal, for a specific lot, issued prior to January 1, 1974.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (88) "Prior Construction Permit" means a subsurface sewage disposal system construction permit issued prior to January 1, 1974, by a county that had an ordinance requiring construction permits for subsurface sewage disposal systems.
- (89) "Privy" means a structure used for disposal of human waste without the aid of water. It consists of a shelter built above a pit or vault in the ground into which human waste falls.
- (90) [(21)] "Public Health Hazard" means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.
- (91) [(22)] "Public Waters" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.
- (92) "Redundant Disposal Field System" means a system in which two complete disposal systems are installed, the disposal trenches of each system alternate with each other and only one system operates at a given time. (See Diagram 11)
- (93) [(23)] "Repair" means installation of all portions of a system necessary to eliminate a public health hazard or pollution of public waters created by a failing system.
- (94) "Sand Filter Surface Area" means the area of the level plane section in the medium sand horizon of a conventional sand filter located two (2) feet below the bottom of the filter material containing the pressurized distribution piping.
- (95) "Sand Filter System" means the combination of septic tank or other treatment unit, dosing system with effluent pump and controls, or dosing siphon, piping and fittings, sand filter, and absorption facility used to treat and dispose of sewage.
- (96) "Sanitary Drainage System" means that part of the system of drainage piping that conveys untreated sewage from a building or structure to a septic tank or other treatment facility, service lateral at the curb or in the street or alley, or other disposal

Note: Underlined \_\_\_ material is new.  
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terminal holding human or domestic sewage. The sanitary drainage system consists of a building drain or building drain and building sewer. (See Diagrams 1, 2, 3, and 16)

- (97) "Saprolite" means weathered material underlying the soil that grades from soft thoroughly decomposed rock to rock that has been weathered sufficiently so that it can be broken in the hands or cut with a knife. It does not include hard bedrock or hard fractured bedrock. It has rock structure instead of soil structure.
- (98) "Saturated Zone" means a three (3) dimensional layer, lens, or other section of the subsurface in which all open spaces including joints, fractures, interstitial voids, pores, etc. are filled with groundwater. The thickness and extent of a saturated zone may vary seasonally or periodically in response to changes in the rate or amount of groundwater recharge or discharge. (See Diagram 20)
- (99) "Scum" means a mass of sewage solids floating at the surface of sewage which is buoyed up by entrained gas, grease, or other substances.
- (100) "Seepage Area" means "Effective Seepage Area."
- (101) "Seepage Bed" means an absorption system having disposal trenches wider than three (3) feet.
- (102) "Seepage Pit" means a "cesspool" which has a treatment facility such as a septic tank ahead of it. (See Diagram 17)
- (103) "Seepage Trench System" means a system with disposal trenches with more than six (6) inches of filter material below the distribution pipe.
- (104) "Self-Contained Nonwater-Carried Waste Disposal Facility" includes, but is not limited to, vault privies, chemical toilets, combustion toilets, recirculating toilets, and portable toilets, in which all waste is contained in a watertight receptacle.
- (105) "Septic Tank" means a watertight receptacle which receives sewage from a sanitary drainage system, is designed to separate solids from liquids, digest organic matter during a period of detention, and allow the liquids to discharge to a second treatment unit or to a soil absorption facility. (See Rules 340-73-025 and 340-73-030.)
- (106) "Septic Tank Effluent" means partially treated sewage which is discharged from a septic tank.

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(107) [(24)] "Sewage" means water-carried human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration, surface waters, or industrial waste as may be present.

(108) "Sewage Disposal Service" means:

- (a) The installation of on-site sewage disposal systems (including the placement of portable toilets), or any part thereof; or
- (b) The pumping out or cleaning of on-site sewage disposal systems (including portable toilets), or any part thereof; or
- (c) The disposal of material derived from the pumping out or cleaning of on-site sewage disposal systems (including portable toilets); or
- (d) Grading, excavating, and earth-moving work connected with the operations described in subsection (a) of this section, except streets, highways, dams, airports or other heavy construction projects and except earth-moving work performed under the supervision of a builder or contractor in connection with and at the time of the construction of a building or structure; or
- (e) The construction of drain and sewage lines from five (5) feet outside a building or structure to the service lateral at the curb or in the street or alley or other disposal terminal holding human or domestic sewage.

(109) "Sewage Stabilization Pond" means a pond designed to receive the raw sewage flow from a dwelling or other building and retain that flow for treatment without discharge.

(110) "Slope" means the rate of fall or drop in feet per one hundred (100) feet of the ground surface. It is expressed as percent of grade.

(111) "Soil Permeability Rating" refers to that quality of the soil that enables it to transmit water or air, as outlined in the United States Department of Agriculture Handbook, Number 18, entitled Soil Survey Manual.

(112) "Soil Separate" means the size of soil particles according to Table 7.

(113) "Soil Texture" means the amount of each soil separate in a soil mixture. Field methods for judging the texture of a soil

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Bracketed [ ] material is deleted.

consist of forming a cast of soil, both dry and moist, in the hand and pressing a ball of moist soil between thumb and finger.

(a) The major textural classifications are defined as follows:  
(See Table 6.)

(A) Sand: Individual grains can be seen and felt readily. Squeezed in the hand when dry, this soil will fall apart when the pressure is released. Squeezed when moist, it will form a cast that will hold its shape when the pressure is released, but will crumble when touched.

(B) Sandy loam: Consists largely of sand, but has enough silt and clay present to give it a small amount of stability. Individual sand grains can be readily seen and felt. Squeezed in the hand when dry, this soil will readily fall apart when the pressure is released. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is released, but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

(C) Loam: Consists of an even mixture of the different sizes of sand and of silt and clay. It is easily crumbled when dry and has a slightly gritty, yet fairly smooth feel. It is slightly plastic. Squeezed in the hand when dry, it will form a cast that will withstand careful handling. The cast formed of moist soil can be handled freely without breaking.

(D) Silt loam: Consists of a moderate amount of fine grades of sand, a small amount of clay, and a large quantity of silt particles. Lumps in a dry, undisturbed state appear quite cloddy, but they can be pulverized readily; the soil then feels soft and floury. When wet, silt loam runs together in puddles. Either dry or moist, casts can be handled freely without breaking. When a ball of moist soil is pressed between thumb and finger, it will not press out into a smooth, unbroken ribbon, but will have a broken appearance.

(E) Clay loam: Consists of an even mixture of sand, silt, and clay, which breaks into clods or lumps when dry. When a ball of moist soil is pressed between the thumb and finger, it will form a thin ribbon that will readily break, barely sustaining its own weight. The

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moist soil is plastic and will form a cast that will withstand considerable handling.

(F) Silty clay loam: Consists of a moderate amount of clay, a large amount of silt, and a small amount of sand. It breaks into moderately hard clods or lumps when dry. When moist, a thin ribbon or one-eighth (1/8) inch wire can be formed between thumb and finger that will sustain its weight and will withstand gentle movement.

(G) Silty clay: Consists of even amounts of silt and clay and very small amounts of sand. It breaks into hard clods or lumps when dry. When moist, a thin ribbon or one-eighth (1/8) inch or less sized wire formed between thumb and finger will withstand considerable movement and deformation.

(H) Clay: Consists of large amounts of clay and moderate to small amounts of sand. It breaks into very hard clods or lumps when dry. When moist, a thin, long ribbon or one-sixteenth (1/16) inch wire can be molded with ease. Fingerprints will show on the soil, and a dull to bright polish is made on the soil by a shovel.

(b) These and other soil textural characteristics are also defined as shown in the United States Department of Agriculture Textural Classification Chart which is hereby adopted as part of these rules. This textural classification chart is based on the Standard Pipette Analysis as defined in the United States Department of Agriculture, Soil Conservation Service Soil Survey Investigations Report No. 1. (See Table 6)

(114) "Soil With Rapid or Very Rapid Permeability" means:

(a) Soil which contains thirty-five (35) percent or more of coarse fragments two (2) millimeters in diameter or larger by volume with interstitial soil of sandy loam texture or coarser as defined in subsection (83) (a) of this rule and as classified in Soil Textural Classification Chart, Table 6; or

(b) Coarse textured soil (loamy sand or sand as defined in section (83) of this rule and as classified in Soil Textural Classification Chart, Table 6); or

(c) Stones, cobbles, gravel, and rock fragments with too little soil material to fill interstices larger than one (1) millimeter in diameter.

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- (115) "Stabilized Dune" means a sand dune that is similar to an active dune except vegetative growth is dense enough to prevent blowing of sand. The surface horizon is either covered by a mat of undecomposed and partially decomposed leaves, needles, roots, twigs, and moss, etc., or to a depth of at least six (6) inches contains roots and has a color value of three (3) or less.
- (116) "Standard Subsurface System" means an on-site sewage disposal system consisting of a septic tank, distribution unit and gravity-fed absorption facility constructed in accordance with OAR 340-71-220(2), using six (6) inches of filter material below the distribution pipe, and maintaining not less than eight (8) feet of undisturbed earth between disposal trenches.
- (117) "Strength of Wastewater" means the concentration of pollutants in wastewater as measured by BOD<sub>5</sub> and TSS.
- (118) "Subsurface Sewage Disposal" means the physical, chemical or bacteriological breakdown and aerobic treatment of sewage in the unsaturated zone of the soil above any temporarily perched groundwater body.
- (119) "Subsurface Disposal System" means a cesspool or the combination of a septic tank or other treatment unit and effluent sewer and absorption facility. (See Diagrams 1, through 6, 11, 16, and 17)
- (120) [(25)] "System" means [- see] "On-Site Sewage Disposal System."
- (121) "Temporary Groundwater Table" means the upper surface of a saturated zone that exists only on a seasonal or periodic basis. Like a permanent groundwater table, the elevation of a temporary groundwater table may fluctuate. However, a temporary groundwater table and associated saturated zone will dissipate (dry up) for a period of time each year.
- (122) "Test Pit" means an open pit dug to sufficient size and depth to permit thorough examination of the soil to evaluate its suitability for subsurface sewage disposal.
- (123) "Toilet Facility" means a fixture housed within a toilet room or shelter for the purpose of receiving black waste.
- (124) "Total Suspended Solids" (TSS) means solids in sewage that can be removed readily by standard filtering procedures in a laboratory and reported as milligrams per liter (mg/L).
- (125) "Unstable Landforms" means areas showing evidence of mass downslope movement such as debris flow, landslides, rockfalls, and hummocky hillslopes with undrained depressions upslope. Unstable landforms may exhibit slip surfaces roughly parallel to

Note: Underlined \_\_\_ material is new.  
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the hillside; landslide scars and curving debris ridges; fences, trees, and telephone poles which appear tilted; or tree trunks which bend uniformly as they enter the ground. Active sand dunes are unstable landforms. (See Diagrams 21, 22, and 23)

(126) "Water Pollution" means "Pollution".

(127) "Zone of Aeration" means the unsaturated zone that occurs below the ground surface and above the point at which the upper limit of the water table exists. (See Diagram 20)

Amend OAR 340-71-105 by deleting the entire Rule.

Amend OAR 340-71-130 by adding a new section (16) as follows:

(16) No person shall place or cause to be placed into an on-site sewage disposal system or part thereof any strong acids (pH less than 4), strong bases (pH greater than 9.5), organic solvents or explosives. Pipe cleaning compounds with a pH of less than 4 or greater than 9.5, used in accordance with the manufacturer's printed recommendations to clear blocked plumbing within a dwelling, are not subject to this prohibition provided the compound used does not contain organic solvents.

Amend OAR 340-71-140(1)(a) as follows:

340-71-140 FEES-GENERAL.

(1) Except as provided in section (5) of this rule, the following nonrefundable fees are required to accompany applications for site evaluations, permits, licenses and services provided by the Department.

ON-SITE SEWAGE DISPOSAL SYSTEMS	MAXIMUM FEE
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(a) New Site Evaluation:

(A) Single Family Dwelling:

(i) First Lot.....	\$150
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- (ii) Each Additional Lot Evaluated During Initial Visit ..... \$130
- (B) Commercial Facility System:
  - (i) For First One Thousand (1000) Gallons Projected Daily Sewage Flow ..... \$150
  - (ii) Plus For Each Five Hundred (500) Gallons or Part Thereof Above One Thousand (1000) Gallons, for Projected Daily Sewage Flows up to Ten Thousand (10,000) Gallons ..... \$ 50
  - (iii) Plus For Each One Thousand (1000) Gallons or Part Thereof Above Ten Thousand (10,000) Gallons ..... \$ 20
- (C) Site Evaluation [Denial] Report Review ..... \$ 60
- (D) Fees for site evaluation applications made to an agreement county shall be in accordance with that county's fee schedule.
- (E) Each fee paid for a site evaluation report entitles the applicant to as many site inspections on a single parcel or lot as are necessary to determine site suitability for a single system. The applicant may request additional site inspections within ninety (90) days of the initial site evaluation, at no extra cost.
- (F) Separate fees shall be required if site inspections are to determine site suitability for more than one (1) system on a single parcel of land.

Amend OAR 340-71-140(2) as follows:

(2) Contract County Fee Schedules. Pursuant to ORS 454.745(4), fee schedules which exceed maximum fees in ORS 454.745(1), and Section (1) of this rule, are established for Contract Counties as follows:

[(a) Lane County: See OAR 340-72-050.]

[(b) Clackamas County: See OAR 340-72-060.]

(a) [(c)] Multnomah County: See OAR 340-72-070.

(b) [(d)] Jackson County: See OAR 340-72-080.

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(3) Contract County Fee Schedules, General:

- (a) Each county having an agreement with the Department under ORS 454.725 shall adopt a fee schedule for services rendered and permits and licenses to be issued.
- (b) A copy of the fee schedule and any subsequent amendments to the schedule shall be forwarded to the Department.
- (c) Fees shall not:
  - (A) Exceed actual costs for efficiently conducted services; or
  - (B) Exceed the maximum established in Section (1) of this rule, unless approved by the Commission pursuant to ORS 454.745(4).

Amend OAR 340-71-140(4) as follows:

- (4) Surcharge. In order to offset a portion of the administrative costs of the statewide on-site sewage disposal program, a surcharge for each activity, as set forth in the following schedule, shall be levied by the Department and by each Agreement County. Proceeds from surcharges collected by the Department and Agreement Counties shall be accounted for separately. Each Agreement County shall forward the proceeds to the Department as negotiated in the memorandum of agreement (contract) between the county and the Department.

Activity	Surcharge
(a) Site evaluation[:] <u>  </u> for each [one thousand (1000) gallons projected daily sewage flow or part thereof, up to a maximum surcharge of seventy five dollars (\$75)] <u>site examined, based on a projected flow of:</u>	
<u>1,000 gallons or less</u> .....	\$ 15
<u>1,001 gallons to 2,000 gallons</u> .....	\$ 30
<u>2,001 gallons to 3,000 gallons</u> .....	\$ 45
<u>3,001 gallons to 4,000 gallons</u> .....	\$ 60
<u>4,001 gallons or more</u> .....	\$ 75
(b) Construction-Installation Permit .....	\$ 5

EXCEPTION: Repair permits are not subject to a surcharge.

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- (c) Alteration Permit ..... \$ 5
- (d) Authorization Notice ..... \$ 5

Amend OAR 340-71-150(1) as follows:

- (1) A site evaluation is the first step in the process of obtaining a construction permit for an on-site system. Except as otherwise allowed in these rules, any [Any] person who wishes to install a new on-site sewage system shall first obtain a site evaluation report.

Amend OAR 340-71-150(4) as follows:

(4) Approval or Denial:

- (a) In order to obtain a [an approved] favorable site evaluation report the following conditions shall be met:

- (A) All criteria for approval of a specific type or types of system, as outlined in [rules 340-71-220 and/or 340-71-260 through 340-71-360] OAR 340, Division 71 shall be met.

- (B) Each lot or parcel must have sufficient usable area available to accommodate an initial and replacement system. The usable area may be located within the lot or parcel, or within the bounds of another lot or parcel if secured pursuant to OAR 340-71-130(11). Sites may be approved where the initial and replacement systems would be of different types, e.g., a standard subsurface system as the initial system and an alternative system as the replacement system. The site evaluation report shall indicate the type of the initial and type of replacement system for which the site is approved.

EXCEPTION: A replacement area is not required in areas under control of a legal entity such as a city, county, or sanitary district, provided the legal entity gives a written commitment that sewerage service will be provided within five (5) years.

- (b) A site evaluation shall be denied where the conditions identified in subsection (4)(a) of this rule are not met.
- (c) Technical rule changes shall not invalidate a favorable site evaluation, but may require use of a different kind of system.

Note: Underlined \_\_\_ material is new.  
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Amend OAR 340-71-150(5) as follows:

- (5) Site Evaluation [Denial] Report Review. A site evaluation [denied] report issued by the Agent shall be reviewed at the request of the applicant. The application for review shall be submitted to the Department in writing, within thirty (30) days of the site evaluation report issue date, and be accompanied by the [denial] review fee. The review shall be conducted and a report prepared by the Department.

Amend OAR 340-71-160 as follows:

340-71-160 PERMIT APPLICATION PROCEDURES-GENERAL REQUIREMENTS.

- (1) No person shall cause or allow construction, alteration, or repair of a system, or any part thereof, without first applying for and obtaining a permit.

EXCEPTION: Emergency repairs as set forth in Rule 340-71-215.

- (2) Applications for permits shall be made on forms provided by the Agent and approved by the Department.
- (3) An application is complete only when the form, on its face, is completed in full, is signed by the owner or the owner's legally authorized representative, and is accompanied by all required exhibits [(including a site evaluation report)] and fee, [, and includes, from the appropriate jurisdiction, a statement of compatibility with the acknowledged local comprehensive plan and zoning requirements or Land Conservation and Development Commission's goals.] Except as otherwise allowed in OAR 340-71-400(6), the exhibits shall include:

- (a) Favorable site evaluation report.
- (b) Favorable land use compatibility statement from the appropriate land use authority signifying that the proposed land use is compatible with the Land Conservation and Development Commission acknowledged comprehensive plan or complies with the statewide planning goals.
- (c) Plans and specifications for the on-site system proposed for installation within the area identified in the favorable site evaluation report. The Agent shall determine and request the minimum level of detail necessary to insure proper system construction.
- (d) Any other information the Agent finds is necessary to complete the permit application.

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- (4) The application form shall be received by the Agent only when the form is complete. as detailed in section (3) of this rule.
- (5) Upon receipt of a completed application the Agent shall deny the permit if:
- (a) The application contains false information;
  - (b) The application was wrongfully received by the Agent;
  - (c) The proposed system would not comply with these rules;
  - (d) The proposed system, if constructed, would violate a Commission moratorium as described in rule 340-71-460;
  - (e) The proposed system location is encumbered as described in section 340-71-130(8);
  - (f) A sewerage system which can serve the proposed sewage flow is both legally and physically available, as described below:

(A) Physical Availability. A sewerage system shall be deemed physically available if its nearest connection point from the property to be served is:

- (i) For a single family dwelling, or other establishment with a maximum projected daily sewage flow of not more than four hundred fifty (450) gallons, within three hundred (300) feet;
- (ii) For a proposed subdivision or group of two (2) to five (5) single family dwellings, or equivalent projected daily sewage flow, not further than two hundred (200) feet multiplied by the number of dwellings or dwelling equivalents.
- (iii) For proposed subdivisions or other developments with more than five (5) single family dwellings, or equivalents, the Agent shall make a case-by-case determination of sewerage availability.

EXCEPTION: A sewerage system shall not be considered available if topographic or man-made features make connection physically impractical.

(B) Legal Availability. A sewerage system shall be deemed legally available if the system is not under a Department connection permit moratorium, and the

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sewerage system owner is willing or obligated to provide sewer service.

- (6) A permit shall be issued only to a person licensed under ORS 454.695, or to the owner or easement holder of the land on which the system is to be installed.
- (7) No person shall construct, alter or repair a system, or any part thereof, unless [he] that person is licensed under ORS 454.695, or [he] is the permittee.
- (8) The Agent shall either issue or deny the permit within twenty (20) days after receipt of the completed application.

EXCEPTION: If weather conditions or distance and unavailability of transportation prevent the Agent from acting to either issue or deny the permit within twenty (20) days, the applicant shall be notified in writing. The notification shall state the reason for delay. The Agent shall either issue or deny the permit within sixty (60) days after the mailing date of such notification.

- (9) A permit issued pursuant to these rules shall be effective for one(1) year from the date of issuance for construction of the system. The construction-installation permit is not transferable. Once a system is installed pursuant to the permit, and a Certificate of Satisfactory Completion has been issued for the installation, conditions imposed as requirements for permit issuance shall continue in force as long as the system is in use.
- (10) Renewal of a permit may be granted to the original permittee if an application for permit renewal is filed prior to the original permit expiration date. Application for permit renewal shall conform to the requirements of sections (2) and (4) of this rule. The permit shall be issued or denied consistent with sections (5), (6), (8), and (9) of this rule.

Amend OAR 340-71-170 as follows:

340-71-170 PRE-COVER INSPECTIONS.

- (1) When construction, alteration or repair of a system for which a permit has been issued is complete. except for backfill (cover), or as required by permit, the [property owner or] system installer shall notify the Agent. The Agent shall inspect the installation to determine if it complies with the rules of the Commission, unless the inspection is waived by the Agent in accordance with section (2) of this rule or in accordance with the provisions of OAR 340-71-400(6).

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- (2) The Agent may, at his own election, waive the pre-cover inspection provided:
- (a) The installation is a standard subsurface system installed by a sewage disposal service licensed pursuant to ORS 454.695; and
  - (b) The inspecting jurisdiction and the Department have developed an impartial method of identifying those installers who have a history of proper installations without excessive numbers of corrections; and
  - (c) Inspections waived are for installations made by installers identified as having a good history of proper installation; and
  - (d) A list of installers whose inspections may be waived is available to the public and the Department; and
  - (e) A representative number of each installer's systems has been inspected, regardless of installation history; and
  - (f) After system completion the installer certifies in writing that the system complies with the rules of the Commission, and provides the Agent with a detailed as-built plan (drawn to scale) of the installation.
- (3) Precover inspection details shall be recorded on a form approved by the Department.

Amend OAR 340-71-185(2) as follows:

(2) Procedures for Abandonment:

- (a) The septic tank, cesspool or seepage pit shall be pumped by a licensed sewage disposal service to remove all sludge;
- (b) The septic tank, cesspool or seepage pit shall be filled with reject sand, bar run gravel, or other material approved by the Agent;
- (c) The system building sewer shall be permanently capped.
- (d) If, in the judgment of the Agent, it is not reasonably possible or necessary to comply with subsections (2)(a) and (2)(b) of this rule, the Agent may waive either or both of these requirements provided such action does not constitute a menace to public health, welfare or safety.

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Amend OAR 340-71-215(3) as follows:

- (3) No person shall repair a failing system without first obtaining a Repair Permit. See OAR 340-71-160.

EXCEPTION: Emergency repairs may be made without first obtaining a permit provided that a repair permit application is [obtained] submitted to the Agent within three (3) working days after the emergency repairs are begun.

Amend OAR 340-71-220(1) as follows:

340-71-220 STANDARD SUBSURFACE SYSTEMS.

- (1) For the purpose of these rules:
- (a) "Standard Subsurface System" means an on-site sewage disposal system consisting of a septic tank, distribution unit and gravity-fed [disposal field] absorption facility constructed in accordance with section (2) of this rule, using six (6) inches of filter material below the distribution pipe, and maintaining not less than eight (8) feet of undisturbed earth between disposal trenches.
  - (b) "Effective Soil Depth" means the depth of soil material above a layer that impedes movement of water, air, or growth of plant roots. Layers that differ from overlying soil material enough to limit effective soil depths are hardpans, claypans, fragipans, compacted soil, bedrock, saprolite and clayey soil.
  - (c) "Large System" means any on-site system with a daily sewage flow greater than two thousand five hundred (2,500) gallons.
  - (d) "Conditions Associated with Saturation" means:
    - (A) Reddish brown or brown soil horizons with gray (chromas of two (2) or less) and red or yellowish red mottles; or
    - (B) Gray soil horizons, or gray soil horizons with red, yellowish red or brown mottles; or
    - (C) Dark colored highly organic soil horizons; or

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- (D) Soil profiles with concentrations of soluble salts at or near the ground surface.

Amend OAR 340-71-220(2) as follows:

(2) Criteria For Standard Subsurface System Approval. In order to be approved for a standard subsurface system each site must meet all the following conditions:

(a) Effective soil depth shall extend thirty (30) inches or more from the ground surface as shown in Table 3. A minimum six (6) inch separation shall be maintained between the layer that limits effective soil depth and the bottom of the absorption facility.

(b) Water table levels shall be predicted using "conditions associated with saturation." If conditions associated with saturation do not occur in soil with rapid or very rapid permeability, predictions of the highest level of the water table shall be based on past recorded observations of the Agent. If such observations have not been made, or are inconclusive, the application shall be denied until observations can be made. Groundwater level determinations shall be made during the period of the year in which high groundwater normally occurs in that area.

(A) A permanent water table shall be four (4) feet or more from the bottom of the absorption facility.

EXCEPTION: In defined geographic areas where the Department has determined through a groundwater study that degradation of groundwater would not be caused nor public health hazards created. In the event this exception is allowed, the rule pertaining to a temporary water table shall apply.

(B) A temporary water table shall be twenty-four (24) inches or more below the ground surface. An absorption facility shall not be installed deeper than the level of the temporary water table.

(C) [~~Curtain Drains.~~] Groundwater Interceptors. (Diagram 13) A [~~curtain drain~~] groundwater interceptor may be used to intercept and/or drain temporary water from a disposal area. however, it may be required to demonstrate that the site can

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be de-watered prior to issuing a Construction-Installation permit. [Curtain drains] Groundwater interceptors may be used only on sites with adequate slope to permit proper drainage. Each outlet shall be protected by a short section of Schedule 40 PVC or ABS plastic pipe and a grill to exclude rodents. Where required, [curtain drains] groundwater interceptors are an integral part of the system, but do not need to meet setback requirements to property lines, streams, lakes, ponds or other surface water bodies.

- (c) Soil with rapid or very rapid permeability shall be thirty six (36) inches or more below the ground surface. A minimum eighteen (18) inch separation shall be maintained between soil with rapid or very rapid permeability and the bottom of disposal trenches.

EXCEPTION: Sites may be approved with no separation between the bottom of disposal trenches and soil as defined in OAR 340-71-[105 (84)] 100 (114) (a) and (b), with rapid or very rapid permeability, and disposal trenches may be placed into soil as defined in OAR 340-71-[105 (84)] 100 (114) (a) and (b), with rapid or very rapid permeability if any of the following conditions occur:

- a- A confining layer occurs between the bottom of disposal trenches and the groundwater table. A minimum six (6) inch separation shall be maintained between the bottom of disposal trenches and the top of the confining layer; or
  - b- A layer of non-gravelly (less than 15% gravel) soil with sandy loam texture or finer at least eighteen (18) inches thick occurs between the bottom of the disposal trenches and the groundwater table; or
  - c- The projected daily sewage flow does not exceed a loading rate of four hundred fifty (450) gallons per acre per day.
- (d) Slopes shall not exceed thirty (30) percent and the slope/depth relationship set forth in Table 3.
- (e) The site has not been filled or the soil has not been modified in a way that would, in the opinion of the Agent, adversely affect functioning of the system.

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- (f) The site shall not be on an unstable land form, where operation of the system may be adversely affected.
- (g) The site of the initial and replacement absorption facility shall not be covered by asphalt or concrete, or subject to vehicular traffic, livestock, or other activity which would adversely affect the soil.
- (h) The site of the initial and replacement absorption facility will not be subjected to excessive saturation due to, but not limited to, artificial drainage of ground surfaces, driveways, roads, and roof drains.
- (i) Setbacks in Table 1 can be met.
  - (A) Stream Setbacks. Setback from streams shall be measured from bank drop-off or mean yearly highwater mark, whichever provides the greatest separation distance.
  - (B) Lots Created Prior to May 1, 1973. For lots or parcels legally created prior to May 1, 1973, the Agent may approve installation of a standard or alternative system with a setback from surface public waters of less than one hundred (100) feet but not less than fifty (50) feet, provided all other provisions of these rules can be met.
  - (C) Water Lines and Sewer Lines Cross. Where water lines and building or effluent sewer lines cross, separation distances shall be as required in the State Plumbing Code.
  - (D) Septic Tank Setbacks. The Agent shall encourage the placement of septic tanks and other treatment units as close as feasible to the minimum separation from the building foundation in order to minimize clogging of the building sewer.

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Amend OAR 340-71-220(3) as follows:

(3) Criteria For System Sizing:

Disposal Fields. Disposal fields shall be designed and sized on the basis of [information contained in]:

- (a) Table 2-Quantities of Sewage Flows; or other information determined by the Agent to be reliable.

EXCEPTIONS: Systems shall be sized on the basis of three hundred (300) gallons sewage flow per day, plus seventy five (75) gallons per day for the third bedroom when:

- a- Systems to serve single family dwellings on lots of record prior to March 1, 1978, which are inadequate in size to accommodate a system sized for a daily sewage flow of four hundred fifty (450) gallons.
- b- Systems for specifically planned developments, with living units of three (3) or fewer bedrooms, where deed restrictions prohibit an increase in the number of bedrooms.

- (b) Table 4, Minimum Length of Disposal Trench Required, Soil Texture Versus Effective Soil Depth.

- (c) Table 5, Minimum Length of Disposal Trench Required, Soil Texture Versus Depth to Temporary Water.

- (d) Strength of the wastewater. The minimum length of disposal trench shall be determined by using the following equation:  
Length = (P) x (Q) x (R).

where: P = Trench length from Tables 4 or 5, whichever is larger.

Q = Design peak daily sewage flow divided by 150.

R = BOD<sub>5</sub> of Wastewater divided by 200 mg/L, or TSS of Wastewater divided by 150 mg/L, whichever has the higher value. In no case, however, may the value of R be less than 1. For a single family dwelling, assume a value of 200 mg/L BOD<sub>5</sub> and 150 mg/L TSS.

Amend OAR 340-71-220(4) as follows:

(4) Septic Tanks:

- (a) For the purpose of these rules, "Septic Tank" means a watertight receptacle which receives sewage from a sanitary

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drainage system, is designed to separate solids from liquids, digest organic matter during a period of detention, and allow the liquids to discharge to a second treatment unit or to a soil absorption facility.

(b) Liquid Capacity. [The minimum liquid capacity of any septic tank installed after July 1, 1981, shall be one thousand (1,000) gallons.]

(A) For projected daily sewage flows up to fifteen hundred (1,500) gallons the septic tank shall have a liquid capacity equal to at least one and one-half (1-1/2) days sewage flow, or one thousand (1,000) gallons, whichever is greater.

(B) For projected daily sewage flows greater than fifteen hundred (1,500) gallons, the septic tank shall have a liquid capacity equal to eleven hundred twenty-five (1,125) gallons plus seventy-five (75) percent of the projected daily sewage flow.

(C) Additional volume may be required by the Agent for industrial or other special wastes.

(D) The quantity of daily sewage flow shall be estimated from Table 2. For structures not listed in Table 2. the Agent shall determine the projected daily sewage flow.

(E) Single Family Dwelling. Septic tanks to serve single family dwellings shall be sized on the number of bedrooms in the dwelling, as follows:

- (i) 1 to 4 bedrooms.....1,000 gallons
- (ii) 5 bedrooms.....1,250 gallons
- (iii) More than 5 bedrooms.....1,500 gallons

(c) Installation Requirements:

(A) Septic tanks shall be installed on a level, stable base that will not settle.

(B) Septic tanks located in high groundwater areas shall be weighted or provided with an antibuoyancy device to prevent flotation.

(C) All septic tanks installed with the manhole access deeper than eighteen (18) inches, or when used within a sand filter system, commercial system. or pressurized system shall be provided with a watertight manhole riser extending to the ground surface or above. The riser shall have a minimum inside dimension equal to or

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greater than that of the tank manhole. A [The] cover shall be provided and securely fastened or weighted to prevent easy removal.

- (D) Septic tanks shall be installed in a location that provides access for servicing and pumping.
  - (E) Where practicable, the sewage flow from any establishment shall be consolidated into one septic tank.
  - (F) At the discretion of the Agent, a removable plug may be placed in the top of the septic tank's inlet sanitary tee if the septic tank discharges directly into a gravity-fed absorption facility.
- (d) Construction. Septic tank construction shall comply with minimum standards set forth in Rules 340-73-025 and 340-73-030, unless otherwise authorized in writing by the Department.

Amend OAR 340-71-220(7) as follows:

(7) Dosing Tanks:

- (a) Construction of dosing tanks shall comply with the minimum standards in Rule 340-73-050 , unless otherwise authorized in writing by the Department on a case-by-case basis.
- (b) Each dosing tank shall be installed on a stable level base.
- (c) Each dosing tank shall be provided with a watertight riser and manhole cover, extending to the ground surface or above [, with a minimum inside horizontal measurement equal to or greater than the tank access manhole]. Provision shall be made for securely fastening the manhole cover.
- (d) At the discretion of the Agent, a removable plug may be placed in the top of the septic tank's inlet sanitary tee, and a trench ten (10) feet long and otherwise constructed the same as a standard disposal trench may be used to provide air and gas exchange from the dosing tank, providing:
  - (A) Ground and surface water will not infiltrate through the gravel-filled trench into the dosing tank; and
  - (B) The invert elevation of the perforated pipe in the ten (10) foot trench is one (1) foot higher than the invert elevation of the septic tank's inlet sanitary tee; and

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(C) The design flow for the system does not exceed six hundred (600) gallons per day.

(e) Dosing tanks located in high groundwater areas shall be weighted or provided with an antibuoyancy device to prevent flotation.

Amend OAR 340-71-275 as follows:

340-71-275 PRESSURIZED DISTRIBUTION SYSTEMS.

- (1) Pressurized distribution systems may be permitted on any site meeting requirements for installation of standard subsurface sewage disposal systems, or other sites where this method of effluent distribution is desired.
- (2) Except as provided in OAR 340-71-220(2)(c), pressurized distribution systems shall be used where depth to soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) is less than thirty-six (36) inches and the minimum separation distance between the bottom of the disposal trench and soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) is less than eighteen (18) inches.
- (3) Pressurized distribution systems installed in soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) in areas with permanent water tables shall not discharge more than four hundred fifty (450) gallons of effluent per one-half (1/2) acre per day except where:
  - (a) A [gray water] split waste system is proposed to serve a single family dwelling on a lot [for lots] of record existing prior to January 1, 1974, which [have] has sufficient area to accommodate a gray water pressurized distribution split waste system; or
  - (b) Groundwater is degraded and designated as a nondevelopable resource by the State Department of Water Resources; or
  - (c) A detailed hydrogeological study discloses loading rates exceeding four hundred fifty (450) gallons per one-half (1/2) acre per day would not increase the nitrate-nitrogen concentration in the groundwater beneath the site, or at any down gradient location, above five (5) milligrams per liter.
- (4) Materials and Construction:
  - (a) General:

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- (A) All materials used in pressurized systems shall be structurally sound, durable, and capable of withstanding normal stresses incidental to installation and operation.
  - (B) Nothing in these rules shall be construed to set aside applicable building, electrical, or other codes. An electrical permit and inspection from the Department of Commerce or the municipality with jurisdiction (as defined in ORS 456.750(5)) is required for pump wiring installation.
- (b) Pressurized Distribution Piping. Piping, valves and fittings for pressurized systems shall meet the following minimum requirements:
- (A) All pressure transport, manifold, lateral piping, and fittings shall meet or exceed the requirements for Class 160 PVC 1120 pressure pipe as identified in ASTM Specification D2241.
  - (B) Pressure transport piping shall be uniformly supported along the trench bottom, and at the discretion of the Agent, it shall be bedded in sand or other material approved by the Agent. A fourteen (14) gauge tracer wire shall be placed above piping when crossing property lines or entering public property or right of way.
  - (C) Orifices shall be located on top of the pipe, except in areas of extended frozen soil conditions in which case the Agent may specify orifice orientation.
  - (D) The ends of lateral piping shall be provided with threaded plugs or caps.
  - (E) All joints in the manifold, lateral piping, and fittings shall be solvent welded, using the appropriate joint compound for the pipe material. Pressure transport piping may be solvent welded or rubber ring jointed.
  - (F) A gate valve shall be placed on the pressure transport pipe, in or near the dosing tank, when appropriate.
  - (G) A check valve shall be placed between the pump and the gate valve, when appropriate.
- (c) [Trench Construction:] Disposal Trench Sizing and Construction:

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- (A) [Minimum trench length required shall be not less than that specified in Tables 4 and 5.] A system using disposal trenches shall be designed and sized in accordance with the requirements of OAR 340-71-220(3).
- (B) Disposal trenches shall be constructed using the specifications for the standard disposal trench unless otherwise allowed by the Department on a case-by-case basis.
- (C) Pressure lateral piping shall have not less than six (6) inches of filter material below, nor less than four (4) inches of filter material above the piping.
- (D) The sides of the trench and top of the filter material shall be lined or covered with filter fabric, or other nondegradable material permeable to fluids that will not allow passage of soil particles coarser than very fine sand. In soils finer textured than loamy sand, lining the sidewall may not be required.
- (d) Seepage Bed Construction:
- (A) Seepage beds may only be used in soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) as an alternative to the use of disposal trenches.
- (B) The effective seepage area shall be based on the bottom area of the seepage bed. The minimum area shall be [not less than two hundred (200) square feet per one hundred fifty (150) gallons projected daily sewage flow.] determined as follows:

$$\underline{\text{Seepage Bed Area} = R \times F \times S}$$

Where:

R = BOD<sub>5</sub> of Wastewater divided by 200 mg/L, or TSS of Wastewater divided by 150 mg/L, whichever has the higher value. In no case, however, may the value of R be less than 1.

F = Design Peak Daily Sewage Flow.

S = Size factor. Seepage beds proposed for installation in beach and dune sands at the coast shall use a factor of 1.33 square feet. For all other seepage beds the factor is 1.00 square feet.

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- (C) Beds shall be installed not less than eighteen (18) inches (twelve (12) inches with a capping fill) nor deeper than thirty six (36) inches into the natural soil. The seepage bed bottom shall be level.
  - (D) The top of the filter material shall be lined or covered with filter fabric, or other nondegradable material that is permeable to fluids but will not allow passage of soil particles coarser than very fine sand.
  - (E) Pressurized distribution piping shall have not less than six (6) inches of filter material below, nor less than four (4) inches of filter material above the piping.
  - (F) Pressurized distribution piping shall be horizontally spaced not more than four (4) feet apart, and not more than two (2) feet away from the seepage bed sidewall. At least two (2) parallel pressurized distribution pipes shall be placed in the seepage bed.
  - (G) A minimum of ten (10) feet of undisturbed earth shall be maintained between seepage beds.
- (e) Notwithstanding other requirements of this rule, when the projected daily sewage flow is greater than two thousand five hundred (2500) gallons the Department may approve other design criteria and standards it deems appropriate.
- (5) Hydraulic Design Criteria. Pressurized distribution systems shall be designed for appropriate head and capacity:
- (a) Head calculations shall include maximum static lift, pipe friction and orifice head requirements:
    - (A) Static lift where pumps are used shall be measured from the minimum dosing tank level to the level of the perforated distribution piping.
    - (B) Pipe friction shall be based upon a Hazen Williams coefficient of smoothness of 150. All pressure lateral piping and fittings shall have a minimum diameter of two (2) inches unless submitted plans and specifications show a smaller diameter pipe is adequate. The head loss across a lateral with multiple evenly spaced orifices may be considered equal to one-third (1/3) of the head loss that would result if the entrance flow were to pass through the length of the lateral.
    - (C) There shall be a minimum head of five (5) feet at the remotest orifice and no more than a fifteen (15) percent

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head variation between nearest and remotest orifice in an individual unit.

- (b) The capacity of a pressurized distribution system refers to the rate of flow given in gallons per minute (gpm):
  - (A) Lateral piping shall have discharge orifices drilled a minimum diameter of one-eighth (1/8) inch, and evenly spaced at a distance not greater than twenty four (24) inches in coarse textured soils or greater than four (4) feet in finer textured soils.
  - (B) The system shall be dosed at a rate not to exceed twenty (20) percent of the projected daily sewage flow.
  - (C) The affect of back drainage of the total volume of effluent within the pressure distribution system shall be evaluated for its impact upon the dosing tank and system operation.

Amend OAR 340-71-280(3) as follows:

(3) Design Criteria:

- (a) The seepage trench may have a maximum depth of forty-two (42) inches;
- (b) The seepage trench system shall be sized according to the following formula:

Length of seepage trench = (4) x (length of standard [system] disposal trench) divided by (3+ 2D), where D = depth of filter material below distribution pipe in feet. Maximum depth of filter material (D) shall be two (2) feet.

- (c) The projected daily sewage flow shall be limited to a maximum of four hundred fifty (450) gallons.

Amend OAR 340-71-290 as follows:

340-71-290 CONVENTIONAL SAND FILTER SYSTEMS.

(1) For the purpose of these rules:

- (a) "Conventional sand filter" means a filter with two (2) feet or more of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure

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distribution system at an application rate not to exceed one and twenty-three hundredths (1.23) gallons per square foot sand surface area per day, applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow.

- (b) "Medium sand" means a mixture of sand with 100 percent passing the 3/8 inch sieve, 90 percent to 100 percent passing the No. 4 sieve, 62 percent to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 percent to 55 percent passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, [and] 4 percent or less passing the No. 100 sieve.
  - (c) "Sand filter system" means the combination of septic tank or other treatment unit, a dosing system with effluent pump[(s)] and controls, or dosing siphon, piping and fittings, sand filter, and absorption facility [or effluent reuse method] used to treat and dispose of sewage.
- (2) Inspection Requirements. Each sand filter system installed under this rule, and those filters installed under OAR 340-71-038, may be inspected annually. The [Department] Agent may waive the annual evaluation fee during years when sand filter field evaluation work is not performed.
- (3) Sites Approved for Sand Filter Systems. Sand filters may be permitted on any site meeting requirements for standard subsurface sewage disposal systems contained under OAR 340-71-220. or where standard or pressurized disposal trenches would be used, and all the following minimum site conditions can be met:
- (a) The highest level attained by temporary water would be:
    - (A) Twelve (12) inches or more below ground surface where gravity equal distribution trenches are used. Pressurized distribution trenches may be used to achieve equal distribution on slopes up to twelve (12) percent; or
    - (B) Twelve (12) inches or more below ground surface on sites requiring serial distribution where disposal trenches are covered by a capping fill. provided: trenches are excavated twelve (12) inches into the original soil profile, slopes are twelve (12) percent or less, and the capping fill is constructed according to provisions under OAR 340-71-265(3) and 340-71-265(4)(a) through (c); or

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- (C) Eighteen (18) inches or more below ground surface on sites requiring serial distribution where standard serial distribution trenches are used.
- (b) The highest level attained by a permanent water table would be equal to or more than distances specified as follows:

Soil Groups .	*Minimum Separation Distance from Bottom Effective Seepage Area
(A) Gravel, sand, loamy sand, sandy loam	24 inches
(B) Loam, silt loam, sandy clay loam, clay loam	18 inches
(C) Silty clay loam, silty clay, clay, sandy clay	12 inches

\*NOTE: Shallow disposal trenches (placed not less than twelve (12) inches into the original soil profile) may be used with a capping fill to achieve separation distances from permanent groundwater. The fill shall be placed in accordance to the provisions of OAR 340-71-265(3) and 340-71-265(4)(a) through (c).

- (c) Permanent water table levels shall be determined in accordance with methods contained in subsection 340-71-220(1)(d). Sand filters installed in soils as defined in OAR 340-71-[105 (84)] 100(114), in areas with permanent water tables shall not discharge more than four hundred fifty (450) gallons of effluent per one-half (1/2) acre per day except where:
- (A) A [gray water] split waste system is proposed to serve a single family dwelling on a lot [for lots] of record existing prior to January 1, 1974, which [have] has sufficient area to accommodate a gray water sand filter split waste system, or
- (B) Groundwater is degraded and designated as a non-developable resource by the State Department of Water Resources, or
- (C) A detailed hydrogeological study discloses loading rates exceeding four hundred fifty (450) gallons per one-half (1/2) acre per day would not increase nitrate-nitrogen concentration in the groundwater beneath the site, or any down gradient location, above five (5) milligrams per liter.

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (d) Soils, fractured bedrock or saprolite diggable with a backhoe occur such that a standard twenty-four (24) inch deep trench can be installed.
- (e) Where slope is thirty (30) percent or less.
- (f) Setbacks in Table 1 can be met, except the minimum separation distance between the sewage disposal area and surface public waters shall be no less than fifty (50) feet.

(4) The minimum length of standard disposal trench per one hundred fifty (150) gallons projected daily sewage flow required for a sand filter absorption facility [facilities] is indicated in the following table:

[Minimum Length (Linear Feet)  
Disposal Trench Per One Hundred  
Fifty (150) Gallons Projected  
Daily Sewage Flow]

Soil Groups	<u>Linear Feet</u>
(a) Gravel, sand, loamy sand, sandy loam .....	35
(b) Loam, silt loam, sandy clay loam, clay loam .....	45
(c) Silty clay loam, silty clay, sandy clay, clay .....	50
(d) Saprolite or fractured bedrock .....	50
(e) High shrink-swell clays (Vertisols) .....	75 [*]

NOTE: -a- Disposal trenches in Vertisols shall contain twenty-four (24) inches of filter material and twenty-four (24) inches of soil backfill.

-b- On lots created prior to January 1, 1974, that have insufficient suitable area within which to install an absorption facility sized in accordance with this table, may at the Agent's discretion utilize seepage trenches, providing: the design criteria and limitations contained in OAR 340-71-280(3) are met; the soil is not a high shrink-swell clay; and all other provisions of this rule are met except that a temporary water table shall be thirty (30) inches or more below the ground surface.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (5) Sites with saprolite, fractured bedrock, gravel or soil textures of sand, loamy sand, or sandy loam in a continuous section at least two (2) feet thick in contact with and below the bottom of the sand filter. that meet all other requirements of section 340-71-290(3); may utilize either a conventional sand filter without a bottom or a sand filter in a trench that discharges biologically treated effluent directly into those materials. The application rate shall be based on the design sewage flow in OAR 340-71-295(1) and the basal area of the sand in either type of sand filter. A minimum twenty-four (24) inch separation shall be maintained between a water table and the bottom of the sand filter.
- (6) Materials and Construction:
- (a) All materials used in sand filter system construction shall be structurally sound, durable and capable of withstanding normal installation and operation stresses. Component parts subject to malfunction or excessive wear shall be readily accessible for repair and replacement.
  - (b) All filter containers shall be placed over a stable level base.
  - (c) In areas of temporary groundwater at least twelve (12) inches of unsaturated soil shall be maintained between the bottom of the sand filter and top of the disposal trench.
  - (d) Piping and fittings for the sand filter distribution system shall be as required under pressure distribution systems, OAR 340-71-275.
  - (e) The specific requirements for septic tanks, dosing tanks, etc. are found in OAR 340-71-220.
  - (f) The requirements in OAR 340-71-295 shall be met.

Amend OAR 340-71-295 as follows:

340-71-295 CONVENTIONAL SAND FILTER DESIGN AND CONSTRUCTION.  
(Diagrams 8 and 9)

(1) Sewage Flows:

- (a) Design sewage flows for a system proposed to serve a commercial facility shall be limited to six hundred (600) gallons or less , with a wastewater strength not to exceed a BOD<sub>5</sub> of two-hundred (200) mg/L and a TSS of one hundred fifty (150) mg/L per day unless otherwise authorized in writing by the Department.

Note: Underlined      material is new.  
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(b) Design sewage flows for a system proposed to serve a single family dwelling shall [not be less than four hundred fifty (450) gallons per day, except as provided in subsection (c) of this rule.] be in accordance with the provisions of OAR 340-71-220(3)(a).

[(c) Design sewage flows for a system proposed to receive gray water only from a single family dwelling shall not be less than three hundred (300) gallons per day.]

(2) Minimum Filter Area. [Sand filters shall be sized based on an application rate of no more than one and twenty-three hundredths (1.23) gallons septic tank effluent per square foot medium sand surface per day.]

(a) A sand filter proposed to serve a single family dwelling shall have an effective medium sand surface area of not less than three-hundred sixty-six (366) square feet. If the design sewage flow exceeds four-hundred fifty (450) gallons per day, the medium sand surface area shall be determined with the following equation:

$$\text{Area} = \text{(projected daily sewage flow) divided by (1.23)}$$

(b) A sand filter proposed to serve a commercial facility shall be sized on the basis of projected peak daily sewage flow and the strength of the wastewater, using the following equation:

$$\text{Area} = \text{(projected peak daily sewage flow) x (R) divided by (1.23)}$$

where R = BOD<sub>5</sub> of Wastewater divided by 200 mg/L, or TSS of Wastewater divided by 150 mg/L, whichever has the higher value. In no case, however, may the value of R be less than one (1).

(3) Sand filter container, piping, medium sand, gravel, gravel cover, and soil crown material for a sand filter system discharging to disposal trenches shall meet minimum specifications indicated in Diagrams 8 and 9 unless otherwise authorized in writing by the Department.

(4) Container Design and Construction:

(a) A reinforced concrete container consisting of floor and walls as shown in Diagrams 8 and 9 is required where water tightness is necessary to prevent groundwater from infiltrating into the filter.

(b) Container may be constructed of materials other than concrete where equivalent function, workmanship,

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

watertightness and at least a twenty (20) year service life can be documented:

- (A) Flexible membrane liner (FML) materials must have properties which are at least equivalent to thirty (30) mil unreinforced polyvinyl chloride (PVC) described in OAR 340-73-085. To be approved for filter installation, FML materials must:
  - (i) Have field repair instructions and materials which are provided to the purchaser with the liner; and
  - (ii) Have factory fabricated "boots" suitable for field bonding onto the liner to facilitate the passage of piping through the liner in a waterproof manner.
- (B) Where accepted for use, flexible sheet membrane liners shall be placed against relatively smooth, regular surfaces. Surfaces shall be free of sharp edges, corners, roots, nails, wire, splinters and other projections which might puncture, tear, or cut the liner. Where a smooth, uniform surface cannot be assured in the field, filter system plans must include specifications for liner protection. A four (4) inch bed of clean sand or a non-degradable filter fabric acceptable to the Agent, shall be used to provide liner protection.

Amend OAR 340-71-300(2) as follows:

- (2) Pre-Application Submittal. Prior to applying for a construction permit for a variation to the conventional sand filter the Department must approve the design. To receive approval the applicant shall submit the following required information to the Department:
  - (a) Effluent quality data. Filter effluent quality samples shall be collected and analyzed by a testing agency acceptable to the Department using procedures identified in the latest edition of "Standard Methods for the Examination of Wastewater," published by the American Public Health Association, Inc. The duration of filter effluent testing shall be sufficient to ensure results are reliable and applicable to anticipated field operating conditions. The length of the evaluation period and number of data points shall be specified in the test report. The following parameters shall be addressed:

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (A) BOD<sub>5</sub>;
  - (B) [Suspended solids;] TSS;
  - (C) Fecal coliform[.] ;
  - (D) Nitrogen (Ammonia, Nitrate and Total Kjeldahl Nitrogen)
- (b) A description of unique technical features and process advantages.
  - (c) Design criteria, loading rates, etc.
  - (d) Filter media characteristics.
  - (e) A description of operation and maintenance details and requirements.
  - (f) Any additional information specifically requested by the Department.

Amend OAR 340-71-360(1) as follows:

- (1) General Conditions for Approval. An on-site system construction-installation permit may be issued for a system to serve a single family dwelling on a site with soil shallow to saprolite provided requirements in either subsection (a) or subsection (b) of this section can be met.
  - (a) Slope does not exceed thirty (30) percent:
    - (A) The saprolite is sufficiently weathered so that it can be textured, crushed, or broken with hand pressure to a depth of twenty-four (24) inches and can be dug from a test pit wall with a spade or other hand tool to a depth of forty-eight (48) inches; and
    - (B) Clay films or iron coatings with moist values of five (5) or less and moist chromas of four (4) or more and/or organic coatings with moist values of three (3) or less and moist chromas of two (2) or more occur on fracture surfaces of the saprolite to a depth of forty-eight (48) inches.
  - (b) Slope is in excess of thirty (30) percent but does not exceed forty-five (45) percent:
    - (A) The saprolite is sufficiently weathered so that it can be textured, crushed, or broken with hand pressure to a depth of twenty-four (24) inches and can be dug from a test pit

Note: Underlined      material is new.  
 Bracketed [ ] material is deleted.

wall with a spade or other hand tool to a depth of sixty (60) inches; and

- (B) Clay films or iron coatings with moist values of five (5) or less and moist chromas of four (4) or more and/or organic coatings with moist values of three (3) or less and moist chromas of two (2) or more occur on fracture surfaces of the saprolite to a depth of sixty (60) inches.

Amend OAR 340-71-400(5) as follows:

(5) Clatsop Plains Aquifer, Clatsop County:

The Clatsop Plains Groundwater Protection Plan, prepared by R.W. Beck and Associates and adopted by Clatsop County, provides a basis for continued use of on-site sewage disposal systems while protecting the quality of groundwater for future water supplies. For the plan to be successful, the following components must be accomplished:

- (a) By not later than January 1, 1983, Clatsop County shall identify and set aside aquifer reserve areas for future water supply development containing a minimum of two and one half (2-1/2) square miles. The reserve areas shall be controlled so that the potential for groundwater contamination from nitrogen and other possible pollutants is kept to a minimum.
- (b) The Agent may issue construction installation permits for new on-site sewage disposal systems or favorable reports of site evaluation to construct on-site systems, within the area generally known as the Clatsop Plains, which is bounded by the Columbia River to the North; the Pacific Ocean to the west; the Necanicum River, Neawanna Creek, and County Road 157 on the south; and the Carnahan Ditch-Skipanon River and the foothills of the Coast Range to the east, providing:
- (A) The lot or parcel was created in compliance with the appropriate comprehensive plan for Gearhart (adopted by County Ordinance 80-3), Seaside (adopted by County Ordinance 80-10), Warrenton (adopted by County Ordinance 82-15), or the Clatsop County plan adopted through Ordinance No. 79-10; and either
- (B) The lot or parcel does not violate any rule of this Division; or

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (C) Lot or parcel does not violate the Department's Water Quality Management Plan or any rule of this Division, except the projected maximum sewage loading rate would exceed the ratio of four hundred fifty (450) gallons per one-half (1/2) acre per day. The on-site system shall be either a sand filter system or a pressurized distribution system with a design sewage flow not to exceed four hundred fifty (450) gallons per day; or
- (D) The Department may approve the use of standard on-site systems to serve single family dwellings within planned developments or clustered-lot subdivisions providing:
- (i) The planned development or clustered-lot subdivision is not located within Gearhart, Seaside, Warrenton, or their urban growth boundaries; and
  - (ii) The lots do not violate any rule of this Division, except the projected maximum sewage loading rate may exceed the ratio of four hundred fifty (450) gallons per acre per day; and
  - (iii) The Department is provided satisfactory evidence through a detailed groundwater study that the use of standard systems will not constitute a greater threat to groundwater quality than would occur with the use of sand filter systems or pressurized distribution systems.

Amend OAR 340-71-400 by adding a new section (6) as follows:

(6) Within areas east of the Cascade Range where the annual precipitation does not exceed twenty (20) inches, and after evaluating the site, the Agent may issue a construction-installation permit authorizing installation of a standard system to serve a single family dwelling, provided the requirements in subsections (6)(a) and (6)(b) of this rule are met.

(a) Minimum Site Criteria:

(A) The property is twenty (20) acres or larger in size, with planning restrictions that prohibit division of the property into parcels containing less than twenty (20) acres:

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (B) The property is not within an Urban Growth Boundary;
- (C) The slope gradient does not exceed thirty (30) percent;
- (D) The soils are diggable with a backhoe to a depth of at least twenty-four (24) inches;
- (E) The site is found to comply with the provisions of OAR 340-71-220(2)(b,e,f,g,h, and i).
- (b) Minimum Construction Requirements:
- (A) The system shall contain not less than two hundred twenty-five (225) linear feet of disposal trench for projected sewage flows not exceeding four hundred fifty (450) gallons per day. Larger sewage flows shall be sized on the basis of seventy-five (75) linear feet per each one hundred fifty (150) gallons of projected flow.
- (B) The system shall be constructed and backfilled in compliance with OAR 340-71-220: sections (4), (5), (6), (8), (9), (10), (11), and (12).
- (c) At the discretion and request of the owner or the owner's authorized representative, a single application may be submitted to the Agent for both a site evaluation report and a construction-installation permit. The application would include the sum of the fees for both activities, pursuant to OAR 340-71-140(1)(a)(A) and OAR 340-71-140(1)(b)(A)(iii), as well as the following:
- (A) Favorable land use compatibility statement from the appropriate land use authority signifying that the proposed land use is compatible with the Land Conservation and Development Commission acknowledged comprehensive plan or complies with the statewide planning goals.
- (B) Property development plan acceptable to the Agent showing the location of existing and proposed improvements, including the locations of the dwelling and sewage disposal system.
- (C) All other exhibits the Agent finds are necessary to complete the application.
- (d) The Agent may waive the pre-cover inspection for a system installed pursuant to this section, provided the system installer certifies in writing that the system was installed in accordance with the permit plans and conditions.

Note: Underlined \_\_\_ material is new.  
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Amend OAR 340-71-600(1) as follows:

340-71-600 SEWAGE DISPOSAL SERVICE.

(1) For the purpose of these rules "Sewage Disposal Service" means:

- (a) The installation of on-site sewage disposal systems (including the placement of portable toilets), or any part thereof; or
- (b) The pumping out or cleaning of on-site sewage disposal systems (including portable toilets), or any part thereof; or
- (c) The disposal of material derived from the pumping out or cleaning of on-site sewage disposal systems (including portable toilets); or
- (d) Grading, excavating, and earth-moving work connected with the operations described in subsection (1) (a) of this rule, except streets, highways, dams, airports or other heavy construction projects and except earth-moving work performed under the supervision of a builder or contractor in connection with and at the time of the construction of a building or structure; or
- (e) The construction of drain and sewage lines from five (5) feet outside a building or structure to the service lateral at the curb or in the street or alley or other disposal terminal holding human or domestic sewage[; or].

Amend OAR 340-71-600(6) as follows:

(6) Each licensee shall:

- (a) Be responsible for any violation of any statute, rule, or order of the Commission or Department pertaining to his licensed business.
- (b) Be responsible for any act or omission of any servant, agent, employee, or representative of such licensee in violation of any statute, rule, or order pertaining to his license privileges.
- (c) Deliver to each person for whom he performs services requiring such license, prior to completion of services, a written notice which contains:
  - (A) A list of rights of the recipient of such services which are contained in ORS 454.705(2); and

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (B) Name and address of the surety company which has executed the bond required by ORS 454.705(1); or
- (C) A statement that the licensee has deposited cash or negotiable securities for the benefit of the Department in compensating any person injured by failure of the licensee to comply with ORS 454.605 to 454.745 and with [OAR Chapter 340, Divisions 71 and 73.] rules of the Environmental Quality Commission
- (d) Keep the Department informed on company changes that affect the license, such as business name change, change from individual to partnership, change from partnership to corporation, change in ownership, etc.

Amend OAR 340-71-600(8) as follows:

- (8) [Personnel] Pumping and Cleaning Responsibilities:
  - (a) Persons performing the service of pumping or cleaning of sewage disposal facilities shall avoid spilling of sewage while pumping or while in transport for disposal.
  - (b) Any spillage of sewage shall be immediately cleaned up by the operator and the spill area shall be disinfected.
  - (c) Persons performing the service of cleaning on-site sewage disposal systems or parts thereof, including but not limited to septic tanks, cesspools or seepage pits, shall not use any material or substance that is subject to the general prohibition identified in OAR 340-71-130-(16).

Amend OAR 340-71-600(9) as follows:

- (9) License Suspension or Revocation:
  - (a) The Department may suspend, revoke, or refuse to grant, or refuse to renew, any sewage disposal service license if it finds:
    - (A) A material misrepresentation or false statement in connection with a license application; or
    - (B) Failure to comply with any provisions of ORS 454.605 through 454.785, the rules of [this Division], the Environmental Quality Commission or an order of the Commission or Department; or

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.



- (C) Failure to maintain in effect at all times the required bond or other approved equivalent security, in the full amount specified in ORS 454.705; or
  - (D) Nonpayment by drawee of any instrument tendered by applicant as payment of license fee.
- (b) Whenever a license is suspended, revoked or expires, the licensee shall remove the license from display and remove all Department identifying labels from equipment. The licensee shall surrender the suspended or revoked license, and certify in writing to the Department within fourteen (14) days after suspension or revocation that all Department identification labels have been removed from all equipment.
- (c) A sewage disposal service may not be considered for re-licensure for a period of at least one (1) year after revocation of its license.
- (d) A suspended license may be reinstated, providing:
- (A) A complete application for reinstatement of license is submitted to the Department, accompanied by the appropriate fee as set forth in Subsection 340-71-140(1)(i); and
  - (B) The grounds for suspension have been corrected; and
  - (C) The original license would not have otherwise expired.

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Amend OAR 340, Division 71, by replacing the existing Table 1 with the revised Table 1.

TABLE 1

Minimum Separation Distances

Items Requiring Setback	From Sewage Disposal Area Including Replacement Area	From Septic Tank and Other Treatment Units, Effluent Sewer and Distribution Units
1. Groundwater Supplies	100'	50'
2. Temporarily Abandoned Wells	100'	50'
3. Springs: -- upgradient	50'	50'
-- downgradient	100'	50'
*4. Surface Public Waters: -- <u>year round</u>	100'	50'
-- <u>seasonal</u>	<u>50'</u>	<u>50'</u>
5. Intermittent Streams:		
-- Piped (watertight not less than 25' from any part of the on-site system)	20'	20'
-- Unpiped	50'	50'
6. Groundwater Interceptors:		
On a slope of 3% or less	20'	20'
On a slope greater than 3%		
-- Upgradient	10'	10'
-- Downgradient	50'	25'
7. Irrigation Canals:		
Lined (watertight canal)	25'	25'
Unlined		
-- Upgradient	25'	25'
-- Downgradient	50'	50'
8. Cuts Manmade in Excess of 30 Inches (Top of Downslope Cut):		
-- Which Intersect Layers that Limit Effective Soil Depth Within 48 Inches of Surface	50'	25'
-- Which Do Not Intersect Layers That Limit Effective Soil Depth	25'	10'
9. Escarpments:		
-- Which Intersect Layers that Limit Effective Soil Depth	50'	10'
-- Which Do Not Intersect Layers That Limit Effective Soil Depth	25'	10'
10. Property Lines	10'	10'
11. Water Lines	10'	10'
12. Foundation Lines of any Building, Including Garages and Out Buildings	10'	5'

\* This does not prevent stream crossings of pressure effluent sewers.

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Note: Underlined      material is new.  
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Amend OAR 340-72-050 by deleting the entire rule.

Amend OAR 340-72-060 by deleting the entire rule.

Amend OAR 340-73-025(8) as follows:

- (8) Septic tanks shall be constructed of concrete, not less than twelve (12) gauge or thicker steel, or other materials approved by the Department:
- (a) Steel tanks shall be coated inside and out with asphalt or other protective coatings, meeting the most current American National Standards Institute UL 70 standard [U.S. Department of Commerce Commercial Standard CS 177], Sections [5.3.1 through 5.3.4.4] 25 through 43, or other coatings of equal or better performance approved by the Department.
  - (b) Precast concrete tanks shall have a minimum wall, compartment, and bottom thickness of two and one-half (2 1/2) inches, and shall be adequately reinforced. The top shall be at least four (4) inches thick.
  - (c) Where concrete block tanks are permitted by the Agent, the tanks shall be constructed of heavyweight concrete block, eight (8) inch minimum thickness, laid on a six (6) inch (minimum) poured foundation slab. The mortared joints shall be well filled. All block holes or cells shall be filled with mortar or concrete. "k" webbing shall be installed at every third row of block. Number three (3) re-bar shall be installed vertically in every block. Tank interiors shall be surfaced with at least two (2) one-quarter (1/4) inch thick coats of corrosion resistant water-proof sealant. The first row of blocks shall be keyed or doweled to the concrete foundation.
  - (d) Cast-in-place concrete tanks shall be constructed using the minimum sidewall thickness, bottom thickness, top thickness, and reinforcing shown in Diagram 1. All other requirements contained herein shall also be met. A structural permit is required from the Department of Commerce or the municipality with jurisdiction as defined in ORS 456.750(5). (See Diagram 1.)
  - (e) For cast-in-place septic tanks with dimensions different from those shown in Diagram 1, or when the septic tank is

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Bracketed [ ] material is deleted.

to be located under a road or driveway, two (2) copies of detailed plans and specifications, prepared by a registered professional engineer licensed to practice in Oregon shall be provided to the Agent for review and approval.

Amend OAR 340-73-050 as follows:

340-73-050 DOSING TANK CONSTRUCTION.

- (1) Dosing tanks used in on-site sewage disposal systems in Oregon shall be watertight. They may be constructed of concrete, fiberglass, or other noncorrosive materials approved by the Department:
  - (a) Fiberglass dosing tanks shall be a minimum three sixteenths (3/16) inch thick and constructed with a glass fiber content of 40 percent and a resin content of 60 percent, with no exposed non-resin-covered glass fibers.
  - (b) Precast concrete dosing tanks shall have a minimum wall and bottom thickness of two and one-half (2 1/2) inches. The top shall be not less than four (4) inches thick. There shall be no seams in the walls or bottom.
  - (c) Cast-in-place concrete dosing tanks shall have a minimum wall, top, and bottom thickness of six (6) inches when the liquid capacity is twelve hundred (1200) gallons or less. A structural permit from the Department of Commerce or the municipality with jurisdiction (as defined in ORS 456.750(5)) is required when cast-in-place concrete dosing tanks are used. Cast-in-place concrete dosing tanks with a liquid capacity greater than twelve hundred (1200) gallons shall require submittal of detailed plans and specifications, prepared by a registered professional engineer licensed to practice in Oregon.
- (2) Each dosing tank shall be constructed and reinforced to withstand the loads imposed upon the top, walls and bottom.
- (3) Each dosing tank employing one (1) or more pumps shall have a minimum liquid capacity equal to the projected daily sewage flow for flows up to twelve hundred (1200) gallons per day. The Department may use its discretion in sizing dosing tanks when the projected daily sewage flow is greater than twelve hundred (1200) gallons per day. The liquid capacity shall be as measured from the invert elevation of the inlet fitting.
- (4) The inlet fitting shall be of hubbed cast iron soil pipe or other materials approved by the Department, with a minimum diameter of four (4) inches. The dosing tank manufacturer shall supply a rubber or neoprene rubber compression gasket meeting the minimum requirements of ASTM specification C-564 with each fitting, or an appropriate coupler

Note: Underlined      material is new.

Bracketed [ ] material is deleted.

which the Department determines will provide for a watertight connection.

- (5) Each dosing tank proposed to serve a commercial facility with a maximum projected daily sewage flow of twenty-five (2500) gallons, or proposed to serve a single family dwelling, shall be provided with an access manhole and a manhole cover, both having [with] a minimum horizontal measurement of eighteen (18) inches [where entry is necessary for operation and maintenance].
- (6) Each dosing tank proposed to serve a commercial facility with a projected daily sewage flow greater than twenty-five (2500) gallons or when containing more than one (1) pump or siphon shall be provided with a manhole access that conforms to the following minimum horizontal dimensions:
- (a) Opening at tank soffit---thirty (30) inches;
  - (b) Inside of manway---forty-two (42) inches;
  - (c) Manhole cover opening---twenty-three (23) inches.

- [(6)] (7) Each prefabricated dosing tank shall be marked on the uppermost surface with the liquid capacity and the manufacturer's full business name[, ] or number assigned by the Department.
- [(7)] (8) Each commercial manufacturer of prefabricated dosing tanks shall provide two (2) complete sets of plans and specifications, prepared by a registered professional engineer, licensed to practice in Oregon, to the Department for review and approval. Each manufacturer must also provide written certification to the Department that such tanks distributed for use in on-site sewage disposal systems in Oregon will comply with all requirements of this Rule.
- [(8)] (9) Dosing tanks with siphons shall be designed and sized for each specific project and shall allow sufficient clearance above the siphon dome to allow removal of the dome.

Amend OAR 340-73-055 as follows:

340-73-055 EFFLUENT PUMPS, CONTROLS & ALARMS, AND DOSING SIPHONS..

- (1) Pumps, Controls, and Alarms: Electrical components used in on-site sewage disposal systems shall comply with State of Oregon Electrical Code, and the following provisions:
- (a) Motors shall be continuous-duty, with overload protection.
  - (b) Pumps shall have durable impellers of bronze, cast iron, or other materials approved by the Department.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (c) Submersible pumps shall be provided with an easy, readily accessible means of electrical and plumbing disconnect, and a noncorrosive lifting device as a means of removal for servicing.
  - (d) Except where specifically authorized in writing by the Director, the pump shall be placed within a corrosion-resistant screen that extends above the maximum effluent level within the pump chamber. The screen shall have at least twelve (12) square feet of surface area, with one-eighth (1/8) inch openings. The use of a screen is not required if the pump does not discharge into a pressurized distribution system, and the pump has a nonclog impeller capable of passing a 3/4 inch diameter solid sphere.
  - (e) Pumps shall be automatically controlled by sealed mercury float switches with a minimum mercury tube rating of twelve (12) amps at one hundred fifteen (115) volts A.C. or by a Department approved equivalently reliable switching mechanism. The switches shall be installed so that approximately twenty (20) percent of the projected daily sewage flow is discharged each cycle.
  - (f) An audible and visual high water level alarm with manual silence switch shall be located in or near the building served by the pump. The audible alarm only may be user cancelable. The switching mechanism controlling the high water level alarm shall be located so that at time of activation the dosing tank has at least one-third (1/3) of its capacity remaining for effluent storage.
  - (g) When a system has more than one (1) pump, the Department may require they be wired into the electrical control panel to function alternately after each pumping cycle. If either pump should fail the other pump will continue to function, while an audible (user cancelable) and visual alarm (not user cancelable) indicating pump malfunction will activate. A cycle counter shall be installed in the electrical control panel for each pump.
- (2) Dosing Siphons. Dosing siphons used in on-site sewage disposal systems shall comply with all of the following minimum requirements:
- (a) Shall be constructed of corrosion-resistant materials.
  - (b) Shall be installed in accordance with the manufacturer's recommendations.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

Amend OAR 340-73-060(2)(a) as follows:

(2) Distribution and Header Pipe and Fittings:

(a) Plastic Pipe and Fittings:

- (A) Styrene-rubber plastic distribution and header pipe and fittings shall meet the most current ASTM (American Society for Testing and Materials) Specification D 2852 and Sections 5.5 and 7.8 of Commercial Standard 228, published by the U.S. Department of Commerce. Pipe and fittings shall also pass a deflection test withstanding three hundred-fifty (350) pounds/foot without cracking by using the method found in ASTM 2412. In addition to the markings required by ASTM 2852, each manufacturer of styrene-rubber plastic pipe shall certify, in writing to the Department, that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section.
- (B) Polyethylene distribution pipe in ten (10) foot lengths and header pipe in lengths of ten (10) feet or greater of which pipe and fitting shall meet the current ASTM Specification F405. Pipe and fittings shall also pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Pipe used in absorption facilities shall be heavy duty. In addition to the markings required by ASTM F405, each manufacturer of polyethylene pipe shall certify, in writing to the Department that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section.
- (C) Polyvinyl chloride (PVC) distribution and header pipe and fittings shall meet the most current ASTM Specification D-2729. Pipe and fittings shall pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Markings shall meet requirements established in ASTM Specification D-2729, subsections 9.1.1., 9.1.2 and 9.1.4. Each manufacturer of polyvinyl chloride pipe shall certify, in writing to the Department, that pipe and fittings to be distributed for use in absorption facilities within the State of Oregon

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

will comply with all requirements of this section.

- (D) [High density polyethylene] Polyethylene smooth wall distribution and header pipe (ten (10) foot lengths) and fittings shall meet the [specifications designated as Appendix 1.] most current ASTM specification F 810. Pipe and fittings shall also pass a deflection test of three hundred fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Markings shall meet the requirements established in ASTM specification F 810, Section 9. Each manufacturer of [high density] polyethylene smooth wall pipe shall certify, in writing to the Department that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this Rule.
- (E) The four types of plastic pipe described above shall have two (2) rows of holes spaced one hundred-twenty (120) degrees apart and sixty (60) degrees on either side of a center line. For distribution pipe, a line of contrasting color shall be provided on the outside of the pipe along the line furthest away and parallel to the two (2) rows of perforations. Markings, consisting of durable ink, shall cover at least fifty (50) percent of the pipe. Markings may consist of a solid line, letters, or a combination of the two. Intervals between markings shall not exceed twelve (12) inches. The holes of each row shall be not more than five (5) inches on center and shall have a minimum diameter of one-half (1/2) inch.

Amend OAR 340, Division 73, by deleting Appendix 1.

Amend OAR 340-73-085(2)(e)(D)(viii) as follows:

- (viii) Final inspection and acceptance. [As completed, the liner installation should be tested for functional integrity. All joints, seams and mechanical seals should be checked both during and after installation. Hydrostatic testing to evaluate watertightness of the completed liner installation before placement of any backfill may be required at the discretion of either the Agent or the owner/purchaser. The lined basin shall be filled to the four (4) foot level with water after the pipe inlets and outlets have been fitted with

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.



temporary plugs. Acceptance of workmanship shall be based upon a leakage rate of no more than 0.25 inches in a 24 hour period. Virtually no leakage should result from good workmanship, however.] Completed liner installations shall be visually checked for punctures, rips, tears and seam discontinuities before placement of any backfill. At this time the installer shall also manually check all factory and field seams with an appropriate tool. In lieu of or in addition to manual checking of seams by the installer, either of the following tests may be performed:

(I) Wet Test: The lined basin shall be flooded to the four (4) foot level with water after inlets and outlets have been plugged. Workmanship shall be accepted if leakage rate in a 24-hour period is no greater than 0.25 inches.

(II) Air Lance Test: Inspect all seams (factory and field) for unbonded areas using an air nozzle directed on the upper seam edge and surface to detect loose edges. Riffles indicate unbonded areas within the seam, or other undesirable seam construction. Check all bonded seams using a minimum 50 PSI (gauge) air supply directed through a 3/16 inch (typical) nozzle, held not more than 2 inches from the seam edge and directed at the seam edge.

Amend OAR 340, Division 73, by adding a new rule, as follows:

Filter Fabric

340-73-041 Except as otherwise allowed by the Department on a case-by-case basis, filter fabric used within on-site systems in Oregon shall meet the following specifications:

1. Material synthetic fabric, either spunbonded or woven.
2. Burst Strength, psi--not less than 25 psi.
3. Air Permeability, cfm per sq. ft.--not less than 500.
4. Water Flow Rate--not less than 500 gpm per sq. ft. at 3 inches of head.
5. Surface Reaction to Water--Hydrophilic.
6. Equivalent Opening Size--70 to 100 sieve.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

7. Chemical Properties:

A. Non-biodegradable.

B. Resistant to acids and alkalies within a pH range of 4 to 10.

C. Resistant to common solvents.

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission Date: March 25, 1986  
 From: Mary M. Halliburton and Sherman O. Olson, Jr.  
 Subject: Hearings Officers Report

### PUBLIC HEARINGS ON PROPOSED RULE AMENDMENTS TO THE ON-SITE SEWAGE DISPOSAL RULES

The Department of Environmental Quality conducted four public hearings on proposed amendments to rules for on-site sewage disposal.

The date, time, location and person serving as Hearing's Officer for each public hearing were as follows:

#### BEND

Date: February 19, 1986  
 Time: 1:30 p.m.  
 Location: State Office Building  
 Conference Room  
 2150 NE Studio Road  
 Bend, Oregon  
 Hearings  
 Officer: Mary M. Halliburton

#### MEDFORD

Date: February 20, 1986  
 Time: 1:30 p.m.  
 Location: Jackson County  
 Courthouse; Room 310  
 10 S. Oakdale  
 Medford, Oregon  
 Hearings  
 Officer: Mary M. Halliburton

#### NEWPORT

Date: February 25, 1986  
 Time: 1:30 p.m.  
 Location: Lincoln County Public  
 Service Building  
 Conference Room  
 210 SW Second  
 Newport, Oregon  
 Hearings  
 Officer: Sherman O. Olson

#### PORTLAND

Date: February 26, 1986  
 Time: 10:00 a.m.  
 Location: Department of  
 Environmental Quality  
 14th Floor Conference  
 522 SW Fifth Avenue  
 Portland, Oregon  
 Hearings  
 Officer: Sherman O. Olson

March 25, 1986

Page 2

Each session opened with a statement of the purpose and summary of the conduct of the public hearing. Mr. Sherman O. Olson, On-site Sewage Disposal Specialist, then summarized the highlights of the proposed On-site Sewage Disposal Rule Amendments at each hearing. The presentations were followed by the formal public hearing process and receipt of oral testimony on tape in order of witness registrations received by the Hearings Officer.

Lists of attendees at each of the four hearings are provided in Attachment 1. Fourteen persons provided oral testimony with two of them offering comment at each of the four hearings. A summary of oral testimony and comment on the proposed rule amendments is presented below in order of each public hearing location and date. The Hearings Officers announced that the record would remain open to receive written testimony through February 28, 1986 at 5:00 p.m. at the completion of each hearing and after receiving oral testimony from those who registered.

In addition to the oral comment provided during the public hearings on the proposed on-site rule amendments, the Department received letters, memorandums, and written materials from 14 interested parties (some were received after February 28, 1986 deadline). A summary of written testimony follows the oral comment summary. Copies of letters and memorandum received appear in Attachment 2.

A. SUMMARY OF ORAL TESTIMONY

February 19, 1986 — Bend, Oregon

1. Mr. Horst Eberspaecher, General Manager, Septiclear, Inc. — In general, Mr. Eberspaecher supported prohibiting septic tank/cesspool cleaning compounds that damage sewage disposal systems and impact ground water. However, he stated that Septiclear cleaning products and process which utilize compounds with a pH of less than 4 do not cause damage to the system or ground water pollution. To his knowledge, no system treated with his product has had to be pumped and he has not received any complaints. He disagreed that the only satisfactory method of cleaning a septic tank/cesspool is pumping. His product is effective and guaranteed. Mr. Eberspaecher offered alternative rule language which would allow use of chemicals where the final pH after treatment was between pH 4-9, even though the pH of the chemical used is less than pH 4. In addition, he requested copies of documents and complaints the Department relied on as the basis of need for the proposed rule amendment which would prohibit use of chemicals for cleaning on-site sewage disposal systems. Specifically he wants copies of complaints including a description of what products formed the basis of the complaint and what injuries were caused. Mr. Eberspaecher also provided literature on his product and showed the hearings officer copies of his customer records.

2. Mr. William R Lamb, Chairman of the Board, Septiclear, Inc. -- Mr. Lamb expressed that septic tank/cesspool pumping is not the answer to maintaining functional on-site sewage disposal systems. He worked with a chemist to develop the Septiclear chemical treatment program and bacterial addition and endorses his product. He offered that given the age of many systems, a large portion will need treatment and his product costs half as much as pumping. He noted that in the Portland, Multnomah County, and Clackamas County area where there are over 88,000 cesspools, many homeowners will be faced with replacing their systems unless allowed to clean them with a product such as Septiclear. He offered that cleaning with chemicals is an alternative means to restore systems until sewers are made available. He stated that his product is a less costly alternative to cesspool replacement.

Mr. Lamb also offered statements from stores that have handled Septiclear products for 10 to 15 years each. He stated that these stores have not received any complaints of Septiclear products damaging or causing deterioration of on-site systems.

3. Mr. Dick Elliott -- Mr. Elliott expressed support for the Eastern Oregon-Low Rainfall Area Geographic Rule because it would allow precover inspection to be waived. He noted that he sometimes has to wait 5-6 days to have someone inspect systems he installs.
4. Mr. David Hellbusch, President, Central Oregon Homebuilders Association -- Mr. Hellbusch requested that his office be notified of hearings and proposed rule amendments affecting the building industry. He urged the Department provide sufficient time to allow persons to formulate response to proposed rules.

February 20, 1986 -- Medford, Oregon

1. Horst Eberspaecher, General Manager, Septiclear, Inc. -- Mr. Eberspaecher testified on the proposed rule which would prohibit use of some chemicals to clean on-site sewage disposal systems. He wished to reemphasize that he was not provided sufficient time between receiving notice and the hearing to conduct the level of on-site system testing he felt was needed to demonstrate that the pH of Septiclear treated systems is within the pH 4-7. He noted that Septiclear products restore on-site sewage disposal and offer an alternative to replacement, especially for those system that cannot be pumped because of access restrictions. He stated that he is also concerned about chemical cleaning practices, such as use of caustic soda, that can adversely affect systems. The proposed rule would prohibit the use of his product by trained professionals in the business of treating systems with Septiclear, even though it comes with instructions and is not sold in bulk or unlabeled. He disagreed with the Fiscal and Economic Impact Statement and noted that Septiclear restores

proper functioning of systems. He summarized an Oregonian newspaper article which stated there is no proof that on-site systems are polluting ground water in Mid-Multnomah County. Mr. Eberspaecher submitted results of tests conducted on systems treated with his product.

2. Mr. William R. Lamb, Builder and Chairman of the Board, Septiclear, Inc. -- Mr. Lamb reiterated the testimony he provided at the Public Hearing in Bend regarding the development of his cleaning product which is now sold in five (5) states. He noted that systems serving homes that were built in the 1950's and 1960's are just beginning to "go bad". He has been in the business 19 years and he is not aware of any systems treated with Septiclear products having failed.
3. Mr. Richard Stevens, Oregon State Homebuilders -- Speaking on behalf of Mr. Duane Hutchins, President of Oregon Homebuilders Association, Mr. Stevens stated that he had not been given advanced notice of the hearing. People who are represented by his association such as builders and on-site sewage disposal system installers could have provided useful testimony had adequate notice been provided.

Mr. Stevens also requested that substantial evidentiary findings be used to support and document the need for rule changes. He is supportive of environmental quality but believes proposed rule changes without sufficient technical information and data leads him to believe they must be made on some other supposition. He stated that convenience to the Department is not adequate bases of change.

4. Brad Prior, Jackson County Environmental Sanitation Division -- Mr. Prior provided testimony on two proposed rule modifications. He noted that with regard to the ground water interceptor outlet specifications, schedule 80 pipe is difficult to locate in his area. He requested the outlet specification be modified to allow schedule 40 pipe.

Mr. Prior expressed concern over the "philosophical" intent of the Eastern Oregon-Low Rainfall Area Geographic Rule. He dislikes the concept of granting approval without a formal evaluation. By accepting fees for a permit at the time the site evaluation application is accepted, it appears to him that the Department intends to approve any system installation even though a site evaluation is required. From his experience, he suggested that waiving precover inspections for "self-installed" systems would likely result in system failures.

He noted that travel time in Eastern Oregon may be the basis of need for the rule, but suggest the U.S. mail be utilized. Permit

applications and instructions could be sent out with favorable site evaluation reports to applicants.

He viewed the rule as potentially undermining the technical basis of the program which utilizes soils information and depth to ground water information to approve or disapprove system installation.

5. John W. Blanchard, Josephine County, Environmental Health Services -- Mr. Blanchard offered comments to four proposed rule changes and made one general comment as follows:
  - a. He requested that language referring to exhibits such as plans and specifications which are to accompany permit applications be "enabling" rather than requirements to allow flexibility and to reflect different practices among county offices. His office supplies materials about system design to applicants at the time the permit is issued.
  - b. He requested that language requiring a grill over the curtain drain outlet be modified to allow an agent discretion as to the need for its installation. Rodent entry into curtain drains has not been a problem in Josephine County.
  - c. He requested that language be modified to allow installation of pump system manhole risers 6 inches below the ground surface rather than at the ground surface to prevent odors. Access would still be provided.
  - d. He requested material specifications for silt traps. Currently the rule only specifies a 30-inch diameter.

Mr. Blanchard also requested the Department provide an index to the rules in the next rule package to make it easier to locate and reference rules.

February 25, 1986 -- Newport, Oregon

1. Mr. Horst Eberspaecher, General Manager, Septiclear, Inc. -- Mr. Eberspaecher reiterated his request made at the Bend, Oregon hearing for copies of principal documents relied upon to develop and justify the proposed rule amendment which would prohibit use of some chemicals for cleaning septic tanks and cesspools. Specifically he requested copies of complaints referred to in the discussion of proposed rule amendments including information on who complained, why they complained, what injuries were caused by the pumpings, what product was used to clean the system, what was the pH of the pumpings rejected for disposal, what was the time

frame between cleaning and pumping and what are the ground water pollutants.

2. Mr. William R. Lamb, Chairman of the Board, Septiclear, Inc. -- Mr. Lamb provided a summary of the development of Septiclear products and reiterated his remarks offered at the Bend and Medford, Oregon hearings.

He does not know of one system damaged by use of his product. Last year, his firm treated over 300 systems. He maintains records on all customers and systems.

3. Mr. Bill Zekan, Environmental Manager, Lincoln County -- Mr. Zekan provided comment on each of the 18 major proposed rule modifications. He offered support and favors their adoption except for the proposed definition for an "Active Dune". He stated that development would be prohibited in certain areas of Lincoln County because the active dune definition is tied to a Munsel color value of 4 or more. Further development at Bayshores, Sandpiper, and Salishan spit would be restricted since they would be considered active dunes and thereby unstable landforms. He also noted that he had wished to see the seepage trench rule following sand filters to allow for 5-6 ft spacing on centers to accommodate smaller lots.

February 26, 1986 -- Portland, Oregon

1. Mr. Doug Marshall, Tillamook County, County Health Department -- Mr. Marshall offered comment on several proposed rule amendments including the waste strength factor for sandfilter sizing; the proposed setback for a sandfilter to surface public waters; and the prohibition of chemicals for system cleaning. He believes sufficient data is available on effluent quality from sandfilters to justify reducing the sizing requirements of the disposal area receiving the treated effluent. Mr. Marshall also commented that the setback from surface public waters, for a sandfilter system, a groundwater interceptor should be the same. He questioned why a 20-foot setback is adequate for a ground water interceptor but not for a sandfilter system. With regard to the proposed rule which would prohibit use of certain chemicals as a method of cleaning on-site systems, Mr. Marshall suggested regulation of all cleaning compounds since janitorial and commercial grade cleaners are available to homeowners and some of these cleaners contain organic compounds that break down very slowly in the environment. Written testimony on these issues and others was provided and is summarized separately.
2. Mr. Michael Ebeling, Multnomah County, Department of Environmental Services -- Mr. Ebeling offered comment on two



proposed rule modifications. He favors the proposed amendment to OAR 340-71-130, which would prohibit placement of some chemicals into on-site sewage disposal systems. He cited that his office receives 150-200 calls per year regarding questions and complaints about chemicals used for cleaning cesspools. He knows of no scientific data which show chemicals to be effective.

Mr. Ebeling also favors modification to on-site sewage disposal abandonment procedures which would allow agents discretion in specifying some steps to be taken. He cited examples of where it is impossible to require filling in of abandoned systems.

3. Mr. Rayce Jonsrud, Chasm Chemical Co. Inc. -- Mr. Jonsrud expressed concern that prohibiting the use of certain chemicals as means to restore and unplug cesspools would result in the need for more cesspool replacements in Mid-Multnomah County. This would result in greater costs to homeowners. He stated that the Financial and Economic Impact Statement that was prepared as part of the Public Hearing notice did not take this expense into account.
4. Mr. Bruce Phillips, Cascade-Phillips Co. -- Mr. Phillips, a licensed septic tank pumper, stated he had seen problems from use of chemicals to clean systems, including septic tanks and pipes dissolved by acid and was aware of septage pumpings being rejected for disposal at a sewage treatment plant. He felt something should be done because of the safety issues, though he does not know of the effect of chemicals on ground water.
5. Mr. Horst Eberspaecker, General Manager, Septiclear -- Mr. Eberspaecker repeated his testimony offered at the Bend, Oregon hearing. He stated that the information he presented is factual, but that which the Department and others have to show need for the proposed rule is not specific or verifiable. He read an Oregonian article to demonstrate there is no ground water contamination. In addition, he stated that hydrogen peroxide as a cleaning solution does not work and that caustic soda (sodium hydroxide) can have a detrimental effect on sewage disposal systems. Mr. Eberspaecker would like to see examples of complaints against Septiclear products and noted that his firm has successfully treated systems for 2,000 customers. He asked what pH ranges are acceptable for septage disposal at sewage treatment plants.
6. Mr. William R. Lamb, Chairman of the Board, Septiclear -- Mr. Lamb stated that in response to questionnaires sent out by his company, he has received favorable comment that his product effectively restores sewage disposal systems. People need his product to keep their systems working properly. Mr. Lamb repeated his testimony offered at other hearings and emphasized

that 88,000 systems in the Portland area are going to "go bad" and will have to be replaced at a substantial higher cost than if they were restored using a product such as Septiclear.

7. Mr. Bill F. Stark, Chasm Chemical Company -- Mr. Stark endorsed comments offered by Mr. Eberspaecher, Mr. Lamb, and Mr. Jonsrud. He stated that support for the proposed rule to prohibit use of chemicals as a sewage system cleaning method comes from pumpers who compete with his business. He asked for evidence that demonstrates failures, malfunctions, needed repairs, and replacement of systems and negative effects on water quality as a result of use of chemicals to treat on-site systems.
8. Mr. Paul H. Oldenburg, President, Chasm Chemical Company -- Mr. Oldenburg requested a 90-day extension to respond to the proposed rule concerning the prohibition on use of certain chemicals to clean on-site sewage disposal systems. He wants to examine the Department's files to substantiate complaints. He knows of no water quality testing or evidence showing that acids introduced into systems cause damage, threaten the safety of customers, or pumpers. He stated that he would stop his business if there was documentation of ground water pollution caused by his product. His product is not alkaline nor a long-chain organic compound. He expressed concern that 2,000 - 4,000 new systems per day would have to be installed if cleaning products are prohibited.

B. SUMMARY OF WRITTEN TESTIMONY

1. Lincoln County Board of Commissioners, Letter dated February 27, 1987 -- Concern was expressed with the proposed new definitions for "Active Dune" and "Stabilized Dune". If the definitions are adopted, additional land development activities in some of the dunal areas of Lincoln County (including but not limited to the "Salishan" spit and the "Bayshore" spit) could be prohibited. By adopting a definition for "Active Dune", properties affected by the definition would be classified as unstable. The issuance of sewage disposal permits is prohibited on unstable land forms. In the "Bayshore" area, Lincoln County sanitarians have reported no failures or exposures of septic systems installed there under the current rules. The County Board of Commissioners believe it is unfair to owners of lots created prior to 1970 to adopt rules that will virtually prohibit the development of these properties because of semantics.
2. Clatsop County Board of Commissioners, Letter dated March 3, 1986 -- Concern was expressed with the proposed new definitions for "Active Dune" and "Stabilized Dune". If the definitions are adopted, additional land development activities in some of the dunal areas of Clatsop County (including but not limited to the

area between Surf Pines and the Palisades area of Gearhart) could be prohibited. By adopting a definition for "Active Dune", properties affected by the definition would be classified as unstable. The issuance of sewage disposal permits is prohibited on unstable land forms. Surf Pines and the Palisades were developed in the 1950's and have seen consistent development since that time. The County Board of Commissioners know of no failures or exposures of septic systems installed in this area under the current rules, and believe it is unfair to owners of lots in these areas to adopt rules that will virtually prohibit the development of these properties because of semantics.

3. Tillamook County Board of Commissioners, Letter dated March 5, 1986 -- The effect of the proposed definitions for "Active Dune" and "Stabilized Dune" will prohibit on-site sewage disposal systems in active foredune areas. Tillamook County has an acknowledged exception to Statewide Planning Goal 18 (Beaches and Dunes) from the Land Conservation and Development Commission (LCDC) that allows residential development on the majority of these lots. A limited amount of land in the county is available for beachfront development, and all of these areas have realized levels of development exceeding 50 percent of their plotted areas. The County Board of Commissioners requests the proposed rules be amended to exempt active foredune areas where Comprehensive Plans contain acknowledged exceptions to Statewide Planning Goal 18. A second alternative would be to consider an exemption for lots legally created prior to the date the proposed rules amendments are adopted.
4. Mr. James F. Ross, Director, Oregon Department of Land Conservation and Development, Letter dated February 28, 1986 -- In general, DLCD expressed satisfaction with those portions of the proposed amendments which deal with land use, the state goals, and compatibility with city and county comprehensive plans. Mr. Ross offered constructive suggestions for improved clarity and continued close coordination of efforts between DLCD and DEQ. The definitions of "Active Dune" and "Stabilized Dune" should contain a reference or otherwise explain how these terms are intended to relate to similar definitions of dunal types in LCDC Goal 18. The proposed rules must insure that no on-site disposal systems are permitted on active foredunes or other conditionally stable foredunes that are subject to ocean undercutting or wave overtopping, and on inter-dune areas (deflation plains) subject to ocean flooding. He also suggests a wording change to the land-use compatibility statement.
5. Mr. Jim Knight, Oregon Department of Land Conservation and Development, Memorandum dated March 5, 1986 -- Mr. Knight states that certain beach areas on the coast were granted exceptions to a portion of LCDC Goal 18, due to prior development, through the

acknowledgment process. He suggests the proposed rules recognize these exception areas so as to avoid the awkward situation of a DEQ denial in response to a Goal 18 requirement for which a local government has been granted in exception by LCDC. He states this is not meant to imply that such a denial could not be made by DEQ in response to other requirements under DEQ's authority.

6. Mr. Dennis Holloran, Dennis M. Holloran Soil Consulting, Letter received March 3, 1986 -- Mr. Holloran suggests that drainfields following sand filter treatment units be allowed to be placed on slopes up to 45 percent. He also asks that the strength of wastewater factor be based on available research information, and that facility size increases might more appropriately be less than 100 percent of the waste strength factor.
7. Elaine Correia, M&E Pumping, Letter dated February 25, 1986 -- Her company has encountered many unhappy homeowners that have just purchased a home and soon after discover they have a problem with the sewage disposal system. At this time an examination of the system is not required by the realtor or buyer unless the loaning institution makes it a requirement. She asks the Department to consider the idea of requiring a septic system inspection at the time a home with an on-site system is sold.
8. Mr. Frank M. Parisi, Spears, Lubersky, Campbell, Bledsoe, Anderson & Young, Attorneys at Law, Letter dated February 21, 1986 -- Mr. Parisi has requested the public hearing remain open through May 29, 1986, so as to allow his client, Chasm Chemical Company, Inc., the opportunity to examine the Department's files concerning the proposed amendments prior to filing written comments. Mr. Parisi believes an outright prohibition of acidic sewage treatment chemicals is unreasonable and overbroad, and would create a severe economic hardship to many east county residents. He states that Chasm supports the portion of the proposed rule prohibiting the use of explosives or solvents to treat sewage.
9. Mr. C.G. Steiner, President, AquaTrend, Inc., Letter dated February 18, 1986 -- Support is given to the Department's efforts in establishing means and methods of more effective wastewater treatment and disposal. He recommends the immediate prohibition of the use of sand filters because he believes they will become plugged with a sloughed biomass. Recognition should be given to methods and equipment for secondary biological treatment. A set of wastewater treatment design standards should be adopted. Mr. Steiner also suggests the Department should be aware that its practice of designing small wastewater treatment systems can subject the State to possible future litigation.
10. Mr. Kelly Patterson, Utility Vault Company, Inc., Letter dated February 13, 1986 -- Mr. Kelly recommends the maximum manhole

cover weight for septic tanks be deleted because concrete covers are likely to be too weak. He also suggests additional language addressing design strength factors applicable to all septic tanks.

11. Mrs. Anne Cox, R.S. and Mr. Roy Eastwood, R.S., Columbia County Land Development Services, Letter dated February 5, 1986 -- They support combining the glossary of terms with the definitions. They ask that the definition "loam" be modified, and that the location of the silt trap be clarified. They believe incorporation of a strength of wastewater factor in determining system size is unnecessary because in their opinion commercial systems are already larger than necessary, no fixtures of commercial systems installed on or after January of 1974, have been observed. The sand equivalent standard proposed for sand filter medium sand is opposed because it is difficult to perform accurately, must be done in a laboratory, and is not justified.
12. Mr. William H. Doak, R.S., Soil and Land Use Consultant, Comments received February 26, 1986 -- Mr. Doak suggests the Department should allow itself more latitude to consider other design parameters for dosing tank manhole access.
13. Mr. George Ward, George D. Ward and Associates, Comments received on February 28, 1986 -- Mr. Ward offered a number of general and specific comments addressing the definitions, system sizing criteria, and sand filters. "Conventional sand filter" should be re-defined so as to include more detail. "Groundwater interceptor" should make allowance for other design and use of new materials, and allow less than a twelve (12) inch wide trench. The way to measure stream setbacks needs to be clarified with new language or a sketch. The criteria for sizing a standard system should contain an exception for aerobic systems. The design and sizing criteria for pressurized disposal trenches should include an exception for aerobic systems. A definition for alternative sand filter is needed. The sizing criteria for conventional sand filters should allow an exception when an aerobic system is used. The parameter of dissolved oxygen should be included when evaluating the performance of other sand filter designs.
14. Mr. Doug Marshall, R.S., Tillamook County Environmental Health Department, Memorandum dated February 24, 1986 -- Mr. Marshall questions the reason for modifying the definition of "cut-manmade", and why a maximum limit is specified in the volume of sewage discharged per cycle. Modifications to the definitions of "effluent sewer" and "emergency repairs". He suggests the definitions preceding other rules ought to be deleted because they are contained in the master list of definitions. He believes some household cleaners contain organic compounds which can have an adverse impact upon public waters, and should

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therefore be subject to the provisions of the proposed new section OAR 340-71-130(16). He objects to the housekeeping change pertaining to surcharges. The maximum trench depth for seepage trenches should be 48 inches. He thinks application of the waste strength factor should allow reduction in absorption facility sizing when the BOD<sub>5</sub> and TSS values are lower than typically found in household sewage. A diagram illustrating a tile dewatering system and silt trap location is needed. He suggests year round and seasonal surface public waters need to be defined, and asks why amendments were not proposed for gravel-less disposal trench systems. He also questions why the proposed separation distance between a sandfilter and surface public waters is 50 feet, while a ground water interceptor that discharges into the same public waters can be 20 feet from a standard disposal trench.

MMH:h  
WH681

ATTENDEES AT  
PUBLIC HEARINGS ON  
PROPOSED AMENDMENTS TO THE  
ON-SITE SEWAGE DISPOSAL RULES

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## 1. February 19, 1986 - Bend, Oregon

Name

William R. Lamb Septiclear, Inc.	Portland, Oregon
Horst Eberspaecher Septiclear, Inc.	Portland, Oregon
Bill F. Stark Chasm Chemical, Inc.	Vancouver, Washington
Dick Elliott	Sisters, Oregon
Ralph H. Steed	Bend, Oregon
Jack Maguire	Lapine, Oregon
Bud Maguire	Lapine, Oregon
David Hellbusch Central Oregon Builders Assoc.	Bend, Oregon
Stephanie Monsan	Bend, Oregon

## 2. February 20, 1986 - Medford, Oregon

Name

Brad Prior Jackson County Planning Dept.	Medford, Oregon
Richard Stevens Oregon Homebuilders Association	Medford, Oregon
Bill Lamb Septiclear Inc.	Portland, Oregon
Dean Yates	Eagle Point, Oregon

2. February 20, 1986 - Medford, Oregon (cont'd)

Name

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Gary Grimes Department of Environmental Quality	Medford, Oregon
John W. Blanchard Josephine County Environmental Health	Grants Pass, Oregon
Bill Manny Medford Mail Tribune	Medford, Oregon
Horst Eberspaecher Septiclear, Inc.	Portland, Oregon

3. February 25, 1986 - Newport, Oregon

Name

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D. O. Hurt	Waldport, Oregon
Larry Graham	Lincoln City, Oregon
Ray Drayton T & L Septic Service	Lincoln City, Oregon
Elaine Correlt M & E Pumping	Waldport, Oregon
Representative Woodsley Land Co.	Tidewater, Oregon
Horst Eberspaecher Septiclear, Inc.	Portland, Oregon
Bill Lamb Septiclear, Inc.	Portland, Oregon
Medie Bynum	Otis, Oregon
Bill Zekan Lincoln County Public Works Dept.	Lincoln County
Nick Zorich Clearwater Waste Systems	Astoria, Oregon



4. February 26, 1986 - Portland, Oregon

Name

---

Mike Ebeling Multnomah County Environmental Services	Portland, Oregon
Doug Marshall Tillamook County Health Dept.	Tillamook, Oregon
W. H. Doak	Milwaukie, Oregon
Bill C. Humfries	Astoria, Oregon
P. H. Oldenburg Chasm Chemical Co., Inc.	Portland, Oregon
Bill F. Stark Chasm Chemical Co., Inc.	Rhododendron, Oregon
Bruce A. Phillips Cascade-Phillips Co.	Oregon City, Oregon
Rayce Jonsrud Chasm Chemical Co., Inc.	Portland, Oregon
Horst Eberspaecher Septiclear, Inc.	Portland, Oregon
Bill Lamb Septiclear, Inc.	Portland, Oregon
David Asludings	Portland, Oregon
Sparky Stalcup	Coos Bay, Oregon
Representative Belco Mfg. Co.	Portland, Oregon
Kelly Patterson Utility Vault Co.	Wilsonville, Oregon
Stanley E. Petrasek Lane County Dept. of Environmental Management	Eugene, Oregon



## County of Lincoln

## Board of County Commissioners

Courthouse, Room 110  
 225 West Olive Street  
 Newport, Oregon 97365  
 (503) 265-6611, Ext. 263

February 27, 1986

Department of Environmental Quality  
 Water Quality Division  
 Sewage Disposal Section  
 P.O. Box 1760  
 Portland, Or 97207

RECEIVED  
 DEPARTMENT OF ENVIRONMENTAL QUALITY  
 WATER QUALITY DIVISION  
 FEB 28 1986

Re: Proposed Amendments to the On-Site Sewage  
 Disposal Rules:  
 OAR Chapter 340, Divisions 71, 72, and 73

Gentlemen:

This letter is in response to your request for comments in the recent public hearing regarding proposed amendments to the on-site sewage disposal rules. Specifically, we are concerned with the proposed addition of the definitions for "Active" and "Stabilized" Dunes. It is our understanding that the proposed amendment would adopt the definitions used by the Oregon Land Conservation and Development Commission to clarify the type of sand dunes on which on-site sewage disposal systems would be allowed and prohibited.

If the proposed definitions are adopted, it is clear that further development in the dunal areas of Lincoln County could be prohibited. This would include areas such as the "Salishan" and the "Bayshore" spits as well as numerous other coastal areas. By adopting definitions that label these areas as "active dunes" and subsequently including "active dunes" under the definition for "unstable land forms", this proposed rule will essentially stop development of these areas under OAR 340-71-220(2)(f) which prohibits the issuance of sewage disposal permits on "unstable land forms".

The "Bayshore" area, for example, is a large subdivision platted in the early 1960's which has seen consistent development since that time. Property owners have weathered many frustrating changes in the on-site sewage disposal rules over the years. In 1982, the Environmental Quality Commission adopted the Alsea Dunal Aquifer Geographic Rule, a separate section of the Oregon Administrative Rules devoted to the special needs of this sensitive area. The Department of Environmental Quality, under the direction of William Young did extensive evaluations of this area and there was no mention of problems associated with the interpretation of the "stability" definitions as they existed at that time. Furthermore, our sanitarians have reported no failures or exposures of septic systems installed in this area under the current regulations.

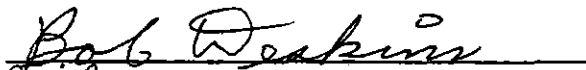
Department of Environmental Quality, Page 2 February 26, 1986

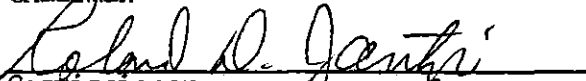
Because of this, we feel it "unfair" to the owners of lots created prior to 1970 to adopt rules that will virtually prohibit the development of these properties because of semantics. We urge you to consider this point carefully.


If you have any questions concerning our comment, please do not hesitate to contact our office.

Respectfully,

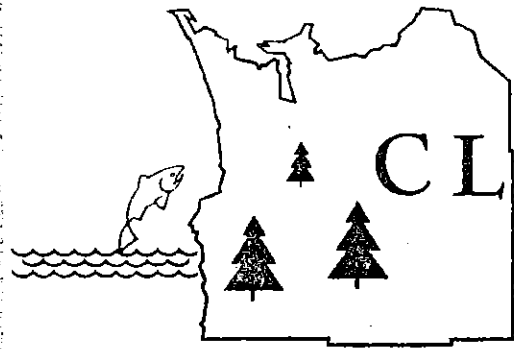
LINCOLN COUNTY BOARD OF COMMISSIONERS

  
Chairman

  
Commissioner

  
Commissioner

cc: Clatsop County Commissioners  
Tillamook County Commissioners  
Curry County Commissioners  
Lane County Commissioners  
Coos County Commissioners  
Douglas County Commissioners  
OCZMA  
Oregon Coast Assn., Warren Strycker  
Association of Oregon Counties



# CLATSOP COUNTY

Courthouse . . . Astoria, Oregon 97103.

March 3, 1986

DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED

WATER QUALITY CONTROL

Department of Environmental Quality  
Water Quality Division  
Sewage Disposal Section  
P.O. Box 1760  
Portland, Oregon 97207

Re: Proposed Amendment to the On-Site Sewage Disposal Rules:  
OAR Chapter 340, Divisions 71, 72 and 73

Gentlemen:

This letter is in response to your request for comments in the recent public hearing regarding proposed amendments to the on-site sewage disposal rules. Specifically, we are concerned with the proposed addition of the definitions for "Active" and "Stablized" Dunes. It is our understanding that the proposed amendment would adopt the definitions used by the Oregon Land Conservation and Development Commission to clarify the type of sand dunes on which on-site sewage disposal systems would be allowed and prohibited.

If the proposed definitions are adopted, as we understand them further development in the dunal areas of Clatsop County could be prohibited. This would include areas such as the area between Surf Pines and Palisades area of Gearhart. By adopting definitions that label these areas as "active dunes" and subsequently including "active dunes" under the definition for "unstable land forms", this proposed rule will essentially stop development of disposal permits on "unstable land forms". The above areas are in "active dune" areas not because of any imminent danger (both areas have houses 500 feet away from the beach) but, because they do not comprise a consolidated or cemented formation. Both areas remain in an area of accretion.

Surf Pines and the Palisades were developed in the 1950's and has seen consistent development since that time. Property owners have weathered many frustrating changes in the on-site sewage disposal rules over the years. In 1982, the Environmental Quality Commission adopted the Clatsop Plains Dunal Aquifer Geographic Rule, a separate section of the Oregon Administrative Rules devoted to the special needs of this sensitive area. The Department of Environmental Quality, under the direction of William Young did extensive

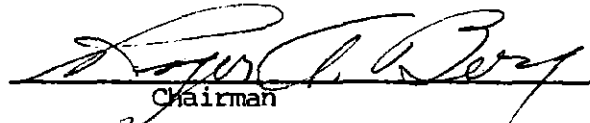
evaluations of this area and there was no mention of problems associated with the interpretation of the "stability" definitions as they existed at that time. Furthermore, we know of no failures or exposures of septic systems installed in this area under the current regulations.

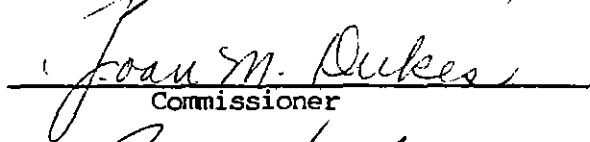
Because of this, we feel it "unfair" to the owners of lots in these areas to adopt rules that will virtually prohibit the development of these properties because of semantics. We urge you to consider this point carefully.

If you have any questions concerning our comment, please do not hesitate to contact our office.

Respectfully,

CLATSOP COUNTY BOARD OF COMMISSIONERS

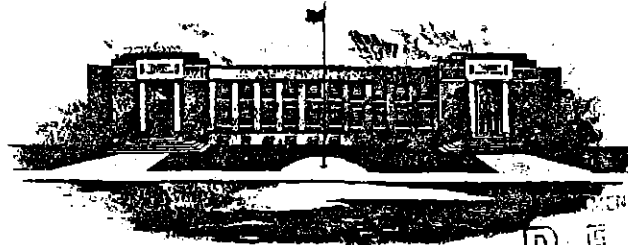
  
Chairman

  
Commissioner

  
Commissioner

cc: Lincoln County Commissioners  
Tillamook County Commissioners  
Curry County Commissioners  
Lane County Commissioners  
Coos County Commissioners  
Douglas County Commissioners  
OCZMA  
Oregon Coast Assn., Warren Strycker  
Association of Oregon Counties  
League of Oregon Cities  
City of Gearhart  
City of Warrenton  
Town of Hammond

COMMISSIONERS  
D. J. Kinkade  
G. J. Creasy  
G. A. Woodward



Tillamook County  
*Land of Cheese, Trees and Ocean Breeze*

BOARD OF COMMISSIONERS  
Tillamook County Courthouse  
201 Laurel Avenue, Tillamook, Oregon 97141

State of Oregon  
COUNTY OF TILLAMOOK (503) 842-5511  
**RECEIVED**  
MAY 6 1986

**WATER QUALITY CONTROL**

March 5, 1986

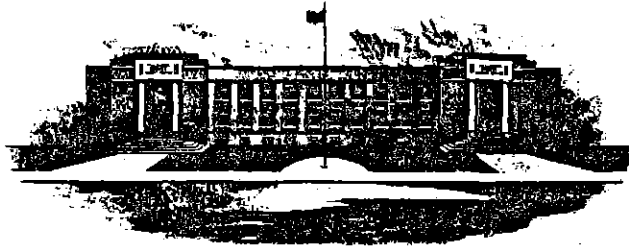
Fred Hansen, Director  
Department of Environmental Quality  
P. O. Box 1760  
Portland, OR 97207

Dear Mr. Hansen:

Tillamook County would like to submit the following comments on the Proposed Amendments to Rules Governing On-Site Sewage Disposal, OAR Chapter 340, Division 71.

The effect of the Department's proposed definitions for "active" and "stabilized dunes" will prohibit on-site sewage disposal systems in active foredune areas. Tillamook County has an acknowledged exception to Statewide Planning Goal 18 (Beaches and dunes) from the Land Conservation and Development Commission to allow residential development on the majority of these lots. A limited amount of land in the county is available for beachfront development and all of these areas have realized levels of development that exceed 50 percent of their platted areas.

Tillamook County requests that the Department of Environmental Quality amend the proposed rules to exempt active foredune areas where Comprehensive Plans contain acknowledged exceptions to Statewide Planning Goal 18. A second alternative that would also be consistent with our Comprehensive Plan and zoning designations in active foredune areas, would be to consider an exemption for lots legally created prior to the date of adoption of the new rules governing on-site sewage disposal.



Tillamook County  
Land of Cheese, Trees and Ocean Breeze

Fred Hansen, Director  
March 5, 1986  
Page 2

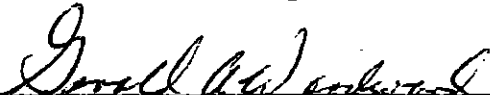
We urge you to reconsider your rule proposal. A substantial commitment in both time and money has already been made on the lots in question.

Sincerely,

BOARD OF COUNTY COMMISSIONERS  
FOR TILLAMOOK COUNTY, OREGON

  
Dean J. Winkade, Chairman

  
Gerald J. Creasy, Commissioner

  
Gerald A. Woodward, Commissioner

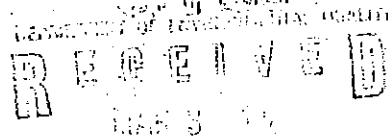
sb

cc: Land Conservation & Development Commission  
Department of Community Development, Tillamook County



## Department of Land Conservation and Development

1175 COURT STREET N.E., SALEM, OREGON 97310-0590 PHONE (503) 378-4926



February 28, 1986

WATER QUALITY CONTROL

Sherman O. Olson  
Department of Environmental Quality  
522 SW Fifth  
Portland, OR 97204

Dear Mr. Olson:

The purpose of this letter is to provide comments on your pending amendments to DEQ rules governing on-site sewage disposal (OAR 340, Division 71-73). Jim Knight on our staff spoke with Bob Paeth at DEQ yesterday and he suggested we submit our comments to you in writing. We regret the lateness of our comments but due to some recent office renovation we've had to cope with a temporary interruption of office support services.

In general we are quite satisfied with those portions of the proposed amendments which deal with land use, the state goals and compatibility with city and county comprehensive plans. The suggestions presented here are intended for improved clarity and maintaining close coordination of our two agencies' efforts.

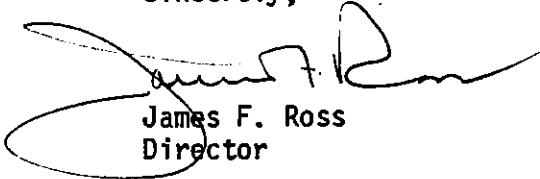
1. The definitions of "active dune" and "stabilized dune" in 340-17-100 should contain a reference or otherwise explain how these terms are intended to relate to similar definitions of dunal types in LCDC Goal 18: Beaches and Dunes.
2. The proposed rules, either through the definitions of dunes and the term "unstable landforms" at 340-17-100(125), or in another appropriate section, should indicate that Goal 18's Implementation Requirement 2 is addressed. This would mean that your proposed rules must ensure that no on-site disposal systems are permitted on active foredunes or other conditionally stable foredunes subject to ocean undercutting or wave overtopping and on interdune areas (deflation plains) subject to ocean flooding.
3. OAR 340-17-160(3)(b) should be revised to read, "...or [is consistent] complies with the statewide planning goals."
4. OAR 340-71-400(6)(c)(A) should be modified to provide the same description of the required compatibility/goal compliance statement as is contained in 340-71-160(3)(b).



Sherman O. Olson  
February 28, 1986  
Page 2

Thank you for the opportunity to review your proposed rules. Please contact Jim Knight of our office if you have any questions about our comments.

Sincerely,



James F. Ross  
Director

JR:s1  
7515D/6B

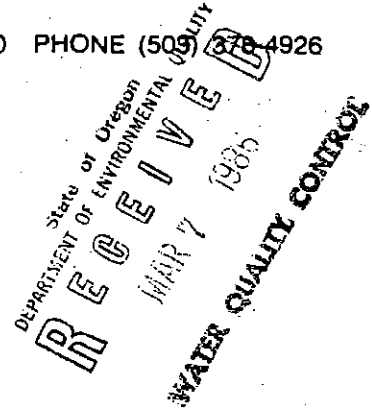
cc: Fred Hansen  
Maggie Conley  
Jim Knight  
Patricia Snow



# Department of Land Conservation and Development

1175 COURT STREET N.E., SALEM, OREGON 97310-0590 PHONE (503) 378-4926

## M E M O R A N D U M



March 5, 1986

TO: Bob Paeth, Water Quality Division, DEQ  
FROM: Jim Knight, DLCD *JK*  
SUBJECT: ADDITIONAL COMMENT ON PROPOSED AMENDMENTS TO DEQ ON-SITE SEWAGE DISPOSAL RULES

The purpose of this memo is to provide a follow up clarification to our February 28 letter from Jim Ross to Sherman Olson on the amendments to your on-site disposal rules.

Our additional item concerns the second point in our letter relating to Goal 18's Implementation Requirement 2 and the prohibition against commercial, residential and industrial development on certain types of foredunes. Due to prior development, certain beach areas on the coast were granted exceptions to this particular goal requirement by LCDC through the acknowledgment process. We believe it is important for your rules (e.g. 340- 71-220(2)(f)) to recognize these exception areas and avoid the awkward situation of a DEQ refusal to issue an on-site sewage approval in response to a Goal 18 requirement for which a local government has been granted an exception by LCDC. Our suggestion, here, however, is not meant to imply that such a denial could not be made by DEQ in response to other requirements under your agency's authority which lie outside the statewide planning goals and compatibility with comprehensive plans under ORS 197.180.

Please feel free to contact us about this matter or other items in our February 28 letter.

JBK:s1  
7574D/7B

cc: James Ross, DLCD  
Maggie Conley, DEQ  
Sherman Olson, DEQ  
Patricia Snow, DLCD  
Gail McEwen, DLCD  
Glen Hale, DLCD

Enclosure

DENNIS M. HOLLORAN SOIL CONSULTING

SOIL SCIENTIST, AGRONOMIST

Sherman Olson  
DEQ, Water Quality Div.  
Sewage Disposal Section  
P.O. Box 1760  
Portland, Or, 97207

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**

MAR 8 1986

**WATER QUALITY CONTROL**

Dear Mr. Olson,

Enclosed are a few brief  
comments on the proposed rule changes  
for your section.

Note that they are along  
the margins of the narrative pages.

I did study the complete,  
underlined and bracketed version.

Sorry for the informal  
comments. Was away for the last  
couple weeks.

Thanks,

Dennis Holloran

DISCUSSION OF PROPOSED ON-SITE SEWAGE DISPOSAL RULE MODIFICATIONS

The significant issues addressed by the proposals to modify rule language contained in Oregon Administrative Rules (OAR), Chapter 340, Divisions 71, 72 and 73 are summarized and discussed below with reference to specific rules. In addition, a number of "house-keeping" amendments are proposed. Specific rule language proposed to be added and deleted is presented in Attachment F.

- OK  
(SM A)
- (1) Combine the glossary of terms (OAR 340-71-105) and the definitions (OAR 340-71-100) under one (1) rule. When seeking the meaning of a technical term, people have to look in both the glossary and definitions to find the meaning of a term. The proposed amendments would eliminate the confusion created by terms being located in two separate rules.
- OK  
(SM A)
- (2) Prohibit the placement of any material or substance into an on-site sewage system that is capable of causing an adverse impact upon the system or public waters (OAR 340-71-130). The Department has received numerous complaints that various chemicals (strong acids, strong alkalis, and solvents) have been used to improve the performance of on-site systems and/or used to clean on-site systems as an alternative to having the systems pumped. The complaints allege that the chemicals have damaged various portions of the on-site systems and caused injury to some sewage disposal service personnel that have been called upon to pump systems that have been chemically treated. These pumpings have at times been rejected at various treatment plants because the pH has been outside an acceptable range. When these chemicals are placed into the absorption facility of a sewage disposal system (such as in a cesspool, disposal trenches, etc.), they are likely to move down through the soil profile and ultimately come into contact with and pollute groundwater. The proposed amendment would prohibit these type of practices currently used to clean sewage disposal systems and specify that persons performing the service of cleaning septic tanks, cesspools or seepage pits not use any method of cleaning other than pumping. ~~Cleaning products typically found in the home used to unclog plumbing fixtures and used according to manufacturers' directions are not likely to cause system damage or groundwater pollution and would not be regulated.~~
- N/A
- (3) Delete an outdated Lane County Fee Schedule. In March of 1981, the Environmental Quality Commission adopted a rule establishing a schedule of fees Lane County proposed to charge for performing on-site sewage disposal activities because some of Lane County's fees were higher than the fees previously in effect statewide. Since that time and pursuant to ORS 454.745(4) the Commission raised the fees the Department charges for on-site activities. Lane County has recently adopted a new fee schedule which is consistent with the statewide fee schedule in OAR 340-71-140. Lane County has requested reference to their fee schedule in OAR Chapter 340, Divisions 71 and 72 be

repealed. The proposed amendments would eliminate an outdated fee schedule.

- N/A
- (4) Delete an outdated Clackamas County Fee Schedule. In March of 1981, the Environmental Quality Commission adopted a rule establishing a schedule of fees Clackamas County proposed to charge for performing on-site sewage disposal activities because some of the fees were higher than the fees previously in effect statewide. Since that time and pursuant to ORS 454.745(4) the Commission raised the fees the Department charges for on-site activities. Clackamas County has adopted a new fee schedule which does not exceed the statewide fee schedule in OAR 340-71-140. Clackamas County has requested reference to their fee schedule in OAR Chapter 340, Division 71 and 72 be repealed. The proposed amendments would eliminate an outdated fee schedule.
- OK  
Dm #
- (5) Clarify language that pertains to necessary exhibits which must accompany permit application (OAR 340-71-160(3)). In the existing rule language, it is not clear that plans need to be submitted to the Agent as an attached exhibit to the application. The proposed amendment would re-structure a portion of this rule and specifically identify the requirement for system plans and clarify that Agents can request additional information needed to process permit applications.
- OK  
Dm #
- (6) Modify system abandonment procedure requirements (OAR 340-71-185(2)). Currently, system abandonment procedures require pumping and filling in of a system, as well as permanently capping the system building sewer. The proposed amendment would allow the Agent to use professional judgment in determining when pumping and filling steps are necessary or reasonably practical to require. The waiver of these procedures would be allowed as long as such action does not create a menace to public health, safety or welfare.
- OK  
Dm #
- (7) Add definitions for Active and Stabilized Dunes. The definition for ~~"Unstable Landforms"~~, OAR 340-71-105(92) states that "... Active sand dunes are unstable landforms". Rules prohibit installation of on-site sewage disposal systems on unstable landforms. A number of terms for sand dunes are in common use. Definitions which characterize and differentiate between "unstable (active) dunes" and "stabilized" dunes are needed. "Active" dune lands have fragile vegetative cover to no vegetative cover, and little or no soil development. Consequently, destruction of vegetation makes these lands subject to severe wind erosion hazard. In addition, many of these active dunes are subject to ocean undercutting and wave overtopping. Recent examples of this are the wave overtopping of the Salishan spit and the destruction of the spit at the mouth of the Alsea River and loss of part of the fore dune at Bayshore. The proposed amendment would adopt definitions used by the Oregon Land Conservation and Development Commission to clarify the type of sand dunes on which on-site sewage disposal systems would be allowed and prohibited.

(8) Add a definition for Strength of Wastewater and specify that, for certain applications, systems should be sized based on waste strength factor. The Department has found that the composition of sewage from commercial facilities frequently has a higher biochemical oxygen demand and/or has higher suspended solids than sewage from a residence. The existing rules size systems according to projected daily sewage flow (as measured in gallons) and a treatment factor (number of gallons of sewage that may be applied in or over a unit area of the treatment facility), based on household strength wastewater. With higher strength wastewaters, the application rate per unit area of treatment facility must be decreased in order to accomplish the same level of treatment that can be attained for residential sewage. The proposed amendments would take into account the strength of wastewater when sizing the treatment component of an on-site sewage disposal system and is intended to prevent system malfunctions, failures and pollution of waters.

OK but  
not necessarily  
increase  
at 1:1 ratio  
Consider  
factors (8)  
based on  
research  
available.  
DMH

(9) Modify seepage bed sizing criteria (OAR 340-71-275(d)). The existing rule does not take into account the strength of wastewater when determining the size of seepage bed needed for a particular sewage flow, and also requires a larger seepage bed than needed for residential flows. The proposed amendments would reduce the seepage bed size for residential systems, and introduce a waste strength factor for non-residential flows. Strength of wastewater is presented in (8) above.

OK  
DMH  
(as above  
comments)

(10)\* Modify sand filter system design criteria. The definition of "medium sand" tends to be inadequate in that some sands appearing to meet the definition also appear to have an excess of silt and clay sized particles. In a sand filter, these fine particles can cause the filter to become clogged. The addition of a sand equivalency requirement would give more complete assurance of sand quality. Staff believe that because of the high level of treatment afforded by a sand filter system, reduction of the horizontal separation distance between the system and surface public waters to half the distance required of other systems will not have a measurable impact upon the quality of surface waters. The ability to integrate the sand filter treatment unit with a seepage trench disposal facility is not present in the current rule. The proposed amendment would provide this flexibility for those situations where the property is too small in area to use standard disposal trench sizing, and would apply to single family dwellings or commercial facilities with equivalent sewage flow. The wastewater strength factor, as previously described in (8) above, is proposed to be considered in determining the sand filter size for non-residential systems.

\*  
NOTE: Allow  
disposal fields  
for sand filters  
to be installed  
on up to 45%  
slopes.  
DMH  
OK  
(see note)  
DMH

(11) Modify the PVC liner inspection procedure. The procedure currently provides that liner integrity be determined by an inspection of the joints, seams and mechanical seals, with optional use of hydrostatic testing. The proposed amendment would clarify the

OK  
DMH

existing procedures, and identify air lance testing as an optional procedure that could be used to determine seam integrity.

OK  
SMH

(12) Modify language in the Geographical Area Rule - Clatsop Plains (OAR 340-71-400(5)). The current rules permitting use of on-site sewage disposal methods in the Clatsop Plains allow the use of sand filter and pressurized systems on small lots and parcels without limiting the maximum quantity of sewage that can be discharged per unit area. For individual single family dwellings or equivalent sized commercial facilities, this does not pose a significant threat to groundwater quality in the area. However, larger flows, and particularly those from high density residential and commercial developments, appear to cause the existing rule to be in conflict with the Department's general groundwater quality protection policy, as well as the public policy of the State of Oregon, as set forth in ORS 468.710. The proposed amendment would impose a maximum sewage flow limit on lots or parcels that are otherwise too small in area to fully comply with the provisions of OAR 340-71-275 and OAR 340-71-290, and would be consistent with the public policy. Review and approval of proposals for systems involving greater sewage flows on these properties would be required through established variance procedures or under Water Pollution Control Facility permit requirements, as appropriate.

OK  
SMH

(13) Add a Geographical Area Rule for Low Rainfall Areas in Eastern Oregon. The Department has found that strict compliance with standard system siting criteria may be overly burdensome on large parcels of land in areas of Eastern Oregon where the annual precipitation does not exceed twenty (20) inches. The proposed amendment specifies minimum site criteria and conditions for approval of a residential on-site sewage disposal system without compromising public health and safety or public waters of the state, and introduces a streamlined permit process. An applicant could submit one (1) application requesting both the site evaluation report and construction permit. After the system is constructed the Agent would have the discretion to waive the pre-cover inspection.

OK  
SMH

(14) Modify septic tank specifications (OAR 340-73-025). The current rule requires steel septic tanks be coated in accordance with U.S. Department of Commerce Commercial Standard CS 177, which is no longer in effect. The proposed amendment would specify the national standard that replaced CS 177.

OK  
SMH

(15) Modify Dosing Tank Specifications (OAR 340-73-050). Access into dosing tanks that serve some commercial facilities has been found to be too small to allow proper placement and servicing of submersible pumps and other components. The proposed amendment would require dosing tanks that are integral to some commercial systems to have larger manhole access measurements.

OK  
SMH

(16) Clarify the intent of two (2) pump operation (OAR 340-73-055). Current rules require two (2) pumps in certain system applications.

The existing rule does not clearly indicate how a two (2) pump system must be set up to function. The proposed amendment would clear up this confusion by specifying that the pumps be wired into the electrical control panel to function alternatively after each pump cycle and requiring a cycle counter be installed for each pump.

- OK  
SMZ
- (17) Modify smooth wall polyethylene pipe specifications (OAR 340-73-060). The Department developed a smooth wall polyethylene pipe standard in 1977 because a recognized national standard did not exist. Since then the American Society for Testing and Materials (ASTM) has developed and adopted a recognized national standard pertaining to this type of pipe. The proposed amendment would eliminate confusion by requiring the pipe be manufactured consistent with the national standard.

- OK  
SMZ
- (18) Add filter fabric standards. Filter fabric materials are required to be used in several types of on-site systems. The current rules do not provide a definition or a specification, and consequently some unsuitable fabrics have been used that offer the potential of causing some systems to fail because of the accumulation of a barrier across the fabric surface.



Department of Environmental Quality  
Water Quality Division  
Sewage Disposal Section  
P.O. Box 1760  
Portland, Oregon 97207

Sirs:

We are the local sewage disposal licensee in the South Lincoln County area.

In our experiences, we have encountered many unhappy homeowners that have just bought a house and soon discover a problem with their on-site sewer system.

The septic system is underground and because of this fact, is often ignored. Many buyers come from a city sewer system and do not have any idea about the function of an on-site system. When they buy the home, they have no idea what is there, in regards to a septic system or what the condition of the system is. A check of the system is not required by the realtor or buyer, except in special situations: ie. FHA loans.

We feel that the prospective buyer would benefit greatly from an on-site sewer system inspection at the time of the purchase. It would let all the parties involved know the status of the system; an attempt to avoid future malfunctions, health hazards, costs and legal problems.

We suggest that the Department consider the idea of a septic system inspection as a requirement, at the time of sale of a home with an on-site sewer system.

Sincerely,



Elaine Correia  
M & E Pumping  
P.O. Box D  
Waldport, Oregon 97394  
February 23, 1986

# SPEARS, LUBERSKY, CAMPBELL, BLEDSOE, ANDERSON & YOUNG

ATTORNEYS AT LAW

FRANK H. SPEARS  
WILLIAM F. LUBERSKY\*  
GEORGE B. CAMPBELL  
JOHN P. BLEDSOE  
HERBERT H. ANDERSON  
OGLESBY H. YOUNG  
WAYNE HILLIARD  
JAMES H. CLARKE  
LEWIS K. SCOTT  
RICHARD S. BORST  
GEORGE L. WAGNER  
STANLEY R. LOEB\*  
MICHAEL G. HOLMES  
GEORGE L. KIRKLIN  
LEIGH D. STEPHENSON  
JOHN H. DORAN  
O. MEREDITH WILSON, JR.\*  
LAURENCE F. JANSSEN  
ROBERT E. MALONEY, JR.\*  
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TRISH M. BROWN  
SUSAN E. RIVER  
VIVIAN I. RAITS\*  
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JAMES D. WILKERSON  
THEODORE C. FALK  
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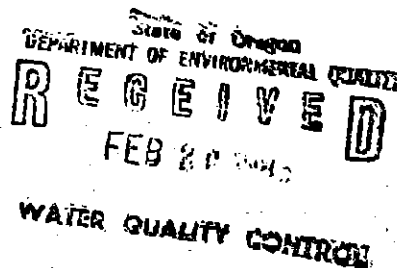
VIRGINIA MILLER BECOR  
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DENNIS M. DAMORE  
WADE R. KEENON  
GREG K. HITCHCOCK

\*MEMBER OREGON AND WASHINGTON STATE BARS

OUR FILE NO.

PLEASE REPLY TO PORTLAND OFFICE

February 21, 1986



Department of Environmental Quality  
Box 1760  
Portland, Oregon 97207

ATTN: Sherman O. Olson

Re: Proposed Amendments to On-Site Sewage Disposal  
Rules, OAR 340-71-130, OAR 340-71-600(8)

Gentlemen:

Chasm Chemical Company, Inc. (Chasm) is an Oregon corporation engaged in on-site sewage treatment. Chasm requests that the comment period on the proposed rule be extended for at least 90 days, from February 28, 1986 to and including May 29, 1986. This extension is sought so that Chasm may examine the Department files on the proposed amendments.

I attempted to review these files to substantiate the "numerous complaints" referred to in Attachment E, "Discussion of Proposed On Site Sewage Disposal Rule Modifications" so that Chasm could put on its rebuttal case. I was told the files were with the hearing officer and not yet available for public examination. If this extension of the comment period is granted, Chasm will review the Department's files and will file written comments.

I enquired of the Department staff about the contention that acids adversely affect sewage systems' treatment processes, that they cause damage to systems, and

that they result in waste that cannot be accepted at treatment plants. The staff responded that no tests had ever been done to substantiate these claims, that no tests were known, and that the only information available was from (1) customers who complained that the use of acids did not permanently clear their systems, and (2) septic tank pumpers who occasionally found that the sewage was too acidic to be accepted at a disposal site without preliminary pH correction. There were no complaints about water pollution or damage to sewage treatment systems, only inferences that these things might occur.

On this state of the record, an outright prohibition of acidic sewage treatment chemicals is unreasonable and overbroad, particularly when Chasm's treatment process is similar to some processes in "cleaning compounds typically found in a home," which the proposed amendments specifically allow. An outright prohibition of on-site sewage treatment will also create a severe economic hardship to many east County residents, who would have no alternative to pumping, which in many cases is completely ineffective and must be repeated every few months.

If the record compiled from the hearings suggests any real pollution hazard from acidic sewage treatments, tests should be done to identify the pollutants and reasonable rules proposed to abate the hazard. Chasm would be happy to cooperate in any such tests suggested by DEQ. If, as I expect, the record contains no evidence of any real pollution hazard from acidic sewage treatments, the proposed amendments should be dropped.

Chasm supports the portion of the proposed rule prohibiting the use of "explosives" or "solvents" to treat sewage.

Very truly yours,



Frank M. Parisi

**AquaSens, Inc.**

---VIA CERTIFIED MAIL---

P.O. Box 4694  
Shawnee Mission, Kansas 66204  
Area Code (913) 642-2347

February 18, 1986

DEQ, Water Quality Division  
Sewage Disposal Section  
P.O. Box 1760  
Portland, Oregon 97207

Re: Written Comments on  
PROPOSED AMENDMENTS TO THE  
ON-SITE SEWAGE DISPOSAL RULES

Gentlemen:

Our company is a manufacturer of products used in on-site sewage disposal systems. We herewith comment on portions of OAR Chapter 340, Division 71, 72, and 73. Our comments relate specifically to Items 3, Permit Application Procedures, and 5, Wastewater Strength Factor in Determining System Sizing. In summary, we recommend the immediate prohibition of the use of sand filters generally, whether slow or intermittent rate, whether recirculating or bottomless, and whether for large treatment requirements or small, and to use in their place recognized methods and equipment for secondary biological treatment thereby preserving the technology of filtration for tertiary treatment applications, its proper niche in water purification.

Although our comments go to the very basis of applicability of the sand filter, we wish to support the efforts of the DEQ in establishing means and methods of more effective wastewater treatment and disposal within the State of Oregon. It is in this light that the comments are made.

The EPA Manual on Wastewater Filtration on page 1 identifies filtration as a technology that is capable of removing only a portion of suspended solids without ancillary impact on soluble BOD removals. The EPA Process Design Manual for Suspended Solids Removal characterizes Slow Sand Filters and their method of operation and typical applications. These applications call out "secondary effluent polishing". These references are attached hereto.

Rather than the use of filters as treatment technology which follows secondary treatment, the State of Oregon has gone way

**Manufacturers of Advanced Water Purification Equipment**



beyond the treatment capabilities afforded by filtration technology by applying filtration as secondary treatment rather than following secondary treatment. In this regard, Oregon is the only state in the United States which has adopted this practice. We believe the State of Oregon has erred in its use and understanding of filtration technology. We think we know the reasons behind this false premise.

Traditionally, the State of Oregon has been solids conscious in the implementation of its plan review of proposed sewage treatment facilities. It has experimented with filters, some of which was under an EPA grant, in order to establish design criteria and performance effectiveness of these devices. We understand that the State of Oregon believes that the use of a filter after a septic tank pretreatment will achieve 5 mg/L BOD, 5 mg/L suspended solids, along with a 45% reduction in total nitrogen. Although these above results may be obtainable within 10 days or so from initial start-up of a sanitary waste treatment system, this level of treatment cannot be maintained on a consistent basis, and furthermore, when attempted will always result in extreme maintenance requirements (and associated expenses) with continuing loss of treatment performance. And this is true regardless of the size of the filter bed employed, or the size of the filter media(s) employed. The reasons for the above statement can be understood by a rudimentary review of biological realities which occur in the oxidation of organic wastewaters.

Soluble BOD can only be removed from a wastewater flow by biological oxidation. For biological oxidation to occur, bacteriological colonies have to become established thereby permitting metabolic activity consistent with BOD reduction.

Microbial populations go through four (4) principal phases in the history of such a culture, each characterized by a certain rate of population change. The first is called the "lag phase" in which the growth rate is zero. The second is called the logarithmic phase in which the rate of growth of bacteria is exponential. This rate can occur within one week of start-up of a biological treatment system. The third is called the stationary phase in which the growth rate is again zero. The last phase is called death phase in which microbiological activity ceases.

There exist two kind of biological treatment systems. The suspended growth kind characterizes the type of treatment achieved in the activated sludge process and its several variations. In



suspended growth systems, the microbiological colonies exist suspended in water. The other type of treatment is referred to as fixed growth treatment. Trickling filters and rotating biological disc treatments are fixed growth kinds of biological treatment.

The use of a filter as biological treatment is a fixed or attached growth type of treatment. Septic tank effluent with sanitary wastes will have a BOD strength between 120 and 150 mg/L. When this fluid is applied to a sand filter, whether slow or rapid, whether recirculating or bottomless, and whether employing "large" filter media or "small", biological slimes quickly develop on the surface of the filter media. As they initially rapidly increase in numbers exponentially, their degree of treatment initially appears to be exceptional. HOWEVER, as the days go by, the death phase is reached resulting in a rapid decline in the ability of the microbial populations to reduce soluble BOD. This sudden decline in process performance is accompanied by an equally sudden plugging of the filter with sloughed biomass which is now unable to exit the filter through the small interstitial spaces between the individual grains of filter media employed. Consequently, the filter must undergo removal of the sloughed biomass, either by backwashing or by manual removal of the filter media. Oregon does not require provisions for backwashing these filters thereby reducing the maintenance requirements to removal of the filter media. It is interesting to note that during the log growth phase of microbiological expansion, the utilization of total nitrogen within the cell structure of the bacterial cells is in the range of 55% or so, thereby permitting one to conclude that this same filter is capable of 45% total nitrogen reduction. Unfortunately, the above performance of a filter is short-lived because of the foregoing analysis.

We absolutely endorse the efforts of the State of Oregon to promote these exceptional levels of treatment. Because of the false basis upon which the filtration concept was based, the DEQ ought to eliminate filtration as an acceptable method of secondary treatment and adopt other methods which conform to accepted practice nationally while preserving filtration for its role as tertiary treatment in the polishing of secondary clarified effluents. In so doing, Oregon will no longer be the laughingstock of the nation vis-a-vis its wastewater treatment practices.

On this same subject, we want to go on record as recommending that



DEQ, Water Quality Division  
February 18, 1986  
Page Four

the DEQ adopt a set of wastewater treatment design standards, such as those promulgated by another state, or the "10 States Standards", or equal in order to permit consulting engineers and equipment manufacturers the opportunity of preparing designs in conformance to preexisting requirements. In so doing, the State of Oregon will speed up the review of plans and specifications while enhancing both the economic growth of the state as well as the protection of the environment. Recognizing that the staff of the DEQ has been significantly reduced in the last few years, the need for these "standards" is absolutely necessary in order for the small DEQ staff to carry out its responsibilities in a timely manner.

The current practice is to submit a "best guess" as to what the State DEQ is apt to approve with more transmittals required for each phase of design. And if the State of Oregon should eliminate filtration as a method of secondary treatment, it would then become absolutely mandatory that the State of Oregon adopt a specific set of design standards to implement continuing progress on matters of wastewater treatment.

Lastly, the practice on the part of the State DEQ to design small wastewater treatment systems is a practice which can lead to treatment responsibilities and potential involvement in lawsuits. The City of Anchorage, Alaska had years ago passed legislation requiring the installation of specific septic tank designs prior to permitting development of land subdivisions. Subsequently, the septic tanks were identified as incapable of accomplishing later adopted levels of treatment resulting in nonconforming use of septic systems. The users have now filed lawsuit against the City of Anchorage by the hundreds, the results of which have yet to be determined. In our view, the State DEQ is also subjecting the State of Oregon to possible future litigation on account of its past design work. Therefore, our positive recommendation is to ask the DEQ to establish specific levels of treatment performance but to refrain from the review of specific designs to accomplish the permitted levels of treatment. And a cursory review of the engineer's submitted plans would disclose whether a sham treatment system were being proposed in which event corrective measures would then be in order. In the vast majority of cases, the permit would issue with language which puts the facility's owner on notice that his responsibility to achieve required treatment is continuing in nature and subject to audit by the State DEQ on an unannounced basis with the potential for fines in the case of non-compliance. And by changing to this method of plan review, the State of Oregon



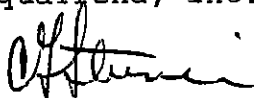
DEQ, Water Quality Division  
February 18, 1986  
Page Five

would then match the majority of the United States as well as the USEPA's review and compliance/enforcement policies.

We would be pleased to respond with additional information or clarification if asked to do so.

Respectfully submitted,

AquaTrend, Inc.



C. G. Steiner  
President

attachments

cc: Environmental Quality Commission  
c/o Mr. Jack Cox  
Hi-Tech Waste Treatment, Inc.  
P.O. Box 2840  
Gearhart, Oregon 97138-2840  
(Our Local Representative)

CGS/bat





# WASTEWATER FILTRATION

## Design Considerations



**ENVIRONMENTAL PROTECTION AGENCY • Technology Transfer**

July 1974

## Chapter I

### INTRODUCTION

Wastewater filtration is but one of the design engineer's alternatives which can be considered in waste treatment flow schemes to meet specified effluent quality objectives. He should consider it along with other alternatives, finally reaching a decision as to which of the several alternatives is cost effective. This publication presents the questions which must be asked in wastewater filtration, the alternatives available in answering the questions, and the design procedures involved in those alternatives.

It is presumed that the reader is familiar with granular media filtration from potable water experience or from study of textbook sources<sup>1</sup>. Therefore, this publication stresses special aspects related to wastewater filtration.

The first and most important question the designer must ask is whether filtration can meet the specified effluent quality goals. If the goal is to upgrade the effluent of an existing secondary treatment works, one must first evaluate the present performance and the reasons for that performance. For example, what portions of the present effluent BOD are of soluble and suspended origin? The filter can remove only a portion of the suspended BOD. If the effluent contains highly soluble BOD, the only solution may be to upgrade the secondary treatment. If the effluent contains primarily suspended BOD, effluent filtration or upgrading the secondary settling will be possible alternative solutions.

The expected performance of the granular filters can be estimated from performance at similar plants elsewhere, or by pilot studies at the plant in question. Appendix A presents a summary of operating results at a number of plants in the U.S. and the U.K. Similar compilations with more data from U.S. activated sludge plants are available in recent EPA design manuals<sup>2,3</sup>. The mean and range of the performance data from these two sources is summarized in table I-1.

The data in table I-1 and the sources from which it was derived indicate that a marginal secondary effluent could easily be upgraded to a 30-30 standard, and probably to a 20-20 standard, by tertiary filtration, i.e., without chemical treatment. A good secondary effluent which already meets the 30-30 standard may approach a 10-10 goal by tertiary filtration. If the effluent quality goal is less than 10-10, some form of chemical treatment will be needed in the secondary or in a tertiary stage prior to filtration.

After considering the effluent quality goals and the ability of granular filtration to achieve those goals, and if filtration is still one viable alternative, the following design questions must be considered in arriving at a successful installation:

- What are the appropriate flow schemes?
- What minimum filter run length is acceptable?
- What filter configurations are appropriate for wastewater?
- Is pilot scale testing needed, and if so, how should it be conducted?

EPA 625/1-75-003a

**PROCESS DESIGN MANUAL  
FOR  
SUSPENDED SOLIDS REMOVAL**

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
Technology Transfer**

**January 1975**

plates over the underdrain. Flow from the underdrain sections discharges through individual ports to a common effluent channel.

The travelling backwash consists of a rolling bridge carrying two pumps and equipped with a hood extending over the length of a single compartment. The backwash pump draws water from the effluent chamber and discharges it into the underdrain section for the compartment where the bridge is stationed. The wash water pump withdraws backwash flow from the hood positioned over the compartment and discharges it to waste. Initiation of a backwash cycle is controlled either by timer or by headloss sensors.

Lynam (56) reported 68 percent removal of SS in uncoagulated activated sludge effluent by Hardinge filters at an SS loading of 0.5 lb/ sq ft/ day and 11.5 inches headloss. At 4.4 inches of headloss the removal at 0.4 lb/sq ft/ day was 75 percent. At 11.5 in. headloss the maximum hydraulic loading was 6.0 gpm/ sq ft compared with 2.5 gpm/ sq ft at 4.4 in. In the same study, coagulation with alum did not improve performance.

### 9.10.3 Filter with On-Line Surface Scouring

Hydro-Clear Corporation offers a fully automatic, shallow bed, fine-media sand filter for tertiary wastewater treatment. The media consists of 10 inches of 0.45 mm sand with a uniformity coefficient of 1.5 supported on a wire mesh above the underdrain system. This filter combines air mixing of the water above the bed with air surging upward through the bed to prolong run length. Influent flow splitting controls the flow to parallel units.

Typically, a filter run consists of a preset number of filter cycles. Each cycle begins by filtering secondary effluent until a preset headloss is developed. Air mixing is then started in the liquid above the bed to resuspend the solids collected on the media surface. After additional headloss buildup, air trapped in the vented underdrain system is forced upward through the bed for a short period. Solids removed by the air are resuspended by the air mixing, and the cycle begins again. After the predetermined number of cycles, the filter is backwashed, ending the run.

Data from Clark County, Ohio, indicate an average filtrate SS concentration of 4.8 mg/ l using effluent from a 0.2 mgd contact stabilization plant at 1.2 gpm/ sq ft (57).

### 9.11 Slow Sand Filters

Slow sand filters consist of a layer of sand supported on graded gravel with an underdrain system but no backwash system. The depth of the sand layer ranges up to 42 inches, and the effective size is 0.25 to 0.35 mm with a uniformity coefficient of 2 to 3 (53). Secondary effluent is applied, generally at a rate of about 3 gph/ sq ft (8), and the filter is used until the wastewater rises to the top of the filter wall. The filter is then removed from service, drained, permitted to dry and then cleaned by manually removing the filtered solids.

Truesdale and Birkbeck (58) report only 60 percent SS removal for slow sand filters and a cleaning frequency of once or twice per month. Rapid clogging of slow sand filters has been

observed (59). Slow sand filters require large land areas and therefore, are not normally employed for large installations. Sand that is lost during cleaning must eventually be replaced.

Filters of the same construction, operated intermittently, have been used as combined physical-biological treatment for secondary effluent polishing. Intermittent operation permits aerobic digestion of solids reducing somewhat the required frequency of maintenance. Area requirements are still quite large, however, and generally limit applications to small plants. The fact that maintenance is only required on an intermittent basis makes this type of filter a viable process for upgrading existing lagoons which cannot meet effluent standards. Further discussion of this application can be found in the U.S. EPA manual, *Upgrading Existing Wastewater Treatment Plants* and elsewhere (60).



**UTILITY VAULT COMPANY INC.**

P.O. Box 323 • Barber Road  
Wilsonville, Oregon 97070 • (503) 682-2844

February 13, 1986

DEQ  
Water Quality Div.  
Sewage Disposal Sect.  
P.O. Box 1760  
Portland, OR 97207

Dear Mr. Olson:

Per our discussion of February 11, 1986, we would like to propose the following amendments to OAR Chapter 340 Div. 73.

1. Amend OAR 340-73-025(1)

- c. Delete reference to cover weighing not more than 75 pounds.

Reason: Concrete covers are difficult, if not impossible, to make at this weight for the strength required.

2. Amend OAR 340-73-025(4)

- A. Septic tank tops shall be capable of supporting an earth load of at least  $300 \text{ PSF} \times 1.4 \text{ Dead Load Safety Factor} = 420 \text{ PSF}$  when coverage does not exceed 3 feet.
- B. Concrete tank walls and bottom shall be capable of supporting loads imposed upon them per ASTM C-857-78 "Minimum structural design loading for underground precast concrete utility structures", and designed per ACI-318-83 "Building Code Requirements for Reinforced Concrete".

Reason: To standardize design procedures for concrete septic and dosing tanks. At present the rule is vague in requirements for design. It is unclear whether the 300 PSF is for all surfaces and if the safety factor is included as standard practice per ACI-318-83.

DEQ, Water Quality Div.  
February 13, 1986  
Page 2

I believe these changes would clarify the design requirements for the septic and dosing tanks. The loading requirements proposed are the minimum required by ASTM and ACI. Vaults not meeting these standards will be incapable of resisting the loads imposed on them. We would not build a vault that didn't meet these standards.

If you have any questions regarding these proposed changes, please feel free to contact me.

Sincerely,



Kelly Patterson  
Plant Engineer

KP:mjd

COLUMBIA COUNTY  
LAND DEVELOPMENT SERVICES

COURTHOUSE  
ST. HELENS, OREGON 97051  
PHONE (503) 397-1501

February 5, 1986

RECEIVED  
FEB 11 1986

Sherman Olson  
DEQ Water Quality Division  
Sewage Disposal Section  
P. O. Box 1760  
Portland, Oregon 97201

Dear Sherman:

As per your request of January 22, 1986, this office has some comments on the proposed amendments to the On-Site sewage disposal rules.

We approve of the move to combine the glossary of terms and definitions. Perhaps this might be an appropriate time to correct your definition of loam (OAR-71-100(113)(a)(C)). The PCA Primer contains definitions of soil textures almost word for word the same as in the present rules, except for the definition of a loam. Careful reading of definitions for sandy loam and for loam leads one to the conclusion that in the rules, part of the definition for sandy loam must have inadvertently been written into the definition for a loam. I have enclosed a copy of page 11 of the PCA Primer so that you can easily make the comparison.

Strength of Wastewater. We see a number of problems with this rule amendment.

1. Commercial systems are already oversized in the present rules. When we have documented actual water usages for commercial structures such as restaurants, beauty parlors, and churches, we have found that actual usage is about half of DEQ's projected flows as outlined in table 2 of the rules.
2. Columbia County has had no failures from commercial systems installed under DEQ's rules. We see no need to further increase the size of these systems when by the existing rules the systems are already sized at double the actual usage.
3. Where and how do we obtain the necessary waste strength information? Who has the responsibility for taking the sample? If the disposal system is for a new structure, where do we obtain the waste strength data?
4. What is your justification for the choice of 200 mg/L to use as the BOD<sub>5</sub> for a single family dwelling? The table from Goldstein and Moberg, 1973 gives values for single family dwellings in subdivisions that range from 205 to 220 to 290, depending on



whether the subdivision is better, average or low cost. Choosing a value of 200 automatically increases the waste strength factor for a commercial structure by as much as 45% over what it would have been had you chosen the factor of 290 instead. Is 200 a fair value to use for single family dwellings?

5. Will DEQ be supplying a table with waste strengths for the different types of commercial dwellings? If so, please be sure to include churches, since they were not included in the Goldstein and Moberg, 1973 table.

OAR 340-71(7)(d) is missing the words, "the dosing tank, providing;."

OAR 340-71-275(2) reads "thirty" instead of "thirty-six."

Sand equivalency. We have strong objections to the inclusion of this amendment.

1. Your justification for the amendment argued that sands "appearing" to meet the medium sand definition also "appeared" to have excess silt and clay. Either the sands met the requirements by sieving or they didn't. Less than 4% of a medium sand can be a silt or clay (pass a #100 sieve). Sieve analysis provides adequate testing to insure a medium sand is being used.
2. We spoke to Bill Eagle, Soil Conservation Service, in order to learn more about the sand equivalency test. Mr. Eagle explained the procedure for obtaining the samples and for testing. Sand equivalency tests are not simple. In addition, Mr. Eagle stressed that the taking of accurate samples is far more crucial in sand equivalency tests than it is in sieve analysis. Certainly, sand equivalencies could not be even roughly performed in the field. A laboratory would be required. From talking to Mr. Eagle, we concluded that the sand equivalency test is more difficult to perform accurately, the results are more likely to be inaccurate, and the test will provide no additional information over what would be learned through sieve analysis.
3. The problems with substandard sands that other county personnel may have experienced may be due either to the improper taking of sand samples, or perhaps due to no sieve analysis being done at all. Perhaps the sanitarian should be the one to do the sampling for analysis. We feel that the sampling procedure is very important. We also feel that there is no justification for requiring the sand equivalency test.

Tile Dewatering Amendment. (OAR 340-71-315(2)). The words you have added are confusing and we do not understand what you are trying to say. If we don't understand what you want, then how can the installers understand? All of the collection tile is "downgradient" towards the silt trap. How can one connect "upgradient" tile to the silt trap? What is it that you meant to say?


Sherman Olson  
February 5, 1986  
Page 3

Thank you for the opportunity to comment. If we think of anything else to comment on, we'll write again. Your amendment package is generally very well written. You are to be complimented on your fine work.

Sincerely,



Anne Cox  
Sanitarian, R.S.



Roy Eastwood  
Sanitarian, R.S.

AC:cf

*Sand:* Individual grains can be seen and felt readily. Squeezed in the hand when dry, this soil will fall apart when the pressure is released. Squeezed when moist, it will form a cast that will hold its shape when the pressure is released but will crumble when touched.

*Sandy loam:* Consists largely of sand, but has enough silt and clay present to give it a small amount of stability. Individual sand grains can be seen and felt readily. Squeezed in the hand when dry, this soil will fall apart when the pressure is released. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is released but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

*Loam:* Consists of an even mixture of the different sizes of sand and of silt and clay. It is easily crumbled when dry and has a slightly gritty, yet fairly smooth feel. It is slightly plastic. Squeezed in the hand when dry, it will form a cast that will withstand careful handling. The cast formed of moist soil can be handled freely without breaking.

*Silt loam:* Consists of a moderate amount of fine grades of sand, a small amount of clay, and a large quantity of silt particles. Lumps in a dry, undisturbed state appear quite cloddy but they can be pulverized readily; the soil then feels soft and floury. When wet, silt loam runs together and puddles. Either dry or moist casts can be handled freely without breaking. When a ball of moist soil is pressed between thumb and finger, it will not press out into a smooth, unbroken ribbon but will have a broken appearance.

*Clay loam:* A fine-textured soil which breaks into clods or lumps that are hard when dry. When a ball of moist soil is pressed between the thumb and finger, it will form a thin ribbon that will break readily, barely sustaining its own weight. The moist soil is plastic and will form a cast that will withstand considerable handling.

*Clay:* A fine-textured soil that breaks into very hard clods or lumps when dry, and is plastic and unusually sticky when wet. When a ball of moist soil is pressed between the thumb and finger, it will form a long ribbon.

## Soil Color

The color of a soil varies with its moisture content. While it is standard practice to determine color of a soil in a moist condition, the moisture condition of the soil when color is determined must

always be recorded. Color of mottled soils must be determined at their natural moisture contents because manipulation will blend and destroy individual colors. The apparent color of a soil, both wet and dry, is one of the tools used to locate different soils and to determine the limits of each soil horizon (layer). The individual horizons are defined under "Soil Profile," page 11.

Color indicates possible presence of certain compounds. Black to dark brown colors are indicative of organic matter. Reddish soils indicate the presence of unhydrated iron oxides (hematite) and are generally well drained. Yellow and yellowish brown soils indicate presence of iron, perhaps hydrated iron, and are poorly drained; otherwise, the iron would be in a different chemical form with a different color, perhaps redder. Greyish blue and grey and yellow mottled colors indicate poor drainage. White colors indicate presence of considerable silica or lime, or in some cases aluminum compounds.

## Soil Structure

A moist or dry soil mass in its natural state tends to break into pieces of a rather definite shape resembling a geometric figure or some other material. Thus a soil may have a prismatic, block, granular, crumb, or floury structure. Structure is indicative of drainage characteristics and is one of the tools used to locate different soils and to determine the limits of soil horizons. Soil structure should not be confused with the structural (strength) characteristics of a soil.

## Soil Profile

A vertical cross-section of soil layers constitutes the soil profile, which is composed of three major layers designated A, B, and C horizons. The A and B horizons are layers that have been modified by weathering, while the C horizon is unaltered by soil-forming processes. (The D horizon, below the three soil layers, is the underlying material in its original condition of formation.)

*A horizon:* The original top layer of soil having the same color and texture throughout its depth. It is usually 10 to 12 in. thick but may range from 2 in. to 2 ft. Removing native cover of timber by lumbering operations or of grasses by farming may introduce erosion that removes this top layer as well as underlying layers. The A horizon is also referred to as the topsoil or surface soil when erosion has not taken place.

*B horizon:* The soil layer just below the A horizon

TILLAMOOK COUNTY ENVIRONMENTAL HEALTH  
TELEPHONE 503-842-5511 EXT 317

MEMO

DATE: 24 FEB 86

TO: SHERM OLSON, DEQ

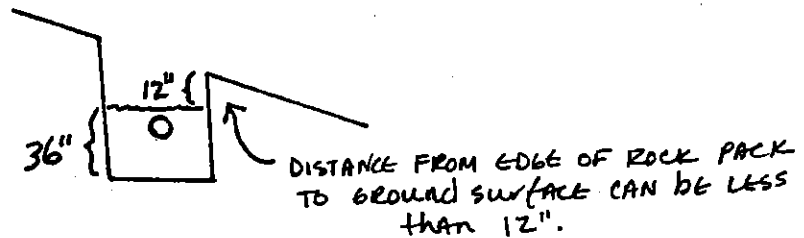
FROM: DOUG MARSHALL, TILLAMOOK CO. *DM*

RE: COMMENTS CONCERNING PROPOSED RULE CHANGES

I WISH TO OFFER THE FOLLOWING COMMENTS:

1. THE RULES NEED BOTH A TABLE OF CONTENTS AND A SUBJECT INDEX
2. 340-71-100(28) CUT-MANMADE  
THIS IS AN ENTIRELY NEW DEFINITION OF A MANMADE CUT. WHAT IS THE REASON FOR THE CHANGE?
3. 340-71-100(38) DOSING TANKS  
THIS IS NOT A NEW DEFINITION BUT I AM CURIOUS WHY 20% WAS CHOSEN. THIS EQUATES OUT TO APPROXIMATELY 5 PUMP CYCLES/DAY. WHY NOT USE 3, 4, OR 6 CYCLES/DAY?
4. 340-71-100(44) EFFLUENT SEWER  
I PROPOSE ADDING THE WORDING " .... DRAINAGE PIPE CONVEYS PARTIALLY TREATED SEWAGE ...."
5. 340-71-100(45) EMERGENCY REPAIRS  
I PROPOSE CHANGING THE WORDING TO " .... TO RELIEVE A SITUATION [IN WHICH] SUCH AS SEWAGE [IS] BACKING UP ... "
6. 340-71-130(16)  
I DISAGREE WITH THE LAST SENTENCE IN THE NEW SECTION. JANITORIAL AND COMMERCIAL GRADE CLEANERS ARE NOW AVAILABLE TO HOME OWNERS. THESE CLEANERS CONTAIN ORGANIC COMPOUNDS THAT BREAK DOWN VERY SLOWLY IN THE ENVIRONMENT. EPA AND STATE HEALTH DIVISION CONCERNS HAVE BEEN DIRECTED AT THE PROBLEM OF THESE LONG-CHAIN ORGANIC COMPOUNDS AND THEIR OCCURANCE IN OREGON WATER SUPPLIES AND AQUIFERS. THIS SENTENCE SHOULD BE DELETED FROM THE NEW RULES.
7. 340-71-140(4)(a) SURCHARGES  
I OBJECT TO ANY INCREASE IN THE SURCHARGE FEES WHEN WE ALL KNOW THAT NO INCREASE IN SERVICE WILL BE GIVEN. WE ARE MORE LIKELY TO GET LESS SERVICE FOR OUR MONIES FROM THE DEPARTMENT. I FORESEE ANNUAL INCREASES IN THIS ITEM AND I CONSIDER IT A TAX ON THE CITIZENS WITHOUT THEIR VOTE. I'D LIKE TO SEE AN AG'S OPINION ON THE LEGALITY OF THIS ISSUE.

8. 340-71-220(1)  
THESE DEFINITIONS ARE ALL IN THE NEW SECTION 340-71-100. THIS ENTIRE SECTION SHOULD BE DELETED AND THE REMAINING SECTION RENUMBERED.
9. 340-71-280(3)(a) SEEPAGE TRENCHES  
I WOULD RECOMMEND AMENDING THIS RULE TO ALLOW SEEPAGE TRENCHES WITH A MAXIMUM DEPTH OF 48" BECAUSE



10. 340-71-290(4)(a) - (d) SAND FILTER SIZING  
SUFFICIENT DATA MUST BE AVAILABLE ON THE SAND FILTER SO THAT WE CAN REDUCE THE SIZING REQUIREMENTS ON THEM. ONE PASS THRU THE FILTER GIVES AN APPROXIMATE BOD OF 5-10 AND AN APPROXIMATE TSS OF 5-15. IF WE USE THE NEW FORMULA PRESENTED IN 340-71-220(3)(d), AND LET THE R VALUE FALL BELOW 1 (SINCE WE ARE DEALING WITH A HIGHLY POLISHED EFFLUENT)

$$L = P \times Q \times R$$

LET P=50 (WORST APPROVABLE SOILS)  
Q=450 GPD (3-4 BEDROOM HOUSE)  
R=15/150 (HIGH TSS FIGURE FOR FILTER)

$$\begin{aligned} L &= 50 \times 450/150 \times 15/150 \\ &= 50 \times 3 \times 1/10 \\ &= \underline{15 \text{ FEET OF DISPOSAL TRENCH}} \end{aligned}$$

11. 340-71-315(2)(g)  
TO REDUCE CONFUSION IN THIS SECTION I WOULD SUGGEST DRAWING A DIAGRAM OF THE INTERCEPT SYSTEM, NUMBERING IT, AND ADDING THE WORDS " ... SEE DIAGRAM # \_\_\_\_ " TO THE END OF THE SECTION.
12. 340-71-355 GRAVEL-LESS SYSTEMS  
WHERE ARE THE RULE MODIFICATIONS IN LIGHT OF THE SEVERAL SYSTEM FAILURES? I UNDERSTAND THE SYSTEMS FAILED DUE TO EXCESSIVE FINES AND/ OR BEACH SANDS.
13. 340-71-220(2)(i)(4) TABLE 1  
YEAR 'ROUND AND SEASONAL SURFACE PUBLIC WATERS NEED TO BE

*Wish to add  
down*

*to be added to  
table*

CLEARLY DEFINED AS IN 340-71-100

14. 340-71-220(2)(i)(6) TABLE 1

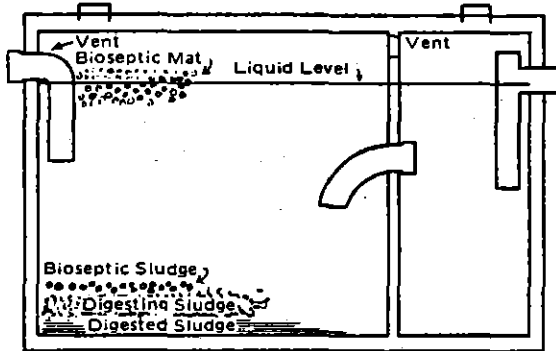
THE PROPOSED SETBACK FOR A SAND FILTER TO SURFACE PUBLIC WATER IS 50'. A GROUNDWATER INTERCEPTOR IS PLACED WITHIN 20' OF A STANDARD DISPOSAL TRENCH AND DISCHARGES DIRECTLY INTO THE SAME PUBLIC WATER. IF 20' IS SUFFICIENT SETBACK FOR THE INTERCEPT SYSTEM WHY IS IT NOT OKAY FOR A SAND FILTER WITH IT'S HIGHLY POLISHED EFFLUENT

## DON'T PUMP SEPTIC TANKS OR CESSPOOLS

(PUMPING IS LIKE DUMPING A PAIL OF WATER AND WAITING FOR THE PAIL TO REFILL). ONLY WHEN NON ORGANIC MATERIALS ARE PRESENT IS PUMPING NECESSARY, 96% OF ALL SEPTIC SYSTEMS (INSTALLED PROPERLY) CAN BE CLEANED WITHOUT PUMPING OR DIGGING.

**SUBJECT:** Septic Tank – Care and Maintenance of Residential, Commercial, Industrial Installations

### CAUSES OF BLOCKED OR SLUGGISH SYSTEMS



### DESIGN & OPERATION

The majority of modern building codes require installation of two-compartment septic tanks similar in design to the one shown above. The larger compartment in the septic tank receives the raw sewage and is where the enzyme-bacteria bioseptic treatment process takes place. The second, smaller compartment is a trapping or holding compartment where the relatively clear liquid effluent collects before it passes into the drain system and leaches into the soil.

The bioseptic process (in which bacteria grow and produce enzymes) takes place in both the floating mat of lighter-than-water solids as well as in the heavier-than-water sludge deposit at the bottom of the tank. Periodically, solids in the floating mat become heavier-than-water and solids in the sludge become lighter-than-water. This continual sinking and rising of solids in the septic tank is a necessary part of the decomposition process and is referred to as the "rolling action."

In the bioseptic process, the bacteria-produced enzymes convert the sewage solids (grease, food scraps, paper, hair, etc.) into natural gases and liquid effluent. The bioseptic process is a natural and spontaneous activity in raw sewage. However, the bioseptic process can be destroyed or inhibited by too great a flow of liquid into the tank, by household germicides and disinfectants, and by excessive accumulations of grease, cosmetics, wet-strength papers and undigested food scraps. When the enzyme-bacterial bioseptic process is inhibited or destroyed, waste solids build up in the digestion chamber and overflow into the effluent chamber. From the effluent chamber, waste solids pass into the drainage system where they clog drainage tile and soil pores. When soil pores and drainage tile are clogged, even pumping the septic tank will not restore the percolation rate necessary to disperse the liquid effluent throughout the drainage area.

Several different problems may result in a blocked or sluggish plumbing system. Before taking any corrective action, it is essential that the system be given a thorough examination to correctly diagnose the cause of the stoppage and to prescribe an effective and economical corrective treatment. The following are the most common causes of industrial installation:

- 1. Build-up of waste solids in horizontal sewer lines.**  
The inside of sewer pipe is often rough enough to trap particles of fat, grease, paper, food, thread, hair and peelings as they are carried through the pipe. Over a period of time these deposits can completely encircle the interior of the line for a distance of many feet – thus restricting the flow of sewage through the pipe.
- 2. Foreign objects in the sewer line.** Frequently foreign objects are dropped accidentally into large drain openings or toilets and are carried through the trap into the sewer line. The foreign object may lodge in an elbow or straight section of pipe for several weeks, months or even years, without causing a serious stoppage. However, paper or waste solids may suddenly catch on the obstruction and in a short time create a partial or total stoppage. Also, plant roots may penetrate the sewer line between the house and the septic tank, gradually restricting the passage of solid wastes.
- 3. Broken pipes.** Sometimes rain water or compacting of the soil will result in a settling of the septic tank, sewer line or distribution box; resulting in a broken pipe. Often the pipe will fill up with soil and block the flow of sewage into the septic tank. However, in some instances the fracture is slight and merely allows soil to gradually seep into the sewer line and into the septic tank itself. When this happens, the septic tank may gradually fill with soil. If you notice a gradual sinking of the ground level above or near the septic tank, it is a good idea to check for a broken sewer line.
- 4. Solids accumulation in septic tank, drain tile, soil pores.** When the septic system is too small or where the bioseptic process is inhibited or destroyed, the waste solids may build up to the point where they pass into the drainage area and clog the soil pores and drain tile as described earlier in this bulletin.
- 5. High water table.** During periods of heavy rains or when flooding, changes in surface drainage, or natural springs raise the water table, drain fields may be submerged and dry wells may fill with water. This condition is indicated when water is standing on the surface over the drain field or when the water rises in a shallow test hole.

In this technical bulletin we will cover only the corrective

and preventive maintenance programs for condition number 4: Solids accumulation in septic tank, drain tile, soil pores. For technical information on the diagnosis and correction of other malfunctions, refer to your directory of SEPTICLEAR Technical Bulletins.

### CORRECTIVE TREATMENT AND PREVENTIVE MAINTENANCE

SEPTICLEAR Chemical Treatment is a very strong chemical solution which when applied to a septic system at the proper rate will:

- a. neutralize the alkali build-up that retards and destroys bacterial growth.
- b. liquifies organic solid matter which builds up to inhibit the water flow through the middle of a septic tank.

SEPTICLEAR Chemical Treatment also contains:

- a. a root irradiator to retard root growth in sewer lines.
- b. a corrosion inhibitor to protect the sewer pipes, even plastic.
- c. a wetting agent which allows the chemical to penetrate organic matter very rapidly.

SEPTICLEAR Super-Pack Bacteria is a scientifically compounded mixture of raw enzymes and specially developed strains of bacteria. Most homeowners do not realize that it takes many different types of enzymes to digest the solid wastes in their septic system. Certain bacteria produce Proteolytic enzymes which digest proteins. Others produce Amylases which digest starches, sugars and other carbohydrates. Lipase enzymes are the most important, because they are the ones which turn grease and oil into water-soluble glycerins and glycerides. Cellulase enzymes digest paper and vegetable fibers such as cotton and linen. The specially developed bacteria in SEPTICLEAR Super-Pack Bacteria assure proper levels of each essential type of enzyme, and it is packaged powdered in a dormant state so no strength is lost in shipping or storage.

When it is determined that there are no waste accumulations or foreign objects in the sewer lines, and that no lines are broken between the exterior wall and tank or between the tank and distribution box; it may be assumed that the tank and drainage system are full of waste solids. *Whenever possible, it is recommended that a qualified inspector verify the condition of the septic tank, distribution box and drain tile through visual inspection.* This can be accomplished by probing for the septic tank cover and the distribution box and digging them out for a visual examination. In all but the most neglected and critical cases, it is possible to hydrolize (dissolve) the waste solids in the septic tank, drain system and even in the soil pores, with SEPTICLEAR Chemical Treatment. Needless to say, the more critical the situation, the more Chemical Treatment will be required to thoroughly hydrolize the waste solids clogging the system. Before prescribing a Corrective or Preventive Treatment Schedule, it is recommended that the following factors be reviewed:

1. Tank size;
2. Age of System;
3. History of Maintenance;
4. Type and Volume of Sewage;
5. Visual Appearance of Plumbing

The following are suggested alternative treatment schedules.

Which schedule to recommend will depend upon a thorough examination of the system. *However, the only safe and sure method of assuring a properly functioning septic system is a regular preventive maintenance program designed to prevent critical accumulations of solids from collecting in the septic tank and drainage system.*

### TREATMENT SCHEDULES

**1. Total Stoppage:** If possible, open the septic tank for visual inspection prior to treatment. For best and fastest results, pour Chemical Treatment directly into tank through clean-out opening, or pour through closest drain opening or cleanout. If the plumbing is backed up into the basement or sinks and tubs, it is recommended that the excess liquid be pumped off before adding the Chemical Treatment. A treatment schedule of two gallons of Chemical Treatment per 500 gallons of septic tank capacity is recommended. However, if visual inspection indicates the tank is very old or that a large volume of solid wastes such as tissue, grease and food scraps are present, it may be advisable to add one or two extra gallons. An extra gallon is suggested where a garbage disposal has been used. Allow the Chemical Treatment to work 24 hours minimum before loading the septic tank with liquids from a clothes washer, dishwasher, shower or bath. When Chemical Treatment is added through plumbing fixtures or cleanouts, or when excess liquid has been pumped off, flush lines clean and refill drain traps by running cold water through lines. Chemical Treatment should restore normal drainage within 48 hours. Three weeks following treatment, it is recommended that a regular Preventive Maintenance program be implemented using SEPTICLEAR Super-Pack Bacteria as directed.

**2. Sluggish Drainage:** Follow treatment procedures same as for Total Stoppage, except treat at one gallon of Chemical Treatment per 500 gallons of septic tank capacity. Three weeks following treatment, it is recommended that a regular Preventive Maintenance program be implemented using SEPTICLEAR Super-Pack Bacteria as directed.

**PREVENTIVE MAINTENANCE:** (residential septic tank to 1,500 gallon capacity) Don't wait for trouble to occur. Apply one gallon SEPTICLEAR Chemical Treatment; follow in 3 weeks with one box SEPTICLEAR Super-Pack Bacteria. Repeat every six months.

### DRAINFIELD

To restore proper drainage in drain tile, apply 1½ gallons SEPTICLEAR Chemical Treatment per each 50 feet of drain tile, followed in 3 weeks with 1 box SEPTICLEAR Super-Pack Bacteria for each 150 feet of drain tile. This must be done through the junction or distribution box.

To maintain proper drainage in drain tile, apply ½ gallon SEPTICLEAR Chemical Treatment per each 50 feet of drain tile, followed in 3 weeks with 1 box SEPTICLEAR Super-Pack Bacteria for each 150 feet of drain tile, through the junction box.

For commercial systems or additional information please write:

SEPTICLEAR

6233 S.E. FERN  
PORTLAND, OR 97206

(503) 774-9659



SEPTIC TANK:

1. ROOT MAIN LINE
2. PUT 4 GAL. CHEM. TREATMENT INTO CLEAN OUT, FLOOR DRAIN OR WASHING MACHINE DRAIN / not TOILET  
DON'T SPIL - WEAR RUBBER GLOVES
3. RESTRICT WATER USE FOR 48 HRS. ( NO LAUNDRY)
4. IN 3 WEEKS PUT ONE PACKAGE OF SUPER PACK BACTERIA DOWN YOUR TOILET

DRAIN FIELDS:

1. FIND JUNCTION / T / DISTRIBUTION BOX
2. INSERT GARDEN HOSE IN WEEP LINE AS FAR AS IT WILL GO
3. THRU FUNNEL POUR ONE GAL. OF CHEM. TREATMENT INTO HOSE AS YOU SLOWLY PULL BACK ON HOSE
4. IF WEEP LINE IS DRY - ADD 2 GAL. WATER

CESS POOL:

1. ROOT MAIN LINE
2. THRU CLEAN OUT, FLOOR DRAIN, WASHING MACHINE DRAIN POUR  
10 - 15 yr old POOL            8 Gal. CHEM. TREATMENT  
15 - 25 yr old POOL            10 Gal.  
25 + older POOL                12 Gal.  
INTO POOL. DON'T SPILL - WEAR RUBBER GLOVES
3. RESTRICT WATER USE FOR 48 HRS ( no LAUNDRY)
4. IN THREE WEEKS PUT 1 BOX OF SUPER PACK BACTERIA DOWN YOUR TOILET

MAINTENANCE:

EVERY 6 MONTH 1 GAL. CHEMICAL TREATMENT TO BE FOLLOWED THREE WEEKS LATER BY 1 BOX OF SUPER PACK BACTERIA

# SEPTICLEAR

# TECHNICAL BULLETIN

**SUBJECT:** Corrective Treatment and Preventive Maintenance for  
Clogged Cesspools — Septic Tanks — Drain Fields

## DESIGN

**Cesspools** are cylindrical tanks buried vertically in the ground. They are normally constructed of concrete, and they have weep holes in their walls which permit liquid to seep into the surrounding soil. Cesspools are used only where the soil is highly porous.

**Septic tanks** are rectangular tanks buried horizontally in the ground. They are normally constructed of concrete or steel and are connected to a drainage system such as a drywell, drain field or seepage pit.

## OPERATION

Cesspools and septic tanks both convert sewage into natural gases and liquid effluent by means of Enzyme-Bacterial action. Waste solids accumulate at the bottom of the tank and in a mat floating on the surface of the effluent. Bacteria grow in the solids and secrete enzymes which convert the solids into harmless gases and water-soluble elements. The liquid effluent passes through the weep holes in the cesspool walls, or through the drainage system of the septic tank, and leaches into the porous soil where it is absorbed as nourishment by living plant and animal organisms.

Cesspools contain air (oxygen) and the biological decomposition of the waste solids is accomplished by Aerobic Bacteria.

Septic tanks are air tight (without oxygen) and the biological decomposition of waste solids is accomplished by Anaerobic Bacteria.

## CAUSES OF FAILURE

Three factors associated with our modern standard of living contribute to the failure of cesspools and septic tanks. They are:

1. **High Volume of Liquid Wastes.** Today's households use a tremendous volume of water each day. This large volume of water dilutes and disperses the solid wastes in the cesspool or septic tank, making it more difficult for the bacteria to grow and produce enzymes. Decomposition of solid wastes is hindered each time the tub, shower, clothes washer or dishwasher discharges its load of hot, soapy water into the cesspool or septic tank.
2. **Bacteria-Destroying Detergents, Disinfectants, Cleansers.** Our improved hygiene is a boon to our health, but the mouthwashes, detergents, disinfectants and cleansers which we use to kill bacteria in the home also destroy some of the helpful bacteria in the cesspool or septic tank.

3. Grease, Oil, Paper, Cosmetics. Food scraps and body wastes are easily decomposed. However, the increasing amounts of greases, oils, cosmetics, paper and petroleum tars which enter the cesspool or septic tank are extremely difficult for normal enzyme-producing bacteria to decompose. Grease is the major problem, followed closely by the new wet-strength paper fibers found in facial tissues, toilet tissue and kitchen toweling.

When the cesspool or septic tank is subjected to a combination of these three factors, bacterial action often cannot hydrolyze (dissolve) all of the solid waste that enters the pool or tank. When this happens, solids accumulate to the extent that they enter into the drain field and clog the soil pores and greatly reduce the percolation rate of the drainage area. The solids in the tank prevent new sewage from entering, resulting in slow drains, odors and in critical cases, backed up and blocked plumbing.

### CORRECTIVE TREATMENT

Where drainage is extremely sluggish or completely blocked, treatment with SEPTICLEAR Chemical Treatment is recommended.



**Chemical Treatment** is a combination of acids, root eradicators and corrosion inhibitors. It is extremely strong and is designed to rapidly and efficiently hydrolyze the accumulated solids in the tank, weep holes and soil pores. Chemical Treatment will dissolve grease, paper, cloth, food scraps, and vegetable peelings in the tank, as well as the partially decomposed solids in the soil pores. A new and exclusive corrosion inhibitor in Chemical Treatment prevents the acids from harming the plumbing pipes, and concrete or steel tank walls. The residue from Chemical Treatment is completely biodegradable and will not pollute the environment.

Many people have used caustic soda (Lye, Sodium Hydroxide) in their cesspools, septic tanks and drain fields. **CAUSTIC SODA IS HIGHLY DAMAGING TO THE CESSPOOL, SEPTIC TANK AND DRAINAGE AREA.** Caustic Soda should never be used for two reasons: (1) Lye and grease may produce an extremely hard crude soap which can permanently clog weep holes, inlet-outlet pipes and soil pores; and (2) Lye breaks down the soil into very fine granules which pack tightly together, reducing the soil porosity and percolation rate.

### PREVENTIVE MAINTENANCE

In new cesspools and septic tanks, and in existing tanks where the accumulation of solids is not too far advanced, proper levels of bacterial action can be maintained through regular treatment with Super Pack Bacteria.



Super Pack Bacteria is a scientifically compounded mixture of raw enzymes and specially developed strains of bacteria. Most homeowners do not realize that it takes many different types of enzymes to digest the solid wastes in their septic tank or cesspool. Certain bacteria produce Proteolytic enzymes which digest proteins. Others produce Amylases which digest starches, sugars and other carbohydrates. Lipase enzymes are the most important, because they are the ones which turn grease and oil into water-soluble glycerins and glycerides. Cellulase enzymes digest paper and vegetable fibers such as cotton and linen. The specially developed bacteria in Super Pack assure proper levels of each essential type of enzyme.

Many people add yeast to the cesspool or septic tank to stimulate bacterial growth. Yeast contains bacteria, but they are primarily Amylase-producing bacteria, and will not help digest the proteins, greases and cellulose present in the waste solids.

REMINDER

# SEPTICLEAR INC. ©

REMINDER

SOLVING SANITARY PROBLEMS  
THROUGH CHEMISTRY AND SCIENCE

## DON'T FORGET

### PREVENTIVE MAINTENANCE ON YOUR CESSPOOL — SEPTIC TANK — DRAIN FIELD

One gallon of Chemical Treatment must be added to your Septic System every 6 months (in order to counteract the ALKALI content of the Pool or Tank). Three weeks later add 1 box of Septiclear Hybrid Bacteria to obtain the optimum of Enzyme Bacterial Growth. (One (1) box semiannually poured into the Drain Field Junction Box or direct into Leach Line will help prevent clogging.)

The complete line of SEPTICLEAR SANITARY PRODUCTS ARE AVAILABLE AT YOUR INDEPENDENT HARDWARE STORES.



#### CHEMICAL TREATMENT

Aid Bacterial Growth  
Cleans Septic Tanks  
Cesspools  
Drain Fields  
No Pumping  
No Digging



**DRAIN OPENER**  
New  
Biodegradable

For Kitchens  
Will not harden in lines  
Aid Bacterial Growth



**HAIR-AWAY**  
Dissolves Hair

For Bath and Showers  
Dissolves hair and soap.



**DEODORANT**  
For Holding Tanks

Holding Tanks  
Rug Shampoos  
Mixes with all water solutions.

#### ENZYME-BACTERIA SUPER-PACK

**SEPTICLEAR OREGON CERTIFICATE OF REGISTRATION AND WARRANTY OF PURCHASE**

DATE \_\_\_\_\_

**Purchaser**

name \_\_\_\_\_ print  
 address \_\_\_\_\_  
 city \_\_\_\_\_ state \_\_\_\_\_ zip \_\_\_\_\_

**Purchased**

\_\_\_\_\_ Gallons Chemical Treatment  
 \_\_\_\_\_ Super-Pack Bacteria

customer's signature \_\_\_\_\_

Use only SEPTICLEAR Drain Opener in the kitchen and SEPTICLEAR Hair Away in the tub, shower and wash basin. Look for the complete line of quality SEPTICLEAR products at your local independent hardware store.

**Use only SEPTICLEAR Drain Opener in the kitchen and SEPTICLEAR Hair Away in the tub, shower and wash basin.**

**DEALER**

name \_\_\_\_\_  
 address \_\_\_\_\_ city \_\_\_\_\_  
 WARRANTY: (check one)  
 (see warranty instructions)  
 no warranty \_\_\_\_\_  
 maintenance only \_\_\_\_\_  
 6-month prorated \_\_\_\_\_  
 1-year limited \_\_\_\_\_

**USED FOR: (circle one)**

1. Opening Drain (limited to 1 gal.)
- CLEANING:
2. Septic Tank (min. 4 gal.)
3. Drain Field (no warranty)
4. Semi-annual Maintenance
5. Cesspool:

- a. under 15 years old-min. 8 gal.
- b. under 25 years old-min. 10 gal.
- c. over 25 years old-min. 12 gal.  
 (or if caustic soda has been used)

Separate and retain this portion

**WARRANTY INSTRUCTIONS (Residential only)**

ALL WARRANTIES LIMITED TO PRODUCT ONLY. NO LIABILITY OR RESPONSIBILITY FOR ANY DAMAGE WILL BE ASSUMED BY THE MANUFACTURER, MERCHANT, OR THEIR AGENT. Read all instructions and precautions BEFORE USE.

100% - 1st 90 days then prorated for balance of one (1) year.

**6-months prorated on the following:**

- a. more than 8 people using the system
- b. more than 1 family (duplex or multiplex)
- c. if the system is over 25 years old.

**NO WARRANTY on the following:**

- a. Drain fields
- b. When line to septic tank or cesspool have not been rooted with power rodder to be sure line is not broken or blocked with non-organic material.
- c. Systems not put in according to the prevailing sanitation code.

**CAUTION NO WARRANTY** will be allowed in the cleaning of cesspools or septic tanks if the minimum required amount is not used and the PREVENTATIVE MAINTENANCE as outlined is not followed as directed on labels and brochures.

**IN THE EVENT OF A FAILURE:**

- a. Customer will be given credit for the unused portion of the warranty period.
- b. In factory service area, SEPTICLEAR will inspect the system at no charge. If retreated or if it is found to be a plugged pipe, a normal service call will be charged.

**Special note: cesspools only**

Retreats (at factory direction) will be treated with minimum treatment plus 4 additional gallons, plus a normal service call charge with customer given credit for the unused portion of the warranty.

From information contained above mark one of the following and also check on registration card.

No warranty \_\_\_\_\_  
 maintenance only \_\_\_\_\_  
 6-month prorated \_\_\_\_\_  
 1-year limited \_\_\_\_\_

**WARRANTY REGISTRATION FOR:**

name \_\_\_\_\_  
 address \_\_\_\_\_  
 city \_\_\_\_\_ state \_\_\_\_\_ ZIP \_\_\_\_\_

PLACE  
STAMP  
HERE

When the bacteria within a septic tank becomes weak or when a septic tank is pumped and nothing is done to revive the bacteria, solid particles may be carried into the drain field. Also conditions within the drain field area can change causing drain fields to work improperly (i.e. water tables, tree roots growing into drain lines, drain tiles turned out of alignment, etc. Most systems will start to work in 6 to 8 hours but some may take up to 3 days to realize the full effect. If the system is not working in these time limits, and the above conditions have been checked in the drain field, contact Merchant or SEPTICLEAR OF OREGON, 222 N.E. 102nd, Portland, Oregon, 97220 Phone 253-7523.

**IMPORTANT**

All warranties require proof of purchase (keep sales slip) and mailing of filled-out Certificate of Registration within 10 days of purchase. Warranty starts day of purchase.

**NOT COVERED BY WARRANTY (common causes of failures)**

**SEPTIC TANK**

- a. Broken pipes.
- b. Outlet of septic tank plugged (root backwards from junction box - garden hose, with water pressure, sometimes will work).
- c. Non-organic material lodged in pipe.
- d. Drain-field not working (check water table)

**CESSPOOL**

- a. Large amounts of caustic soda used in the past.
- b. Broken pipe
- c. Non-organic material lodged in pipe.

**DO NOT POUR CHEMICAL TREATMENT IN TOILET BOWL.**

**REMEMBER!** The average septic system stops functioning because the ALKALI CONTENT of the water is too high for good bacterial growth. You must always follow treatment in 3 weeks with 1 box Super-Pack bacteria. Then 1 gallon SEPTICLEAR Chemical Treatment every 6 months followed in 3 weeks with 1 box Super-Pack bacteria.

**SEPTICLEAR of Oregon**  
 222 N.E. 102nd Avenue  
 Portland, Oregon 97220

**SEPTICLEAR INC.**  
 6233 S.E. FERN  
 PORTLAND, OR 97206  
 (803) 774-9659

Septiclear Inc., 6235 S.E. Fern St., Portland, OR. 97206 Public Hearing

Feb. 20, 1986  
Received from  
Bill Lamb

TO WHOM IT MAY CONCERN:

We, the undersigned retail stores, have not had any complaints of SEPTICLEAR products damaging or causing deterioration of on-site sewage disposal systems.

Store Name	Address	Yrs. prod. sold	Signature
2/6/86 Masterson - St Clair Bend		10	Hal E. St Clair
2/7/86 Alder Grove True Value	16130 SW Boone Ferry Rd. S		Robert Jackson
2/6/86 Coast to Coast	218 A Avenue	9	Billie L. Weber
2-10-86 Coast to Coast	3660 SE 172nd	14	Hubert Goss
2-10-86 Haber Bros Hardware	14127-SE STARK	15	Fella Heber
2-10-86 Pararose True Value Home	10625 N.E. Sandy Blvd.	15	Daryl McIndoo
2-10-86 Waxland Park True Value	10414 NE Halsey	15	Elmer D. Mann
2/10/86 Coast to Coast	12225 NE Glisan	15	John H. Sarge
2/12/86 Geo MacLean Plumbing	5529 SE Foster	1.5	Bruce Halter

Public Hearing  
Feb 20, 1986  
Received by M. Hallibur  
From Horst Eberspacher



**COFFEY LABORATORIES, INC.**

4914 N.E. 122nd Ave.  
Portland, OR 97230  
Phone: (503) 254-1794

Feb 17, 1986

Septaclear

Sludge pH

pH

Dan Riske  
2/11/86

6.1

Thomas Hale  
2/11/86

7.4

original pH  
D. Riske

Middle  
Sludge 5.0

Susan M. Coffey

Public Hearing  
Feb. 26, 1986  
Received from Horst  
Eber spaecher

Amend OAR 340-71-130 by adding a new section (16) as follows:

- (16) No person shall place or cause to be placed into an on-site sewage disposal system or part thereof any substance or material in sufficient quantity which is capable of: adversely affecting the system's treatment process: causing damage or hazard to one or more components of the system: or otherwise altering the physical, chemical or biological properties of any waters of the state in a manner not lawfully authorized. Final PH after treatment cannot be outside the range of four (4) to nine (9) on the PH scale. Organic solvents and explosives are prohibited. Cleaning compounds typically found in a home and used in accordance with manufacturers' directions are not likely to have an adverse impact upon the system or groundwater quality.





## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. F, January 31, 1986, EQC Meeting

Request for Authorization to Conduct Public Hearings on Proposed Amendments to Rules Governing On-Site Sewage Disposal, OAR Chapter 340, Divisions 71, 72, and 73.

### Background and Problem Statement

ORS 454.625 which relates to Sewage Treatment and Disposal Systems provides that the Commission, after hearing may adopt rules for on-site sewage disposal.

ORS 468.020 which relates to Pollution Control provides that the Commission after hearing, may adopt rules as it considers necessary and proper in performing the functions vested by law in the Commission.

The last major changes to the on-site sewage disposal rules were made in May 1984. Since then, Department staff have found that several amendments are needed to clarify intent, introduce new rule language pertaining to issues not previously addressed, as well as to make some housekeeping changes. The proposed housekeeping amendments would not change the intent of a rule, but would provide for smoother statewide implementation of the on-site sewage disposal program. In addition, two (2) counties which perform on-site activities for the Department have requested that their specific fee schedules, previously adopted as rules by the Commission, be repealed. The significant issues staff propose to take to hearing are presented in the "Discussion of Proposed On-Site Sewage Disposal Rule Modifications" (Attachment E). Specific rule language proposed to be added and deleted is presented in Attachment F. The proposed changes are summarized as follows:

1. Combine the glossary of terms and definitions which currently appear in two rules under one (1) rule. This amendment would clarify where

definitions for terms referenced in the rules are located and eliminate confusion.

2. Prohibit the placement of any material or substance into an on-site sewage disposal system that is capable of causing an adverse impact upon the system or public waters. This proposed amendment is intended to prevent groundwater pollution and system malfunctions that can be caused by septic tank, cesspool and seepage pit cleaning practices involving the introduction of large quantities of chemical acids, alkalis or solvents. Cleaning compounds typically found in a home used to unclog household plumbing fixtures and used in accordance with manufacturers' directions are not likely to have an adverse impact upon the system or groundwater and are not proposed to be regulated.
3. Delete an outdated Lane County Fee Schedule. Lane County has adopted a fee schedule which is consistent with the current statewide fee schedule appearing in OAR 340-71-140 and has requested repeal of the schedule. A separate rule specifying the fees for Lane County is no longer necessary.
4. Delete an outdated Clackamas County Fee Schedule. Clackamas County has adopted a fee schedule which is consistent with the current statewide fee schedule appearing in OAR 340-71-140 and has requested repeal of the schedule. The separate rule specifying the fees for Clackamas County is no longer necessary.
5. Modify language relative to on-site sewage disposal permit applications to clarify exhibits and information which must accompany applications. This proposed amendment reformats existing requirements and adds language which clarifies that Agents may request additional information necessary to process a permit application.
6. Modify system abandonment procedure requirements to allow Agents to exercise some professional judgment as to which abandonment procedures are necessary and reasonably practical to require. The amendment would allow waiver of system pumping and/or filling in of systems provided that such action will not constitute a menace to public health, welfare or safety.
7. Add definitions for "Active" and "Stabilized Dunes" to conform to Land Conservation and Development Commission (LCDC) definitions for these terms. Existing rules prohibit installation of on-site sewage disposal systems on unstable land. An active dune is one form of unstable land. Because there are a number of types of sand dunes, definitions which differentiate between stable and unstable dunes are needed to avoid confusion.
8. Add a definition for "Strength of Wastewater" and specify that, for certain applications, systems should be sized based on a waste strength factor. High strength wastes from commercial establishments, when discharged into systems sized based on residential domestic waste

characteristics, can cause system malfunction, failure and result in pollution to surface and groundwater.

9. Modify seepage bed sizing criteria to reflect the proposed waste strength sizing factor and recognize new technical information which shows that a smaller size of seepage bed is acceptable for residential flows.
10. Modify sand filter system design criteria to reflect the proposed waste strength factor, revise required separation distances to reflect the high level of treatment sand filters provide, and modify system specifications to enable integration of a sand filter with a seepage trench facility.
11. Add language to final inspection and acceptance procedures for sand filter installations which would specify an additional method that could be used by installers to demonstrate PVC liner integrity.
12. Modify language in the Geographical Area Rule - Clatsop Plains, to limit on-site sewage disposal permit issuance for lots that are too small in area but otherwise meet siting criteria to single family dwellings or commercial systems with a sewage flow of 450 gallons or less. Review and approval of proposals for systems involving greater sewage flows on these properties would be required through established variance procedures or under Water Pollution Control Facility permit requirements, as appropriate. This is viewed as needed to protect groundwater quality.
13. Add a Geographical Area Rule for Low Rainfall Areas in Eastern Oregon, which establishes specific minimum siting criteria and conditions that would enable persons with property meeting these criteria to obtain a permit to construct and install a system at the same time they receive a favorable site evaluation report. The proposed amendment is intended to streamline site evaluation and permit processing procedures in remote areas of Eastern Oregon where certain site characteristics prevail.
14. Modify septic tank specifications to reflect a nationally recognized standard for steel tanks coatings.
15. Modify dosing tank specifications to require larger manhole risers for systems employing two or more pumps or siphons. The proposed amendment would ensure that all dosing tanks are accessible for proper placement and servicing of submersible pumps and other components.
16. Clarify the criteria for operation of systems with two pumps. Current rules require 2 pumps in certain system applications. The proposed amendment is intended to prevent pump outages that could result in system malfunctions, failure or discharges of wastewater into public waters.

17. Modify smooth wall polyethylene pipe specifications to reflect current national standards.
18. Establish filter fabric standards to provide the minimum specifications required of filter fabric materials. The proposed amendment is intended to prevent failures of those systems requiring this material.

The Department staff received written requests to consider other potential rule modifications and additions. Some of the suggestions could be addressed more appropriately by the Building Codes Division of the Oregon Department of Commerce. For others, inadequate supporting documentation or evaluation of alternatives was available to merit or justify establishment or modification of a rule. The Department will forward to the Building Codes Division those suggestions deemed appropriate for their consideration. The Department will continue to evaluate proposals submitted and will propose future rule making actions as appropriate. Hearing testimony is also expected to raise issues not covered in the proposed rule package. Issues raised will be discussed as part of the hearing record evaluation and response.

#### Alternatives and Evaluation

The alternatives are as follows:

1. Authorize the Department to conduct public hearings on the proposed amendments.
2. Do not authorize public hearings.

The Department believes it is desirable to conduct hearings on potential clarifying and streamlining amendments to the on-site sewage disposal rules. It is through the hearing process that testimony from outside the Department is gathered on the issues and proposed modified rule language. This testimony assists staff in preparing the proposed amendments to be presented for Commission consideration and possible adoption.

#### Summation

1. ORS 454.625 and ORS 468.020 provide that the Commission after hearing and evaluation of testimony may adopt rules for on-site sewage disposal.
2. Several technical rule amendments are necessary and desirable to provide for smoother statewide implementation of the on-site sewage disposal program.
3. Clackamas County has requested the rule establishing its schedule of fees for on-site services be repealed.

4. Lane County has requested the rule establishing its schedule of fees for on-site services be repealed.

Director's Recommendation

Based upon the summation, it is recommended the Commission authorize public hearings to take testimony on proposed amendments to On-Site Sewage Disposal Rules, OAR Chapter 340, Divisions 71, 72, and 73, as presented in Attachment F.



Fred Hansen

Attachments: (6)

- A. Hearing Notice
- B. Statement of Need For Rulemaking
- C. Fiscal and Economic Impact
- D. Land Use Consistency Statement
- E. Discussion of Proposed On-Site Sewage Disposal Rule Modifications
- F. Proposed Rule Amendments

Sherman O. Olson:h  
229-6643  
January 7, 1985  
WC58

Oregon Department of Environmental Quality

# A CHANCE TO COMMENT ON...

PUBLIC HEARING ON PROPOSED AMENDMENTS TO THE ON-SITE SEWAGE DISPOSAL RULES

Date Prepared: January 3, 1986  
Hearing Dates: As Noted Below  
Comments Due: February 28, 1986

**WHO IS  
AFFECTED:**

Persons submitting applications for on-site sewage disposal activities, sewage disposal service licensees, companies that manufacture certain products used in on-site systems, and persons that place any material or substance into an on-site sewage disposal system capable of causing an adverse impact upon the system or public waters.

**WHAT IS  
PROPOSED:**

DEQ is proposing to amend portions of OAR Chapter 340, Division 71, 72, and 73, (On-Site Sewage Disposal Rules) relating to the following: 1) the glossary of terms and the definitions, and several new definitions including "Active Dune" and "Stabilized Dune"; 2) the placement of any material or substance into an on-site system quantities that are capable of causing an adverse impact upon the system or public waters; 3) permit application procedures; 4) system abandonment procedures; 5) wastewaters strength factor in determining system sizing; 6) seepage bed sizing; 7) sand filter sizing, setbacks, and materials; 8) a maximum design sewage flow for some properties within the Clatsop Plains; 9) geographic area rule for portions of Eastern Oregon; 10) protective coating standard for steel septic tanks; 11) riser standard for large system dosing tanks; 12) two (2) pump operational requirements for some systems having projected sewage flows greater than 2500 gallons per day; 13) material standards for smooth wall polyethylene pipe and filter fabric; and 14) fee schedules for Clackamas and Lane Counties.

**HOW TO  
COMMENT:**

Public hearings are scheduled as follows:

BEND

Date: February 19, 1986  
Time: 1:30 p.m.  
Location: State Office Building  
Conference Room  
2150 NE Studio Road  
Bend, Oregon

MEDFORD

Date: February 20, 1986  
Time: 1:30 p.m.  
Location: Jackson County  
Courthouse; Auditorium  
10 S. Oakdale  
Medford, Oregon



P. Box 1730  
Portland, OR 97207

**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 1-800-452-4001.

NEWPORT

Date: February 25, 1986  
Time: 1:30 p.m.  
Location: Lincoln County Public  
Service Building  
Conference Room.  
210 SW Second  
Newport, Oregon

PORTLAND

Date: February 26, 1986  
Time: 10:00 a.m.  
Location: Department of  
Environmental Quality  
14th Floor Conference  
Room (Room 1400)  
522 SW Fifth Avenue  
Portland, Oregon

A Department of Environmental Quality staff member will be appointed to preside over and conduct the hearings. Written comments should be sent to DEQ, Water Quality Division, Sewage Disposal Section, P. O. Box 1760, Portland, Oregon 97207. The comment period will end on Friday, February 28, 1986 at 5:00 p.m.

Any questions or requests for information or copies of the proposed rule amendments should be directed to Mr. Sherman Olson, Sewage Disposal Section, 229-6443 or toll free, 1-800-452-4011.

**WHAT IS THE  
NEXT STEP:**

Once public testimony has been received and evaluated, the proposed amendments will be revised, if necessary, and be presented to the Environmental Quality Commission for adoption. The Commission may adopt rule amendments identical to the proposed rule amendments, adopt modified rule amendments, or decline to adopt rule amendments. The Commission's deliberation may come in April as part of the agenda at a regularly scheduled meeting. A Statement of Need, Fiscal and Economic Impact Statement, and Land Use Consistency Statement are attached to and made a part of this notice.

WC60  
(1/6/86)

STATEMENT OF NEED FOR RULE MAKING

Pursuant to ORS 183.335(2), this statement provides information on the Environmental Quality Commission's intended action to adopt rules.

(1) Legal Authority

ORS 454.625, which authorizes the Environmental Quality Commission to adopt rules pertaining to on-site sewage disposal. ORS 454 contains laws related to Sewage Treatment and Disposal Systems.

ORS 468.020, which allows the Environmental Quality Commission to adopt such rules and standards as it considers necessary and proper in performing the functions vested by law in the Commission. This includes but is not limited to rules that would implement the provisions and prohibitions identified in ORS 468.710, ORS 468.715, and ORS 468.720. ORS 468 contains laws related to Water Pollution Control.

(2) Need for the Rule

The Department of Environmental Quality has determined that several technical rule amendments are needed to clarify intent, introduce new rules language pertaining to issues not previously addressed in OAR Chapter 340, Divisions 71 and 73, (On-Site Sewage Disposal Rules) as well as to make housekeeping changes. The proposed housekeeping amendments would not change the intent of a rule, but would provide the smoother implementation of the on-site sewage disposal program. In addition, two (2) counties which perform on-site activities for the Department have requested that their specific fee schedules, previously adopted as rules by the Commission, be repealed.

(3) Principal Documents Relied upon in this Rulemaking

- (a) Letter dated January 29, 1984, from Richard L. Polson, Chief Soil Scientist, Clackamas County, to Sherman Olson, Department of Environmental Quality.
- (b) Memo dated March 29, 1984, from Donald L. Bramhall, Department of Environmental Quality, to Sherman Olson, Department of Environmental Quality.
- (c) Letter dated November 6, 1984, from Richard H. Swenson, R.S., Supervising Sanitarian, Environmental Health, Benton County, to Sherman Olson, Department of Environmental Quality.
- (d) Letter dated August 6, 1985, from Bob Wilson, R.S., Director, Environmental Health Division, Linn County, to Sherman Olson, Department of Environmental Quality.



- (e) Letter dated August 16, 1985, from Richard L. Polson, Chief Soil Scientist, Clackamas County, to Sherman Olson, Department of Environmental Quality.
- (f) Letter dated September 6, 1985, from Stanley E. Petrusek, Manager, Environmental Health Division, Lane County, to Sherman Olson, Department of Environmental Quality.
- (g) Letter dated October 29, 1985, from Richard H. Swenson, R.S., Supervising Sanitarian, Environmental Health, Benton County, to Sherman Olson, Department of Environmental Quality.
- (h) Letter dated November 18, 1985, from Daniel M. Bush, Soil Scientist; Clackamas County, to Sherman Olson, Department of Environmental Quality.

FISCAL AND ECONOMIC IMPACT

The proposed amendments to the On-Site Sewage Disposal Rules are not expected to have a significant or adverse fiscal or economic impact. Some of the proposed rule modifications may increase the costs incurred by individuals and small businesses for certain types of on-site sewage disposal systems. Additionally some small businesses would be prevented from conducting certain types of activities that they may now engage in.

Overall, the Department anticipates that fiscal and economic impacts would be offset by the reduction in system failures and malfunctions that would require repairs or replacement of new systems and by the reduction of pollution to waters of the state.

Sherman O. Olson:h  
WH564.5

LAND USE CONSISTENCY STATEMENT

The Department has concluded that the proposed rule amendments conform with Statewide Planning Goals.

With regard to Goal 6, (Air, Water and Land Resources Quality) the proposed amendments are designed to improve and maintain the water quality of the state, and are consistent with the Goal.

The proposed amendments do not appear to conflict with other Goals.

Public comment on any land issue involved is welcome and may be submitted on the same manner as indicated for testimony in this notice. It is requested that local, state and federal agencies review the proposed amendments and comment on possible conflicts with their programs affecting land use and with statewide Planning Goals and 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 their attention by local, state, or federal authorities.

DISCUSSION OF PROPOSED ON-SITE SEWAGE DISPOSAL RULE MODIFICATIONS

The significant issues addressed by the proposals to modify rule language contained in Oregon Administrative Rules (OAR), Chapter 340, Divisions 71, 72 and 73 are summarized and discussed below with reference to specific rules. In addition, a number of "house-keeping" amendments are proposed. Specific rule language proposed to be added and deleted is presented in Attachment F.

- (1) Combine the glossary of terms (OAR 340-71-105) and the definitions (OAR 340-71-100) under one (1) rule. When seeking the meaning of a technical term, people have to look in both the glossary and definitions to find the meaning of a term. The proposed amendments would eliminate the confusion created by terms being located in two separate rules.
- (2) Prohibit the placement of any material or substance into an on-site sewage system that is capable of causing an adverse impact upon the system or public waters (OAR 340-71-130). The Department has received numerous complaints that various chemicals (strong acids, strong alkalies, and solvents) have been used to improve the performance of on-site systems and/or used to clean on-site systems as an alternative to having the systems pumped. The complaints allege that the chemicals have damaged various portions of the on-site systems and caused injury to some sewage disposal service personnel that have been called upon to pump systems that have been chemically treated. These pumpings have at times been rejected at various treatment plants because the pH has been outside an acceptable range. When these chemicals are placed into the absorption facility of a sewage disposal system (such as in a cesspool, disposal trenches, etc.), they are likely to move down through the soil profile and ultimately come into contact with and pollute groundwater. The proposed amendment would prohibit these type of practices currently used to clean sewage disposal systems and specify that persons performing the service of cleaning septic tanks, cesspools or seepage pits not use any method of cleaning other than pumping. Cleaning products typically found in the home used to unclog plumbing fixtures and used according to manufacturers' directions are not likely to cause system damage or groundwater pollution and would not be regulated.
- (3) Delete an outdated Lane County Fee Schedule. In March of 1981, the Environmental Quality Commission adopted a rule establishing a schedule of fees Lane County proposed to charge for performing on-site sewage disposal activities because some of Lane County's fees were higher than the fees previously in effect statewide. Since that time and pursuant to ORS 454.745(4) the Commission raised the fees the Department charges for on-site activities. Lane County has recently adopted a new fee schedule which is consistent with the statewide fee schedule in OAR 340-71-140. Lane County has requested reference to their fee schedule in OAR Chapter 340, Divisions 71 and 72 be

- repealed. The proposed amendments would eliminate an outdated fee schedule.
- (4) Delete an outdated Clackamas County Fee Schedule. In March of 1981, the Environmental Quality Commission adopted a rule establishing a schedule of fees Clackamas County proposed to charge for performing on-site sewage disposal activities because some of the fees were higher than the fees previously in effect statewide. Since that time and pursuant to ORS 454.745(4) the Commission raised the fees the Department charges for on-site activities. Clackamas County has adopted a new fee schedule which does not exceed the statewide fee schedule in OAR 340-71-140. Clackamas County has requested reference to their fee schedule in OAR Chapter 340, Division 71 and 72 be repealed. The proposed amendments would eliminate an outdated fee schedule.
  - (5) Clarify language that pertains to necessary exhibits which must accompany permit application (OAR 340-71-160(3)). In the existing rule language, it is not clear that plans need to be submitted to the Agent as an attached exhibit to the application. The proposed amendment would re-structure a portion of this rule and specifically identify the requirement for system plans and clarify that Agents can request additional information needed to process permit applications.
  - (6) Modify system abandonment procedure requirements (OAR 340-71-185(2)). Currently, system abandonment procedures require pumping and filling in of a system, as well as permanently capping the system building sewer. The proposed amendment would allow the Agent to use professional judgment in determining when pumping and filling steps are necessary or reasonably practical to require. The waiver of these procedures would be allowed as long as such action does not create a menace to public health, safety or welfare.
  - (7) Add definitions for Active and Stabilized Dunes. The definition for "Unstable Landforms", OAR 340-71-105(92) states that "... Active sand dunes are unstable landforms". Rules prohibit installation of on-site sewage disposal systems on unstable landforms. A number of terms for sand dunes are in common use. Definitions which characterize and differentiate between "unstable (active) dunes" and "stabilized" dunes are needed. "Active" dune lands have fragile vegetative cover to no vegetative cover, and little or no soil development. Consequently, destruction of vegetation makes these lands subject to severe wind erosion hazard. In addition, many of these active dunes are subject to ocean undercutting and wave overtopping. Recent examples of this are the wave overtopping of the Salishan spit and the destruction of the spit at the mouth of the Alsea River and loss of part of the fore dune at Bayshore. The proposed amendment would adopt definitions used by the Oregon Land Conservation and Development Commission to clarify the type of sand dunes on which on-site sewage disposal systems would be allowed and prohibited.

- (8) Add a definition for Strength of Wastewater and specify that, for certain applications, systems should be sized based on waste strength factor. The Department has found that the composition of sewage from commercial facilities frequently has a higher biochemical oxygen demand and/or has higher suspended solids than sewage from a residence. The existing rules size systems according to projected daily sewage flow (as measured in gallons) and a treatment factor (number of gallons of sewage that may be applied in or over a unit area of the treatment facility), based on household strength wastewater. With higher strength wastewaters, the application rate per unit area of treatment facility must be decreased in order to accomplish the same level of treatment that can be attained for residential sewage. The proposed amendments would take into account the strength of wastewater when sizing the treatment component of an on-site sewage disposal system and is intended to prevent system malfunctions, failures and pollution of waters.
- (9) Modify seepage bed sizing criteria (OAR 340-71-275(d)). The existing rule does not take into account the strength of wastewater when determining the size of seepage bed needed for a particular sewage flow, and also requires a larger seepage bed than needed for residential flows. The proposed amendments would reduce the seepage bed size for residential systems, and introduce a waste strength factor for non-residential flows. Strength of wastewater is presented in (8) above.
- (10) Modify sand filter system design criteria. The definition of "medium sand" tends to be inadequate in that some sands appearing to meet the definition also appear to have an excess of silt and clay sized particles. In a sand filter, these fine particles can cause the filter to become clogged. The addition of a sand equivalency requirement would give more complete assurance of sand quality. Staff believe that because of the high level of treatment afforded by a sand filter system, reduction of the horizontal separation distance between the system and surface public waters to half the distance required of other systems will not have a measurable impact upon the quality of surface waters. The ability to integrate the sand filter treatment unit with a seepage trench disposal facility is not present in the current rule. The proposed amendment would provide this flexibility for those situations where the property is too small in area to use standard disposal trench sizing, and would apply to single family dwellings or commercial facilities with equivalent sewage flow. The wastewater strength factor, as previously described in (8) above, is proposed to be considered in determining the sand filter size for non-residential systems.
- (11) Modify the PVC liner inspection procedure. The procedure currently provides that liner integrity be determined by an inspection of the joints, seams and mechanical seals, with optional use of hydrostatic testing. The proposed amendment would clarify the

existing procedures, and identify air lance testing as an optional procedure that could be used to determine seam integrity.

- (12) Modify language in the Geographical Area Rule - Clatsop Plains (OAR 340-71-400(5)). The current rules permitting use of on-site sewage disposal methods in the Clatsop Plains allow the use of sand filter and pressurized systems on small lots and parcels without limiting the maximum quantity of sewage that can be discharged per unit area. For individual single family dwellings or equivalent sized commercial facilities, this does not pose a significant threat to groundwater quality in the area. However, larger flows, and particularly those from high density residential and commercial developments, appear to cause the existing rule to be in conflict with the Department's general groundwater quality protection policy, as well as the public policy of the State of Oregon, as set forth in ORS 468.710. The proposed amendment would impose a maximum sewage flow limit on lots or parcels that are otherwise too small in area to fully comply with the provisions of OAR 340-71-275 and OAR 340-71-290, and would be consistent with the public policy. Review and approval of proposals for systems involving greater sewage flows on these properties would be required through established variance procedures or under Water Pollution Control Facility permit requirements, as appropriate.
- (13) Add a Geographical Area Rule for Low Rainfall Areas in Eastern Oregon. The Department has found that strict compliance with standard system siting criteria may be overly burdensome on large parcels of land in areas of Eastern Oregon where the annual precipitation does not exceed twenty (20) inches. The proposed amendment specifies minimum site criteria and conditions for approval of a residential on-site sewage disposal system without compromising public health and safety or public waters of the state, and introduces a streamlined permit process. An applicant could submit one (1) application requesting both the site evaluation report and construction permit. After the system is constructed the Agent would have the discretion to waive the pre-cover inspection.
- (14) Modify septic tank specifications (OAR 340-73-025). The current rule requires steel septic tanks be coated in accordance with U.S. Department of Commerce Commercial Standard CS 177, which is no longer in effect. The proposed amendment would specify the national standard that replaced CS 177.
- (15) Modify Dosing Tank Specifications (OAR 340-73-050). Access into dosing tanks that serve some commercial facilities has been found to be too small to allow proper placement and servicing of submersible pumps and other components. The proposed amendment would require dosing tanks that are integral to some commercial systems to have larger manhole access measurements.
- (16) Clarify the intent of two (2) pump operation (OAR 340-73-055). Current rules require two (2) pumps in certain system applications.

The existing rule does not clearly indicate how a two (2) pump system must be set up to function. The proposed amendment would clear up this confusion by specifying that the pumps be wired into the electrical control panel to function alternatively after each pump cycle and requiring a cycle counter be installed for each pump.

- (17) Modify smooth wall polyethylene pipe specifications (OAR 340-73-060). The Department developed a smooth wall polyethylene pipe standard in 1977 because a recognized national standard did not exist. Since then the American Society for Testing and Materials (ASTM) has developed and adopted a recognized national standard pertaining to this type of pipe. The proposed amendment would eliminate confusion by requiring the pipe be manufactured consistent with the national standard.
- (18) Add filter fabric standards. Filter fabric materials are required to be used in several types of on-site systems. The current rules do not provide a definition or a specification, and consequently some unsuitable fabrics have been used that offer the potential of causing some systems to fail because of the accumulation of a barrier across the fabric surface.



Attachment F

DEPARTMENT OF ENVIRONMENTAL QUALITY

Proposed Rule Amendments

OAR CHAPTER 340, DIVISIONS 71, 72, AND 73

January 31, 1986

Amend OAR 340-71-100 as follows: .

340-17-100 As used in [these rules] OAR 340. Divisions 71, 72, and 73, unless otherwise specified:

- (1) "Absorption Facility" means a system of open-jointed or perforated piping, alternative distribution units, or other sewage systems for receiving the flow from septic tanks or other treatment facilities and designed to distribute effluent for oxidation and absorption by the soil within the zone of aeration. (See Diagrams 1 through 7 and 14 through 17)
- (2) "Active Dune" means wind drifted ridges and intervening valleys, pockets, and swales of sand adjacent to the beach. The sand is grayish-brown (color value of four (4) or more), with little or no horizon, color, or textured differences. Active dunes are either bare of vegetation or lack sufficient vegetation to prevent blowing of sand.
- (3) "Aerobic Sewage Treatment Facility" means a sewage treatment plant which incorporates a means of introducing air and oxygen into the sewage so as to provide aerobic biochemical stabilization during a detention period.
- (4) [(1)] "Agent" means the Director or [his] that person's authorized representative.
- (5) [(2)] "Alteration" means expansion and/or change in location of an existing system, or any part thereof. .
- (6) "Alternative System" means any Commission approved on-site sewage disposal system used in lieu of the standard subsurface system.
- (7) "Authorization Notice" means a written document issued by the Agent which establishes that an existing on-site sewage disposal system appears adequate to serve the purpose for which a particular application is made.
- (8) [(3)] "Authorized Representative" means the staff of the Department of Environmental Quality or staff of the local governmental unit performing duties for and under agreement with the Department of Environmental Quality.
- (9) "Automatic Siphon" means a hydraulic device designed to rapidly discharge the contents of a dosing tank between predetermined water or sewage levels.
- (10) "Bedroom" means any room within a dwelling which is accepted as such by the State of Oregon Department of Commerce building

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

codes representative of the local authorized building official having jurisdiction.

- (11) "Black Waste" means human body wastes including feces, urine, other extraneous substances of body origin and toilet paper.
- (12) "Building Sewer" means that part of the system of drainage piping which conveys sewage into a septic tank, cesspool or other treatment facility that begins five feet (5) outside the building or structure within which the sewage originates. (See Diagrams 1, 2, 3, and 16)
- (13) "Cesspool" means a lined pit which receives raw sewage, allows separation of solids and liquids, retains the solids and allows liquids to seep into the surrounding soil through perforations in the lining. (See Diagram 16)
- (14) "Chemical Recirculating Toilet Facility" means a toilet facility wherein black wastes are deposited and carried from the bowl by a combination of liquid waste and water which has been chemically treated and filtered.
- (15) "Chemical Toilet Facility" means a non-flushing, non-recirculating toilet facility wherein black wastes are deposited directly into a chamber containing a solution of water and chemical.
- (16) "Clayey Soil" means mineral soil that is over forty (40) percent clay that shrinks and develops wide cracks when dry and swells and shears when rewet forming slickensides and wedge-shaped structure. Clayey soil is very hard or extremely hard when dry, very firm when moist, and very sticky and very plastic when wet.
- (17) "Claypan" means a dense, compact clay layer in the subsoil. It has a much higher clay content than the overlying soil horizon from which it is separated by an abrupt boundary. Claypans are hard when dry and very sticky and very plastic when wet. They impede movement of water and air and growth of plant roots.
- (18) Combustion Toilet Facility" means a toilet facility wherein black wastes are deposited directly into a combination chamber for incineration.
- (19) [(4)] "Commercial Facility" means any structure or building, or any portion thereof, other than a single-family dwelling.
- (20) [(5)] "Commission" means the Environmental Quality Commission.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (21) [(6)] "Community System" means an on-site system which will serve more than one (1) lot or parcel or more than one (1) condominium unit or more than one (1) unit of a planned unit development.
- (22) "Completed Application" means one in which the application form is completed in full, is signed by the owner or that person's authorized representative, is accompanied by all required exhibits and required fee.
- (23) "Conditions Associated With Saturation" means:
- (a) Reddish brown or brown soil horizons with gray (chromas of two (2) or less) and red or yellowish red mottles; or
  - (b) Gray soil horizons, or gray soil horizons with red, yellowish red, or brown mottles; or
  - (c) Dark colored highly organic soil horizons; or
  - (d) Soil profiles with concentrations of soluble salt at or near the ground surface.
- (24) "Confining Layer" means a layer associated with an aquifer that because of its low permeability does not allow water to move through it perceptibly under head differences occurring in the groundwater system.
- (25) [(7)] "Construction" means installation of a new system or part thereof, or the alternation or repair of an existing system.
- (26) "Conventional Sand Filter" means a filter with two (2) feet of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure distribution system at an application rate not to exceed one and twenty-three hundredths (1.23) gallons per square foot sand surface area per day applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow per cycle.
- (27) "Curtain Drain" means a groundwater interceptor.
- (28) "Cut-Manmade" means a land surface resulting from mechanical land shaping operations where the modified slope is greater than fifty (50) percent, and the depth of cut exceeds thirty (30) inches.
- (29) [(8)] "Department" means the Department of Environmental Quality.
- (30) [(9)] "Director" means the Director of the Department of Environmental Quality.
- (31) "Disposal Area" means the entire area used for underground dispersion of the liquid portion of sewage including the area

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

designated for the future replacement system. It may consist of a seepage pit or of a disposal field or of a combination of the two. It may also consist of a cesspool, seepage bed, bottomless sand filter, or evapotranspiration-absorption system.

- (32) "Disposal Field" means a system of disposal trenches or a seepage trench or system of seepage trenches.
- (33) "Disposal Trench" means a ditch or trench with vertical sides and substantially flat bottom with a minimum of twelve (12) inches of clean, coarse filter material into which a single distribution pipe has been laid, the trench then being backfilled with a minimum of six (6) inches of soil. (See Diagram 12)
- (34) "Distribution Box" means a watertight structure which receives septic tank or other treatment facility effluent and distributes it concurrently into two (2) or more header pipes leading to the disposal area. (See Rule 340-73-035.)
- (35) "Distribution Pipe" means an open-jointed or perforated pipe used in the dispersion of septic tank or other treatment facility effluent into disposal trenches, seepage trenches, or seepage beds. (See Diagrams 1 through 7 and 11)
- (36) "Distribution Unit" means a distribution box, dosing tank, diversion valve or box, header pipe, or other means of transmitting septic tank or other treatment unit effluent from the effluent sewer to the distribution pipes. (See Diagrams 1 through 7 and 11)
- (37) "Diversion Valve" means a watertight structure which receives septic tank or other treatment facility effluent through one (1) inlet, distributes it to two (2) outlets, only one (1) of which is utilized at a given time (See Diagram 11 and Rule 340-73-045.)
- (38) "Dosing Tank" means a watertight receptacle placed after a septic tank or other treatment facility equipped with an automatic siphon or pump designed to discharge treated effluent at a rate not to exceed twenty (20) percent of the projected daily sewage flow.
- (39) "Dosing Septic Tank" means a unitized device performing functions of both a septic tank and a dosing tank.
- (40) [(10)] "Dwelling" means any structure or building, or any portion thereof which is used, intended, or designed to be occupied for human living purposes including, but not limited to, houses,

Note: Underlined \_\_\_ material is new.  
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houseboats, boathouses, mobile homes, travel trailers, hotels, motels, and apartments.

- (41) "Effective Seepage Area" means the sidewall area within a disposal trench or a seepage trench from the bottom of the trench to a level two (2) inches above the distribution pipes, or the sidewall area of any cesspool, seepage pit, unsealed earth pit privy, or gray water waste disposal sump seepage chamber; or the bottom area of a pressurized soil absorption facility installed in soil as defined in Section (114) of this rule. (See Diagrams 12, 14, 15, 16, and 17)
- (42) "Effective Soil Depth" means the depth of soil material above a layer that impedes movement of water, air, and growth of plant roots. Layers that differ from overlying soil material enough to limit effective soil depth are hardpans, claypans, fragipans, compacted soil, bedrock, saprolite, and clayey soil.
- (43) "Effluent Lift Pump" means a pump used to lift septic tank or other treatment facility effluent to a higher elevation. (See Rule 340-73-055.)
- (44) "Effluent Sewer" means that part of the system of drainage piping that conveys treated sewage from a septic tank or other treatment facility into a distribution unit or an absorption facility. (See Diagrams 1 through 7, 11, and 17, and Rule 34073-060.)
- (45) "Emergency Repair" means repair of a failing system where immediate action is necessary to relieve a situation in which sewage is backing up into a dwelling or building, or repair of a broken pressure sewer pipe.
- (46) "Escarpment" means any naturally occurring slope greater than fifty (50) percent which extends vertically six (6) feet or more as measured from toe to top, and which is characterized by a long cliff or steep slope which separates two (2) or more comparatively level or gently sloping surfaces, and may intercept one (1) or more layers that limit effective soil depth. (See Diagrams 18 and 19)
- (47) "Evapotranspiration-Absorption (ETA) system" means an alternative system consisting of a septic tank or other treatment facility, effluent sewer and a disposal bed or disposal trenches, designed to distribute effluent for evaporation, transpiration by plants, and by absorption into the underlying soil. (See Diagrams 6 and 7)
- (48) [(11)] "Existing On-Site Sewage Disposal System" [(existing system)] means any installed on-site sewage disposal system constructed in conformance with the rules, laws and local ordinances in

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

effect at the time of construction, or which would have conformed substantially with system design provided for in Commission, State Board of Health or State Health Division rules.

- (49) "Existing System" means "Existing On-Site Sewage Disposal System".
- (50) [(12)] "Failing System" means any system which discharges untreated or incompletely treated sewage or septic tank effluent directly or indirectly onto the ground surface or into public waters.
- (51) "Family Member" means any one (1) of two (2) or more persons related by blood or marriage.
- (52) "Filter Fabric" means a woven or spun-bonded sheet material used to impede or prevent the movement of sand, silt and clay into filter material. A specification for filter fabric is found in OAR 340-73-041.
- (53) "Filter Material" means clean, washed gravel ranging from three quarters (3/4) to two and one-half (2-1/2) inches in size, or clean crushed rock ranging in size from one and one-half (1-1/2) to two and one-half (2-1/2) inches. (See Diagrams 6, 7, 9, 12, 14, 15, 16, and 17).
- (54) "Five-Day Biochemical Oxygen Demand" (BOD<sub>5</sub>) means the quantity of oxygen used in the biochemical oxidation of organic matter in five days at twenty (20) degrees centigrade under specified conditions and reported as milligrams per liter (mg/L).
- (55) "Fragipan" means a loamy subsurface horizon with high bulk density relative to the horizon above, seemingly cemented when dry, and weakly to moderately brittle when moist. Fragipans are mottled and low in organic matter. They impede movement of water, air, and growth of plant roots.
- (56) [(13)] "Governmental Unit" means the state or any county, municipality, or political subdivision, or any agency thereof.
- (57) "Grade" means the rate of fall or drop in inches per foot or percentage of fall of a pipe.
- (58) "Gray Water" means household sewage other than "black wastes", such as bath water, kitchen waste water and laundry wastes.
- (59) "Groundwater Interceptor" means any natural or artificial groundwater or surface water drainage system including agricultural drain tile, cut banks, and ditches which intercept

Note: Underlined \_\_\_ material is new.  
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and divert groundwater or surface water from the area of the absorption facility. (See Diagram 13)

- (60) "Hardpan" means a hardened layer in soil caused by cementation of soil particles with either silica, calcium carbonate, magnesium carbonate, or iron and/or organic matter. The hardness does not change appreciably with changes in moisture content. Hardpans impede movement of water and air and growth of plant roots.
- (61) "Header Pipe" means a tight jointed part of the sewage drainage conduit which receives septic tank effluent from the distribution box, or drop box, or effluent sewer and conveys it to the disposal area. (See Diagrams 1 through 5, 7, 11, and 17)
- (62) "Headwall" means a steep slope at the head or upper end of a land slump block or unstable landform. (See Diagrams 22 and 23)
- (63) "Holding Tank" means a watertight receptacle designed to receive and store sewage to facilitate disposal at another location.
- (64) "Incinerator Toilet Facility" means "Combustion Toilet Facility".
- (65) [(14)] "Individual System" means a system that is not a community system.
- (66) "Individual Water Supply" means a source of water and a distribution system which serves a residence or user for the purpose of supplying water for drinking, culinary, or household uses and which is not a public water supply system.
- (67) "Industrial Waste" means any liquid, gaseous, radioactive, or solid waste substance or a combination thereof resulting from any process of industry, manufacturing, trade, or business, or from the development or recovery of any natural resources.
- (68) "Intermittent Stream" means any surface public water or groundwater interceptor that continuously flows water for a period of greater than two months in any one year, but not continuously for that year.
- (69) "Invert" is the lowest portion of the internal cross section of a pipe or fitting. (See Diagram 12)
- (70) [(15)] "Large System" means any on-site system with a projected daily sewage flow greater than two thousand five hundred (2,500) gallons.

Note: Underlined \_\_\_ material is new.  
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- (71) "Lateral Pipe" means "Distribution Pipe".
- (72) "Mechanical Oxidation Sewage Treatment Facility" means an aerobic sewage treatment facility.
- (73) "Medium Sand" means a mixture of sand with 100 percent passing the 3/8 inch sieve, 90 percent to 100 percent passing the No. 4 sieve, 62 percent to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 percent to 55 percent passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, 4 percent or less passing the No. 100 sieve, and with a sand equivalency of eighty (80) or more.
- (74) "Nonwater-Carried Waste Disposal Facility" means any toilet facility which has no direct water connection, including pit privies, vault privies and portable toilets.
- (75) [(16)] "Occupant" means any person living or sleeping in a dwelling.
- (76) [(17)] "On-Site Sewage Disposal System" means any existing or proposed on-site sewage disposal system including, but not limited to a standard subsurface, alternative, experimental or non-water carried sewage disposal system, installed or proposed to be installed on land of the owner of the system or on other land as to which the owner of the system has the legal right to install the system.
- (77) [(18)] "Owner" means any person who alone, or jointly, or severally with others:.
- (a) Has legal title to any single lot, dwelling, dwelling unit, or commercial facility; or
  - (b) Has care, charge, or control of any real property as agent, executor, executrix, administrator, administratrix, trustee, commercial lessee, or guardian of the estate of the holder of legal title; or
  - (c) Is the contract purchaser of real property.
- NOTE: Each such person as described in subsections (b) and (c), thus representing the legal title holder, is bound to comply with the provisions of these rules as if he were the legal title holder.
- (78) "Permanent Groundwater Table" means the upper surface of a saturated zone that exists year-round. The thickness of the saturated zone, and, as a result, the elevation of the permanent groundwater table may fluctuate as much as twenty (20) feet or more annually; but the saturated zone and associated permanent

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groundwater table will be present at some depth beneath land surface throughout the year.

- (79) [(19)] "Permit" means the written document issued and signed by the Agent which authorizes the permittee to install a system or any part thereof, which may also require operation and maintenance of the system.
- (80) [(20)] "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.
- (81) "Pollution" or "Water Pollution" means such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.
- (82) "Portable Toilet Shelter" means any readily relocatable structure built to house a toilet facility.
- (83) "Pressure Distribution Lateral" means piping and fittings in pressure distribution systems which distribute septic tank or other treatment unit effluent to filter material through small diameter orifices. (See Diagrams 8, 9, and 12)
- (84) "Pressure Distribution Manifold" means piping and fittings in a pressure distribution system which supply effluent from pressure transport piping to pressure distribution laterals. (See Diagrams 8 and 9)
- (85) "Pressure Distribution System" means any system designed to uniformly distribute septic tank or other treatment unit effluent under pressure in an absorption facility or sand filter. (See Diagrams 8 and 9)
- (86) "Pressure Transport Piping" means piping which conveys septic tank or other treatment unit effluent to a pressure distribution manifold by means of a pump. (See Diagrams 8 and 9)
- (87) "Prior Approval" means a written approval for on-site sewage disposal, for a specific lot, issued prior to January 1, 1974.

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- (88) "Prior Construction Permit" means a subsurface sewage disposal system construction permit issued prior to January 1, 1974, by a county that had an ordinance requiring construction permits for subsurface sewage disposal systems.
- (89) "Privy" means a structure used for disposal of human waste without the aid of water. It consists of a shelter built above a pit or vault in the ground into which human waste falls.
- (90) [(21)] "Public Health Hazard" means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.
- (91) [(22)] "Public Waters" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.
- (92) "Redundant Disposal Field System" means a system in which two complete disposal systems are installed, the disposal trenches of each system alternate with each other and only one system operates at a given time. (See Diagram 11)
- (93) [(23)] "Repair" means installation of all portions of a system necessary to eliminate a public health hazard or pollution of public waters created by a failing system.
- (94) "Sand Filter Surface Area" means the area of the level plane section in the medium sand horizon of a conventional sand filter located two (2) feet below the bottom of the filter material containing the pressurized distribution piping.
- (95) "Sand Filter System" means the combination of septic tank or other treatment unit, dosing system with effluent pump and controls, or dosing siphon, piping and fittings, sand filter, and absorption facility used to treat and dispose of sewage.
- (96) "Sanitary Drainage System" means that part of the system of drainage piping that conveys untreated sewage from a building or structure to a septic tank or other treatment facility, service lateral at the curb or in the street or alley, or other disposal

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terminal holding human or domestic sewage. The sanitary drainage system consists of a building drain or building drain and building sewer. (See Diagrams 1, 2, 3, and 16)

- (97) "Saprolite" means weathered material underlying the soil that grades from soft thoroughly decomposed rock to rock that has been weathered sufficiently so that it can be broken in the hands or cut with a knife. It does not include hard bedrock or hard fractured bedrock. It has rock structure instead of soil structure.
- (98) "Saturated Zone" means a three (3) dimensional layer, lens, or other section of the subsurface in which all open spaces including joints, fractures, interstitial voids, pores, etc. are filled with groundwater. The thickness and extent of a saturated zone may vary seasonally or periodically in response to changes in the rate or amount of groundwater recharge or discharge. (See Diagram 20)
- (99) "Scum" means a mass of sewage solids floating at the surface of sewage which is buoyed up by entrained gas, grease, or other substances.
- (100) "Seepage Area" means "Effective Seepage Area."
- (101) "Seepage Bed" means an absorption system having disposal trenches wider than three (3) feet.
- (102) "Seepage Pit" means a "cesspool" which has a treatment facility such as a septic tank ahead of it. (See Diagram 17)
- (103) "Seepage Trench System" means a system with disposal trenches with more than six (6) inches of filter material below the distribution pipe.
- (104) "Self-Contained Nonwater-Carried Waste Disposal Facility" includes, but is not limited to, vault privies, chemical toilets, combustion toilets, recirculating toilets, and portable toilets, in which all waste is contained in a watertight receptacle.
- (105) "Septic Tank" means a watertight receptacle which receives sewage from a sanitary drainage system, is designed to separate solids from liquids, digest organic matter during a period of detention, and allow the liquids to discharge to a second treatment unit or to a soil absorption facility. (See Rules 340-73-025 and 340-73-030.)
- (106) "Septic Tank Effluent" means partially treated sewage which is discharged from a septic tank.

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(107) [(24)] "Sewage" means water-carried human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration, surface waters, or industrial waste as may be present.

(108) "Sewage Disposal Service" means:

(a) The installation of on-site sewage disposal systems (including the placement of portable toilets), or any part thereof; or

(b) The pumping out or cleaning of on-site sewage disposal systems (including portable toilets), or any part thereof; or

(c) The disposal of material derived from the pumping out or cleaning of on-site sewage disposal systems (including portable toilets); or

(d) Grading, excavating, and earth-moving work connected with the operations described in subsection (a) of this section, except streets, highways, dams, airports or other heavy construction projects and except earth-moving work performed under the supervision of a builder or contractor in connection with and at the time of the construction of a building or structure; or

(e) The construction of drain and sewage lines from five (5) feet outside a building or structure to the service lateral at the curb or in the street or alley or other disposal terminal holding human or domestic sewage.

(109) "Sewage Stabilization Pond" means a pond designed to receive the raw sewage flow from a dwelling or other building and retain that flow for treatment without discharge.

(110) "Slope" means the rate of fall or drop in feet per one hundred (100) feet of the ground surface. It is expressed as percent of grade.

(111) "Soil Permeability Rating" refers to that quality of the soil that enables it to transmit water or air, as outlined in the United States Department of Agriculture Handbook, Number 18, entitled Soil Survey Manual.

(112) "Soil Separate" means the size of soil particles according to Table 7.

(113) "Soil Texture" means the amount of each soil separate in a soil mixture. Field methods for judging the texture of a soil

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consist of forming a cast of soil, both dry and moist, in the hand and pressing a ball of moist soil between thumb and finger.

(a) The major textural classifications are defined as follows:  
(See Table 6.)

(A) Sand: Individual grains can be seen and felt readily. Squeezed in the hand when dry, this soil will fall apart when the pressure is released. Squeezed when moist, it will form a cast that will hold its shape when the pressure is released, but will crumble when touched.

(B) Sandy loam: Consists largely of sand, but has enough silt and clay present to give it a small amount of stability. Individual sand grains can be readily seen and felt. Squeezed in the hand when dry, this soil will readily fall apart when the pressure is released. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is released, but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

(C) Loam: Consists of an even mixture of sand and of silt and a small amount of clay. It is easily crumbled when dry and has a slightly gritty yet fairly smooth feel. It is slightly plastic. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is released, but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

(D) Silt loam: Consists of a moderate amount of fine grades of sand, a small amount of clay, and a large quantity of silt particles. Lumps in a dry, undisturbed state appear quite cloddy, but they can be pulverized readily; the soil then feels soft and floury. When wet, silt loam runs together in puddles. Either dry or moist, casts can be handled freely without breaking. When a ball of moist soil is pressed between thumb and finger, it will not press out into a smooth, unbroken ribbon, but will have a broken appearance.

(E) Clay loam: Consists of an even mixture of sand, silt, and clay, which breaks into clods or lumps when dry. When a ball of moist soil is pressed between the thumb and finger, it will form a thin ribbon that will readily break, barely sustaining its own weight. The

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moist soil is plastic and will form a cast that will withstand considerable handling.

(F) Silty clay loam: Consists of a moderate amount of clay, a large amount of silt, and a small amount of sand. It breaks into moderately hard clods or lumps when dry. When moist, a thin ribbon or one-eighth (1/8) inch wire can be formed between thumb and finger that will sustain its weight and will withstand gentle movement.

(G) Silty clay: Consists of even amounts of silt and clay and very small amounts of sand. It breaks into hard clods or lumps when dry. When moist, a thin ribbon or one-eighth (1/8) inch or less sized wire formed between thumb and finger will withstand considerable movement and deformation.

(H) Clay: Consists of large amounts of clay and moderate to small amounts of sand. It breaks into very hard clods or lumps when dry. When moist, a thin, long ribbon or one-sixteenth (1/16) inch wire can be molded with ease. Fingerprints will show on the soil, and a dull to bright polish is made on the soil by a shovel.

(b) These and other soil textural characteristics are also defined as shown in the United States Department of Agriculture Textural Classification Chart which is hereby adopted as part of these rules. This textural classification chart is based on the Standard Pipette Analysis as defined in the United States Department of Agriculture, Soil Conservation Service Soil Survey Investigations Report No. 1. (See Table 6)

(114) "Soil With Rapid or Very Rapid Permeability" means:

(a) Soil which contains thirty-five (35) percent or more of coarse fragments two (2) millimeters in diameter or larger by volume with interstitial soil of sandy loam texture or coarser as defined in subsection (83) (a) of this rule and as classified in Soil Textural Classification Chart, Table 6; or

(b) Coarse textured soil (loamy sand or sand as defined in section (83) of this rule and as classified in Soil Textural Classification Chart, Table 6); or

(c) Stones, cobbles, gravel, and rock fragments with too little soil material to fill interstices larger than one (1) millimeter in diameter.

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- (115) "Stabilized Dune" means a sand dune that is similar to an active dune except vegetative growth is dense enough to prevent blowing of sand. The surface horizon to a depth of at least six (6) inches contains roots and has a color value of three (3) or less.
- (116) "Standard Subsurface System" means an on-site sewage disposal system consisting of a septic tank, distribution unit and gravity-fed absorption facility constructed in accordance with OAR 340-71-220(2), using six (6) inches of filter material below the distribution pipe, and maintaining not less than eight (8) feet of undisturbed earth between disposal trenches.
- (117) "Strength of Wastewater" means the concentration of pollutants in wastewater as measured by BOD<sub>5</sub> and TSS.
- (118) "Subsurface Sewage Disposal" means the physical, chemical or bacteriological breakdown and aerobic treatment of sewage in the unsaturated zone of the soil above any temporarily perched groundwater body.
- (119) "Subsurface Disposal System" means a cesspool or the combination of a septic tank or other treatment unit and effluent sewer and absorption facility. (See Diagrams 1, through 6, 11, 16, and 17)
- (120) [(25)] "System" means [- see] "On-Site Sewage Disposal System."
- (121) "Temporary Groundwater Table" means the upper surface of a saturated zone that exists only on a seasonal or periodic basis. Like a permanent groundwater table, the elevation of a temporary groundwater table may fluctuate. However, a temporary groundwater table and associated saturated zone will dissipate (dry up) for a period of time each year.
- (122) "Test Pit" means an open pit dug to sufficient size and depth to permit thorough examination of the soil to evaluate its suitability for subsurface sewage disposal.
- (123) "Toilet Facility" means a fixture housed within a toilet room or shelter for the purpose of receiving black waste.
- (124) "Total Suspended Solids" (TSS) means solids in sewage that can be removed readily by standard filtering procedures in a laboratory and reported as milligrams per liter (mg/L).
- (125) "Unstable Landforms" means areas showing evidence of mass downslope movement such as debris flow, landslides, rockfalls, and hummocky hillslopes with undrained depressions upslope. Unstable landforms may exhibit slip surfaces roughly parallel to

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the hillside; landslide scars and curving debris ridges; fences, trees, and telephone poles which appear tilted; or tree trunks which bend uniformly as they enter the ground. Active sand dunes are unstable landforms. (See Diagrams 21, 22, and 23)

(126) "Water Pollution" means "Pollution".

(127) "Zone of Aeration" means the unsaturated zone that occurs below the ground surface and above the point at which the upper limit of the water table exists. (See Diagram 20)

Amend OAR 340-71-105 by deleting the entire Rule.

Amend OAR 340-71-130 by adding a new section (16) as follows:

(16) No person shall place or cause to be placed into an on-site sewage disposal system or part thereof any substance or material in sufficient quantity which is capable of: adversely affecting the system's treatment process; causing damage or hazard to one or more components of the system; or otherwise altering the physical, chemical or biological properties of any waters of the state in a manner not lawfully authorized. Such material shall include but not be limited to products with a pH lower than four (4) or in excess of nine and five-tenths (9.5), organic solvents, and explosives. Cleaning compounds typically found in a home and used in accordance with manufacturers' directions are not likely to have an adverse impact upon the system or groundwater quality.

Amend OAR 340-71-140(1)(a) as follows:

340-71-140 FEES-GENERAL.

(1) Except as provided in section (5) of this rule, the following nonrefundable fees are required to accompany applications for site evaluations, permits, licenses and services provided by the Department.

ON-SITE SEWAGE DISPOSAL SYSTEMS	MAXIMUM FEE
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(a) New Site Evaluation:

(A) Single Family Dwelling:

(i) First Lot.....	\$150
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- (ii) Each Additional Lot Evaluated During Initial Visit ..... \$130
- (B) Commercial Facility System:
  - (i) For First One Thousand (1000) Gallons Projected Daily Sewage Flow ..... \$150
  - (ii) Plus For Each Five Hundred (500) Gallons or Part Thereof Above One Thousand (1000) Gallons, for Projected Daily Sewage Flows up to Ten Thousand (10,000) Gallons ..... \$ 50
  - (iii) Plus For Each One Thousand (1000) Gallons or Part Thereof Above Ten Thousand (10,000) Gallons ..... \$ 20
- (C) Site Evaluation [Denial] Report Review ..... \$ 60
- (D) Fees for site evaluation applications made to an agreement county shall be in accordance with that county's fee schedule.
- (E) Each fee paid for a site evaluation report entitles the applicant to as many site inspections on a single parcel or lot as are necessary to determine site suitability for a single system. The applicant may request additional site inspections within ninety (90) days of the initial site evaluation, at no extra cost.
- (F) Separate fees shall be required if site inspections are to determine site suitability for more than one (1) system on a single parcel of land.

Amend OAR 340-71-140(2) as follows:

- (2) Contract County Fee Schedules. Pursuant to ORS 454.745(4), fee schedules which exceed maximum fees in ORS 454.745(1), and Section (1) of this rule, are established for Contract Counties as follows:
  - [(a) Lane County: See OAR 340-72-050.]
  - [(b) Clackamas County: See OAR 340-72-060.]
  - (a) [(c)] Multnomah County: See OAR 340-72-070.
  - (b) [(d)] Jackson County: See OAR 340-72-080.

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(3) Contract County Fee Schedules, General:

- (a) Each county having an agreement with the Department under ORS 454.725 shall adopt a fee schedule for services rendered and permits and licenses to be issued.
- (b) A copy of the fee schedule and any subsequent amendments to the schedule shall be forwarded to the Department.
- (c) Fees shall not:
  - (A) Exceed actual costs for efficiently conducted services; or
  - (B) Exceed the maximum established in Section (1) of this rule, unless approved by the Commission pursuant to ORS 454.745(4).

Amend- OAR 340-71-140(4) as follows:

- (4) Surcharge. In order to offset a portion of the administrative costs of the statewide on-site sewage disposal program, a surcharge for each activity, as set forth in the following schedule, shall be levied by the Department and by each Agreement County. Proceeds from surcharges collected by the Department and Agreement Counties shall be accounted for separately. Each Agreement County shall forward the proceeds to the Department as negotiated in the memorandum of agreement (contract) between the county and the Department.

Activity	Surcharge
(a) Site evaluation[:] <del> ]</del> for each [one thousand (1000) gallons projected daily sewage flow or part thereof, up to a maximum surcharge of seventy five dollars (\$75)] <u>site examined, based on a projected flow of:</u>	
<u>1.000 gallons or less .....</u>	<u>\$ 15</u>
<u>1.001 gallons to 2.000 gallons .....</u>	<u>\$ 30</u>
<u>2.001 gallons to 3.000 gallons .....</u>	<u>\$ 45</u>
<u>3.001 gallons to 4.000 gallons .....</u>	<u>\$ 60</u>
<u>4.001 gallons or more .....</u>	<u>\$ 75</u>
(b) Construction-Installation Permit .....	\$ 5

EXCEPTION: Repair permits are not subject to a surcharge.

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(c) Alteration Permit .....	\$ 5
(d) Authorization Notice .....	\$ 5

Amend OAR 340-71-150(1) as follows:

- (1) A site evaluation is the first step in the process of obtaining a construction permit for an on-site system. Except as otherwise allowed in these rules, any [Any] person who wishes to install a new on-site sewage system shall first obtain a site evaluation report.

Amend OAR 340-71-150(4) as follows:

- (4) Approval or Denial:
- (a) In order to obtain a [an approved] favorable site evaluation report the following conditions shall be met:
- (A) All criteria for approval of a specific type or types of system, as outlined in [rules 340-71-220 and/or 340-71-260 through 340-71-360] OAR 340, Division 71 shall be met.
- (B) Each lot or parcel must have sufficient usable area available to accommodate an initial and replacement system. The usable area may be located within the lot or parcel, or within the bounds of another lot or parcel if secured pursuant to OAR 340-71-130(11). Sites may be approved where the initial and replacement systems would be of different types, e.g., a standard subsurface system as the initial system and an alternative system as the replacement system. The site evaluation report shall indicate the type of the initial and type of replacement system for which the site is approved.
- EXCEPTION: A replacement area is not required in areas under control of a legal entity such as a city, county, or sanitary district, provided the legal entity gives a written commitment that sewerage service will be provided within five (5) years.
- (b) A site evaluation shall be denied where the conditions identified in subsection (4)(a) of this rule are not met.
- (c) Technical rule changes shall not invalidate a favorable site evaluation, but may require use of a different kind of system.

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Amend OAR 340-71-150(5) as follows:

- (5) Site Evaluation [Denial] Report Review. A site evaluation [denied] report issued by the Agent shall be reviewed at the request of the applicant. The application for review shall be submitted to the Department in writing, within thirty (30) days of the site evaluation report issue date, and be accompanied by the [denial] review fee. The review shall be conducted and a report prepared by the Department.

Amend OAR 340-71-160 as follows:

340-71-160 PERMIT APPLICATION PROCEDURES-GENERAL REQUIREMENTS.

- (1) No person shall cause or allow construction, alteration, or repair of a system, or any part thereof, without first applying for and obtaining a permit.

EXCEPTION: Emergency repairs as set forth in Rule 340-71-215.

- (2) Applications for permits shall be made on forms provided by the Agent and approved by the Department.

- (3) An application is complete only when the form, on its face, is completed in full, is signed by the owner or the owner's legally authorized representative, and is accompanied by all required exhibits [(including a site evaluation report)] and fee, [ , and includes, from the appropriate jurisdiction, a statement of compatibility with the acknowledged local comprehensive plan and zoning requirements or Land Conservation and Development Commission's goals.] Except as otherwise allowed in OAR 340-71-400(6), the exhibits shall include:

- (a) Favorable site evaluation report.
- (b) Favorable land use compatibility statement from the appropriate land use authority signifying that the proposed land use is compatible with the Land Conservation and Development Commission acknowledged comprehensive plan or is consistent with the statewide planning goals.
- (c) Plans and specifications for the on-site system proposed for installation within the area identified in the favorable site evaluation report. The Agent shall determine and request the minimum level of detail necessary to insure proper system construction.
- (d) Any other information the Agent finds is necessary to complete the permit application.

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- (4) The application form shall be received by the Agent only when the form is complete, as detailed in section (3) of this rule.
- (5) Upon receipt of a completed application the Agent shall deny the permit if:
- (a) The application contains false information;
  - (b) The application was wrongfully received by the Agent;
  - (c) The proposed system would not comply with these rules;
  - (d) The proposed system, if constructed, would violate a Commission moratorium as described in rule 340-71-460;
  - (e) The proposed system location is encumbered as described in section 340-71-130(8);
  - (f) A sewerage system which can serve the proposed sewage flow is both legally and physically available, as described below:
    - (A) Physical Availability. A sewerage system shall be deemed physically available if its nearest connection point from the property to be served is:
      - (i) For a single family dwelling, or other establishment with a maximum projected daily sewage flow of not more than four hundred fifty (450) gallons, within three hundred (300) feet;
      - (ii) For a proposed subdivision or group of two (2) to five (5) single family dwellings, or equivalent projected daily sewage flow, not further than two hundred (200) feet multiplied by the number of dwellings or dwelling equivalents.
      - (iii) For proposed subdivisions or other developments with more than five (5) single family dwellings, or equivalents, the Agent shall make a case-by-case determination of sewerage availability.
    - EXCEPTION: A sewerage system shall not be considered available if topographic or man-made features make connection physically impractical.
    - (B) Legal Availability. A sewerage system shall be deemed legally available if the system is not under a Department connection permit moratorium, and the

Note: Underlined      material is new.  
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sewerage system owner is willing or obligated to provide sewer service.

- (6) A permit shall be issued only to a person licensed under ORS 454.695, or to the owner or easement holder of the land on which the system is to be installed.
- (7) No person shall construct, alter or repair a system, or any part thereof, unless [he] that person is licensed under ORS 454.695, or [he] is the permittee.
- (8) The Agent shall either issue or deny the permit within twenty (20) days after receipt of the completed application.

EXCEPTION: If weather conditions or distance and unavailability of transportation prevent the Agent from acting to either issue or deny the permit within twenty (20) days, the applicant shall be notified in writing. The notification shall state the reason for delay. The Agent shall either issue or deny the permit within sixty (60) days after the mailing date of such notification.

- (9) A permit issued pursuant to these rules shall be effective for one(1) year from the date of issuance for construction of the system. The construction-installation permit is not transferable. Once a system is installed pursuant to the permit, and a Certificate of Satisfactory Completion has been issued for the installation, conditions imposed as requirements for permit issuance shall continue in force as long as the system is in use.
- (10) Renewal of a permit may be granted to the original permittee if an application for permit renewal is filed prior to the original permit expiration date. Application for permit renewal shall conform to the requirements of sections (2) and (4) of this rule. The permit shall be issued or denied consistent with sections (5), (6), (8), and (9) of this rule.

Amend OAR 340-71-170 as follows:

340-71-170 PRE-COVER INSPECTIONS.

- (1) When construction, alteration or repair of a system for which a permit has been issued is complete, except for backfill (cover), or as required by permit, the [property owner or] system installer shall notify the Agent. The Agent shall inspect the installation to determine if it complies with the rules of the Commission, unless the inspection is waived by the Agent in accordance with section (2) of this rule or in accordance with the provisions of OAR 340-71-400(6).

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- (2) The Agent may, at his own election, waive the pre-cover inspection provided:
- (a) The installation is a standard subsurface system installed by a sewage disposal service licensed pursuant to ORS 454.695; and
  - (b) The inspecting jurisdiction and the Department have developed an impartial method of identifying those installers who have a history of proper installations without excessive numbers of corrections; and
  - (c) Inspections waived are for installations made by installers identified as having a good history of proper installation; and
  - (d) A list of installers whose inspections may be waived is available to the public and the Department; and
  - (e) A representative number of each installer's systems has been inspected, regardless of installation history; and
  - (f) After system completion the installer certifies in writing that the system complies with the rules of the Commission, and provides the Agent with a detailed as-built plan (drawn to scale) of the installation.
- (3) Precover inspection details shall be recorded on a form approved by the Department.

Amend OAR 340-71-185(2) as follows:

- (2) Procedures for Abandonment:
- (a) The septic tank, cesspool or seepage pit shall be pumped by a licensed sewage disposal service to remove all sludge;
  - (b) The septic tank, cesspool or seepage pit shall be filled with reject sand, bar run gravel, or other material approved by the Agent;
  - (c) The system building sewer shall be permanently capped.
  - ~~(d) If, in the judgment of the Agent, it is not reasonably possible or necessary to comply with subsections (2)(a) and (2)(b) of this rule, the Agent may waive either or both of these requirements provided such action does not constitute a menace to public health, welfare or safety.~~

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Amend OAR 340-71-215(3) as follows:

- (3) No person shall repair a failing system without first obtaining a Repair Permit. See OAR 340-71-160.

EXCEPTION: Emergency repairs may be made without first obtaining a permit provided that a repair permit application is [obtained] submitted to the Agent within three (3) working days after the emergency repairs are begun.

Amend OAR 340-71-220(1) as follows:

340-71-220 STANDARD SUBSURFACE SYSTEMS.

- (1) For the purpose of these rules:

- (a) "Standard Subsurface System" means an on-site sewage disposal system consisting of a septic tank, distribution unit and gravity-fed [disposal field] absorption facility constructed in accordance with section (2) of this rule, using six (6) inches of filter material below the distribution pipe, and maintaining not less than eight (8) feet of undisturbed earth between disposal trenches.
- (b) "Effective Soil Depth" means the depth of soil material above a layer that impedes movement of water, air, or growth of plant roots. Layers that differ from overlying soil material enough to limit effective soil depths are hardpans, claypans, fragipans, compacted soil, bedrock, saprolite and clayey soil.
- (c) "Large System" means any on-site system with a daily sewage flow greater than two thousand five hundred (2,500) gallons.
- (d) "Conditions Associated with Saturation" means:
- (A) Reddish brown or brown soil horizons with gray (chromas of two (2) or less) and red or yellowish red mottles; or
- (B) Gray soil horizons, or gray soil horizons with red, yellowish red or brown mottles; or
- (C) Dark colored highly organic soil horizons; or

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- (D) Soil profiles with concentrations of soluble salts at or near the ground surface.

Amend OAR 340-71-220(2) as follows:

- (2) Criteria For Standard Subsurface System Approval. In order to be approved for a standard subsurface system each site must meet all the following conditions:

- (a) Effective soil depth shall extend thirty (30) inches or more from the ground surface as shown in Table 3. A minimum six (6) inch separation shall be maintained between the layer that limits effective soil depth and the bottom of the absorption facility.
- (b) Water table levels shall be predicted using "conditions associated with saturation." If conditions associated with saturation do not occur in soil with rapid or very rapid permeability, predictions of the highest level of the water table shall be based on past recorded observations of the Agent. If such observations have not been made, or are inconclusive, the application shall be denied until observations can be made. Groundwater level determinations shall be made during the period of the year in which high groundwater normally occurs in that area.
- (A) A permanent water table shall be four (4) feet or more from the bottom of the absorption facility.

EXCEPTION: In defined geographic areas where the Department has determined through a groundwater study that degradation of groundwater would not be caused nor public health hazards created. In the event this exception is allowed, the rule pertaining to a temporary water table shall apply.

- (B) A temporary water table shall be twenty-four (24) inches or more below the ground surface. An absorption facility shall not be installed deeper than the level of the temporary water table.
- (C) [Curtain Drains.] Groundwater Interceptors. (Diagram 13) A [curtain drain] groundwater interceptor may be used to intercept and/or drain temporary water from a disposal area, however, it may be required to demonstrate that the site can

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be de-watered prior to issuing a Construction-Installation permit. [Curtain drains] Groundwater interceptors may be used only on sites with adequate slope to permit proper drainage. Each outlet shall be protected by a short section of Schedule 80 PVC or ABS plastic pipe and a grill to exclude rodents. Where required, [curtain drains] groundwater interceptors are an integral part of the system, but do not need to meet setback requirements to property lines, streams, lakes, ponds or other surface water bodies.

- (c) Soil with rapid or very rapid permeability shall be thirty six (36) inches or more below the ground surface. A minimum eighteen (18) inch separation shall be maintained between soil with rapid or very rapid permeability and the bottom of disposal trenches.

EXCEPTION: Sites may be approved with no separation between the bottom of disposal trenches and soil as defined in OAR 340-71-[105 (84)] 100 (114) (a) and (b), with rapid or very rapid permeability, and disposal trenches may be placed into soil as defined in OAR 340-71-[105 (84)] 100 (114) (a) and (b), with rapid or very rapid permeability if any of the following conditions occur:

- a- A confining layer occurs between the bottom of disposal trenches and the groundwater table. A minimum six (6) inch separation shall be maintained between the bottom of disposal trenches and the top of the confining layer; or
  - b- A layer of non-gravelly (less than 15% gravel) soil with sandy loam texture or finer at least eighteen (18) inches thick occurs between the bottom of the disposal trenches and the groundwater table; or
  - c- The projected daily sewage flow does not exceed a loading rate of four hundred fifty (450) gallons per acre per day.
- (d) Slopes shall not exceed thirty (30) percent and the slope/depth relationship set forth in Table 3.
- (e) The site has not been filled or the soil has not been modified in a way that would, in the opinion of the Agent, adversely affect functioning of the system.

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- (f) The site shall not be on an unstable land form, where operation of the system may be adversely affected.
- (g) The site of the initial and replacement absorption facility shall not be covered by asphalt or concrete, or subject to vehicular traffic, livestock, or other activity which would adversely affect the soil.
- (h) The site of the initial and replacement absorption facility will not be subjected to excessive saturation due to, but not limited to, artificial drainage of ground surfaces, driveways, roads, and roof drains.
- (i) Setbacks in Table 1 can be met.
  - (A) Stream Setbacks. Setback from streams shall be measured from bank drop-off or mean yearly highwater mark, whichever provides the greatest separation distance.
  - (B) Lots Created Prior to May 1, 1973. For lots or parcels legally created prior to May 1, 1973, the Agent may approve installation of a standard or alternative system with a setback from surface public waters of less than one hundred (100) feet but not less than fifty (50) feet, provided all other provisions of these rules can be met.
  - (C) Water Lines and Sewer Lines Cross. Where water lines and building or effluent sewer lines cross, separation distances shall be as required in the State Plumbing Code.
  - (D) Septic Tank Setbacks. The Agent shall encourage the placement of septic tanks and other treatment units as close as feasible to the minimum separation from the building foundation in order to minimize clogging of the building sewer.

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Amend OAR 340-71-220(3) as follows:

(3) Criteria For System Sizing:

Disposal Fields. Disposal fields shall be designed and sized on the basis of [information contained in]:

- (a) Table 2-Quantities of Sewage Flows; or other information determined by the Agent to be reliable.

EXCEPTIONS: Systems shall be sized on the basis of three hundred (300) gallons sewage flow per day, plus seventy five (75) gallons per day for the third bedroom when:

- a- Systems to serve single family dwellings on lots of record prior to March 1, 1978, which are inadequate in size to accommodate a system sized for a daily sewage flow of four hundred fifty (450) gallons.
  - b- Systems for specifically planned developments, with living units of three (3) or fewer bedrooms, where deed restrictions prohibit an increase in the number of bedrooms.
- (b) Table 4, Minimum Length of Disposal Trench Required, Soil Texture Versus Effective Soil Depth.
- (c) Table 5, Minimum Length of Disposal Trench Required, Soil Texture Versus Depth to Temporary Water.

- (d) Strength of the wastewater. The minimum length of disposal trench shall be determined by using the following equation:  
Length = (P) x (Q) x (R).

where: P = Trench length from Tables 4 or 5, whichever is larger.

Q = Design peak daily sewage flow divided by 150.

R = BOD<sub>5</sub> of Wastewater divided by 200 mg/L. or TSS of Wastewater divided by 150 mg/L, whichever has the higher value. In no case, however, may the value of R be less than 1. For a single family dwelling, assume a value of 200 mg/L BOD<sub>5</sub> and 150 mg/L TSS.

Amend OAR 340-71-220(4) as follows:

(4) Septic Tanks:

- (a) For the purpose of these rules, "Septic Tank" means a watertight receptacle which receives sewage from a sanitary

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drainage system, is designed to separate solids from liquids, digest organic matter during a period of detention, and allow the liquids to discharge to a second treatment unit or to a soil absorption facility.

(b) Liquid Capacity. [The minimum liquid capacity of any septic tank installed after July 1, 1981, shall be one thousand (1,000) gallons.]

(A) For projected daily sewage flows up to fifteen hundred (1,500) gallons the septic tank shall have a liquid capacity equal to at least one and one-half (1-1/2) days sewage flow, or one thousand (1,000) gallons, whichever is greater.

(B) For projected daily sewage flows greater than fifteen hundred (1,500) gallons, the septic tank shall have a liquid capacity equal to eleven hundred twenty-five (1,125) gallons plus seventy-five (75) percent of the projected daily sewage flow.

(C) Additional volume may be required by the Agent for industrial or other special wastes.

(D) The quantity of daily sewage flow shall be estimated from Table 2. For structures not listed in Table 2, the Agent shall determine the projected daily sewage flow.

(E) Single Family Dwelling. Septic tanks to serve single family dwellings shall be sized on the number of bedrooms in the dwelling, as follows:

- (i) 1 to 4 bedrooms.....1,000 gallons
- (ii) 5 bedrooms.....1,250 gallons
- (iii) More than 5 bedrooms.....1,500 gallons

(c) Installation Requirements:

(A) Septic tanks shall be installed on a level, stable base that will not settle.

(B) Septic tanks located in high groundwater areas shall be weighted or provided with an antibuoyancy device to prevent flotation.

(C) All septic tanks installed with the manhole access deeper than eighteen (18) inches, or when used within a sand filter system, commercial system, or pressurized system shall be provided with a watertight manhole riser extending to the ground surface or above. The riser shall have a minimum inside dimension equal to or

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greater than that of the tank manhole. A [The] cover shall be provided and securely fastened or weighted to prevent easy removal.

- (D) Septic tanks shall be installed in a location that provides access for servicing and pumping.
- (E) Where practicable, the sewage flow from any establishment shall be consolidated into one septic tank.
- (F) At the discretion of the Agent, a removable plug may be placed in the top of the septic tank's inlet sanitary tee if the septic tank discharges directly into a gravity-fed absorption facility.
- (d) Construction. Septic tank construction shall comply with minimum standards set forth in Rules 340-73-025 and 340-73-030, unless otherwise authorized in writing by the Department.

Amend OAR 340-71-220(7) as follows:

(7) Dosing Tanks:

- (a) Construction of dosing tanks shall comply with the minimum standards in Rule 340-73-050.
- (b) Each dosing tank shall be installed on a stable level base.
- (c) Each dosing tank shall be provided with a watertight riser and manhole cover, extending to the ground surface or above [, with a minimum inside horizontal measurement equal to or greater than the tank access manhole]. Provision shall be made for securely fastening the manhole cover.
- (d) At the discretion of the Agent, a removable plug may be placed in the top of the septic tank's inlet sanitary tee, and a trench ten (10) feet long and otherwise constructed the same as a standard disposal trench may be used to provide air and gas exchange from
  - (A) Ground and surface water will not infiltrate through the gravel-filled trench into the dosing tank; and
  - (B) The invert elevation of the perforated pipe in the ten (10) foot trench is one (1) foot higher than the invert elevation of the septic tank's inlet sanitary tee; and

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(C) The design flow for the system does not exceed six hundred (600) gallons per day.

(e) Dosing tanks located in high groundwater areas shall be weighted or provided with an antibuoyancy device to prevent flotation.

Amend OAR 340-71-275 as follows:

340-71-275 PRESSURIZED DISTRIBUTION SYSTEMS.

- (1) Pressurized distribution systems may be permitted on any site meeting requirements for installation of standard subsurface sewage disposal systems, or other sites where this method of effluent distribution is desired.
- (2) Except as provided in OAR 340-71-220(2)(c), pressurized distribution systems shall be used where depth to soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) is less than thirty (36) inches and the minimum separation distance between the bottom of the disposal trench and soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) is less than eighteen (18) inches.
- (3) Pressurized distribution systems installed in soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) in areas with permanent water tables shall not discharge more than four hundred fifty (450) gallons of effluent per one-half (1/2) acre per day except where:
  - (a) A [gray water] split waste system is proposed to serve a single family dwelling on a lot [for lots] of record existing prior to January 1, 1974, which [have] has sufficient area to accomodate a gray water pressurized distribution split waste system; or
  - (b) Groundwater is degraded and designated as a nondevelopable resource by the State Department of Water Resources; or
  - (c) A detailed hydrogeological study discloses loading rates exceeding four hundred fifty (450) gallons per one-half (1/2) acre per day would not increase the nitrate-nitrogen concentration in the groundwater beneath the site, or at any down gradient location, above five (5) milligrams per liter.
- (4) Materials and Construction:
  - (a) General:

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- (A) All materials used in pressurized systems shall be structurally sound, durable, and capable of withstanding normal stresses incidental to installation and operation.
  - (B) Nothing in these rules shall be construed to set aside applicable building, electrical, or other codes. An electrical permit and inspection from the Department of Commerce or the municipality with jurisdiction (as defined in ORS 456.750(5)) is required for pump wiring installation.
- (b) Pressurized Distribution Piping. Piping, valves and fittings for pressurized systems shall meet the following minimum requirements:
- (A) All pressure transport, manifold, lateral piping, and fittings shall meet or exceed the requirements for Class 160 PVC 1120 pressure pipe as identified in ASTM Specification D2241.
  - (B) Pressure transport piping shall be uniformly supported along the trench bottom, and at the discretion of the Agent, it shall be bedded in sand or other material approved by the Agent. A fourteen (14) gauge tracer wire shall be placed above piping when crossing property lines or entering public property or right of way.
  - (C) Orifices shall be located on top of the pipe, except in areas of extended frozen soil conditions in which case the Agent may specify orifice orientation.
  - (D) The ends of lateral piping shall be provided with threaded plugs or caps.
  - (E) All joints in the manifold, lateral piping, and fittings shall be solvent welded, using the appropriate joint compound for the pipe material. Pressure transport piping may be solvent welded or rubber ring jointed.
  - (F) A gate valve shall be placed on the pressure transport pipe, in or near the dosing tank, when appropriate.
  - (G) A check valve shall be placed between the pump and the gate valve, when appropriate.
- (c) [Trench Construction:] Disposal Trench Sizing and Construction:

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- (A) [Minimum trench length required shall be not less than that specified in Tables 4 and 5.] A system using disposal trenches shall be designed and sized in accordance with the requirements of OAR 340-71-220(3).
- (B) Disposal trenches shall be constructed using the specifications for the standard disposal trench unless otherwise allowed by the Department on a case-by-case basis.
- (C) Pressure lateral piping shall have not less than six (6) inches of filter material below, nor less than four (4) inches of filter material above the piping.
- (D) The sides of the trench and top of the filter material shall be lined or covered with filter fabric, or other nondegradable material permeable to fluids that will not allow passage of soil particles coarser than very fine sand. In soils finer textured than loamy sand, lining the sidewall may not be required.
- (d) Seepage Bed Construction:
- (A) Seepage beds may only be used in soil as defined in OAR 340-71-[105 (84)] 100(114) (a) and (b) as an alternative to the use of disposal trenches.
- (B) The effective seepage area shall be based on the bottom area of the seepage bed. The minimum area shall be [not less than two hundred (200) square feet per one hundred fifty (150) gallons projected daily sewage flow.] determined as follows:
- (i) The seepage bed proposed to serve a single family dwelling shall be sized at a minimum of one (1) square foot of bottom area for each gallon of projected daily sewage flow.
- (ii) A seepage bed proposed to serve a commercial facility shall be sized on the basis of wastewater strength, in terms of the Biochemical Oxygen Demand (BOD<sub>5</sub>) and Total Suspended Solids (TSS), and projected peak daily sewage flow, using the following equations:

$$\text{Seepage Bed Area} = (R) \times (\text{Design Peak Daily Sewage Flow})$$

where R = BOD<sub>5</sub> of Wastewater divided by 200 mg/L, or TSS of Wastewater divided by 150 mg/L, whichever has the higher value. In no case, however, may the value of R be less than 1.

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- (C) Beds shall be installed not less than eighteen (18) inches (twelve (12) inches with a capping fill) nor deeper than thirty six (36) inches into the natural soil. The seepage bed bottom shall be level.
  - (D) The top of the filter material shall be lined or covered with filter fabric, or other nondegradable material that is permeable to fluids but will not allow passage of soil particles coarser than very fine sand.
  - (E) Pressurized distribution piping shall have not less than six (6) inches of filter material below, nor less than four (4) inches of filter material above the piping.
  - (F) Pressurized distribution piping shall be horizontally spaced not more than four (4) feet apart, and not more than two (2) feet away from the seepage bed sidewall. At least two (2) parallel pressurized distribution pipes shall be placed in the seepage bed.
  - (G) A minimum of ten (10) feet of undisturbed earth shall be maintained between seepage beds.
- (e) Notwithstanding other requirements of this rule, when the projected daily sewage flow is greater than two thousand five hundred (2500) gallons the Department may approve other design criteria and standards it deems appropriate.
- (5) Hydraulic Design Criteria. Pressurized distribution systems shall be designed for appropriate head and capacity:
- (a) Head calculations shall include maximum static lift, pipe friction and orifice head requirements:
    - (A) Static lift where pumps are used shall be measured from the minimum dosing tank level to the level of the perforated distribution piping.
    - (B) Pipe friction shall be based upon a Hazen Williams coefficient of smoothness of 150. All pressure lateral piping and fittings shall have a minimum diameter of two (2) inches unless submitted plans and specifications show a smaller diameter pipe is adequate. The head loss across a lateral with multiple evenly spaced orifices may be considered equal to one-third (1/3) of the head loss that would result if the entrance flow were to pass through the length of the lateral.
    - (C) There shall be a minimum head of five (5) feet at the remotest orifice and no more than a fifteen (15) percent

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head variation between nearest and remotest orifice in an individual unit.

- (b) The capacity of a pressurized distribution system refers to the rate of flow given in gallons per minute (gpm):
  - (A) Lateral piping shall have discharge orifices drilled a minimum diameter of one-eighth (1/8) inch, and evenly spaced at a distance not greater than twenty four (24) inches in coarse textured soils or greater than four (4) feet in finer textured soils.
  - (B) The system shall be dosed at a rate not to exceed twenty (20) percent of the projected daily sewage flow.
  - (C) The affect of back drainage of the total volume of effluent within the pressure distribution system shall be evaluated for its impact upon the dosing tank and system operation.

Amend OAR 340-71-280(3) as follows:

(3) Design Criteria:

- (a) The seepage trench may have a maximum depth of forty-two (42) inches;
- (b) The seepage trench system shall be sized according to the following formula:

Length of seepage trench = (4) x (length of standard [system] disposal trench) divided by (3+ 2D), where D = depth of filter material below distribution pipe in feet. Maximum depth of filter material (D) shall be two (2) feet.

- (c) The projected daily sewage flow shall be limited to a maximum of four hundred fifty (450) gallons.

Amend OAR 340-71-290 as follows:

340-71-290 SAND FILTER SYSTEMS.

(1) For the purpose of these rules:

- (a) "Conventional sand filter" means a filter with two (2) feet of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure

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distribution system at an application rate not to exceed one and twenty-three hundredths (1.23) gallons per square foot sand surface area per day, applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow.

(b) "Medium sand" means a mixture of sand with 100 percent passing the 3/8 inch sieve, 90 percent to 100 percent passing the No. 4 sieve, 62 percent to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 percent to 55 percent passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, [and] 4 percent or less passing the No. 100 sieve and with a sand equivalency of eighty (80) or more.

(c) "Sand filter system" means the combination of septic tank or other treatment unit, a dosing system with effluent pump[(s)] and controls, or dosing siphon, piping and fittings, sand filter, and absorption facility [or effluent reuse method] used to treat and dispose of sewage.

(2) Inspection Requirements. Each sand filter system installed under this rule, and those filters installed under OAR 340-71-038, may be inspected annually. The [Department] Agent may waive the annual evaluation fee during years when sand filter field evaluation work is not performed.

(3) Sites Approved for Sand Filter Systems. Sand filters may be permitted on any site meeting requirements for standard subsurface sewage disposal systems contained under OAR 340-71-220, or where standard or pressurized disposal trenches would be used, and all the following minimum site conditions can be met:

(a) The highest level attained by temporary water would be:

(A) Twelve (12) inches or more below ground surface where gravity equal distribution trenches are used. Pressurized distribution trenches may be used to achieve equal distribution on slopes up to twelve (12) percent; or

(B) Twelve (12) inches or more below ground surface on sites requiring serial distribution where disposal trenches are covered by a capping fill, provided: trenches are excavated twelve (12) inches into the original soil profile, slopes are twelve (12) percent or less, and the capping fill is constructed according to provisions under OAR 340-71-265(3) and 340-71-265(4)(a) through (c); or

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

(C) Eighteen (18) inches or more below ground surface on sites requiring serial distribution where standard serial distribution trenches are used.

(b) The highest level attained by a permanent water table would be equal to or more than distances specified as follows:

Soil Groups	*Minimum Separation Distance from Bottom Effective Seepage Area
(A) Gravel, sand, loamy sand, sandy loam	24 inches
(B) Loam, silt loam, sandy clay loam, clay loam	18 inches
(C) Silty clay loam, silty clay, clay, sandy clay	12 inches

\*NOTE: Shallow disposal trenches (placed not less than twelve (12) inches into the original soil profile) may be used with a capping fill to achieve separation distances from permanent groundwater. The fill shall be placed in accordance to the provisions of OAR 340-71-265(3) and 340-71-265(4)(a) through (c).

(c) Permanent water table levels shall be determined in accordance with methods contained in subsection 340-71-220(1)(d). Sand filters installed in soils as defined in OAR 340-71-[105 (84)] 100(114), in areas with permanent water tables shall not discharge more than four hundred fifty (450) gallons of effluent per one-half (1/2) acre per day except where:

(A) A [gray water] split waste system is proposed to serve a single family dwelling on a lot [for lots] of record existing prior to January 1, 1974, which [have] has sufficient area to accommodate a gray water sand filter split waste system, or

(B) Groundwater is degraded and designated as a non-developable of Water Resources, or

(C) A detailed hydrogeological study discloses loading rates exceeding four hundred fifty (450) gallons per one-half (1/2) acre per day would not increase nitrate-nitrogen concentration in the groundwater beneath the site, or any down gradient location, above five (5) milligrams per liter.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

(d) Soils, fractured bedrock or saprolite diggable with a backhoe occur such that a standard twenty-four (24) inch deep trench can be installed.

(e) Where slope is thirty (30) percent or less.

~~(f) Setbacks in Table 1 can be met, except the minimum separation distance between the sewage disposal area and surface public waters shall be no less than fifty (50) feet.~~

(4) The minimum length of standard disposal trench per one hundred fifty (150) gallons projected daily sewage flow required for a sand filter absorption facility [facilities] is indicated in the following table:

[Minimum Length (Linear Feet)  
Disposal Trench Per One Hundred  
Fifty (150) Gallons Projected  
Daily Sewage Flow]

Soil Groups	<u>Linear Feet</u>
(a) Gravel, sand, loamy sand, sandy loam .....	35
(b) Loam, silt loam, sandy clay loam, clay loam .....	45
(c) Silty clay loam, silty clay, sandy clay, clay .....	50
(d) Saprolite or fractured bedrock .....	50
(e) High shrink-swell clays (Vertisols) .....	75 [*]

NOTE: ~~-a-~~ Disposal trenches in Vertisols shall contain twenty-four (24) inches of filter material and twenty-four (24) inches of soil backfill.

~~-b-~~ On lots created prior to January 1, 1974, that have insufficient suitable area within which to install an absorption facility sized in accordance with this table, may at the Agent's discretion utilize seepage trenches, providing: the design criteria and limitations contained in OAR 340-71-280(3) are met; the soil is not a high shrink-swell clay; and all other provisions of this rule are met except that a temporary water table shall be thirty (30) inches or more below the ground surface.

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (5) Sites with saprolite, fractured bedrock, gravel or soil textures of sand, loamy sand, or sandy loam in a continuous section at least two (2) feet thick in contact with and below the bottom of the sand filter, that meet all other requirements of section 340-71-290(3), may utilize either a conventional sand filter without a bottom or a sand filter in a trench that discharges biologically treated effluent directly into those materials. The application rate shall be based on the design sewage flow in OAR 340-71-295(1) and the basal area of the sand in either type of sand filter. A minimum twenty-four (24) inch separation shall be maintained between a water table and the bottom of the sand filter.
- (6) Materials and Construction:
- (a) All materials used in sand filter system construction shall be structurally sound, durable and capable of withstanding normal installation and operation stresses. Component parts subject to malfunction or excessive wear shall be readily accessible for repair and replacement.
  - (b) All filter containers shall be placed over a stable level base.
  - (c) In areas of temporary groundwater at least twelve (12) inches of unsaturated soil shall be maintained between the bottom of the sand filter and top of the disposal trench.
  - (d) Piping and fittings for the sand filter distribution system shall be as required under pressure distribution systems, OAR 340-71-275.
  - (e) The specific requirements for septic tanks, dosing tanks, etc. are found in OAR 340-71-220.
  - (f) The requirements in OAR 340-71-295 shall be met.

Amend OAR 340-71-295 as follows:

340-71-295 CONVENTIONAL SAND FILTER DESIGN AND CONSTRUCTION.  
(Diagrams 8 and 9)

(1) Sewage Flows:

- (a) Design sewage flows for a system proposed to serve a commercial facility shall be limited to six hundred (600) gallons or less with a wastewater strength not to exceed a BOD<sub>5</sub> of two-hundred (200) mg/L and a TSS of one hundred fifty (150) mg/L per day unless otherwise authorized in writing by the Department.

Note: Underlined        material is new.  
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(b) Design sewage flows for a system proposed to serve a single family dwelling shall [not be less than four hundred fifty (450) gallons per day, except as provided in subsection (c) of this rule.] be in accordance with the provisions of OAR 340-71-220(3)(a).

[(c) Design sewage flows for a system proposed to receive gray water only from a single family dwelling shall not be less than three hundred (300) gallons per day.]

(2) Minimum Filter Area. [Sand filters shall be sized based on an application rate of no more than one and twenty-three hundredths (1.23) gallons septic tank effluent per square foot medium sand surface per day.]

(a) A sand filter proposed to serve a single family dwelling shall have an effective medium sand surface area of not less than three-hundred sixty-six (366) square feet. If the design sewage flow exceeds four-hundred fifty (450) gallons per day, the medium sand surface area shall be determined with the following equation:

$$\text{Area} = (\text{projected daily sewage flow}) \text{ divided by } (1.23)$$

(b) A sand filter proposed to serve a commercial facility shall be sized on the basis of projected peak daily sewage flow and the strength of the wastewater, using the following equation:

$$\text{Area} = (\text{projected peak daily sewage flow}) \times (R) \text{ divided by } (1.23)$$

where R = BOD<sub>5</sub> of Wastewater divided by 200 mg/L, or TSS of Wastewater divided by 150 mg/L, whichever has the higher value. In no case, however, may the value of R be less than one (1).

(3) Sand filter container, piping, medium sand, gravel, gravel cover, and soil crown material for a sand filter system discharging to disposal trenches shall meet minimum specifications indicated in Diagrams 8 and 9 unless otherwise authorized in writing by the Department.

(4) Container Design and Construction:

(a) A reinforced concrete container consisting of floor and walls as shown in Diagrams 8 and 9 is required where water tightness is necessary to prevent groundwater from infiltrating into the filter.

(b) Container may be constructed of materials other than concrete where equivalent function, workmanship,

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

watertightness and at least a twenty (20) year service life can be documented:

- (A) Flexible membrane liner (FML) materials must have properties which are at least equivalent to thirty (30) mil unreinforced polyvinyl chloride (PVC) described in OAR 340-73-085. To be approved for filter installation, FML materials must:
  - (i) Have field repair instructions and materials which are provided to the purchaser with the liner; and
  - (ii) Have factory fabricated "boots" suitable for field bonding onto the liner to facilitate the passage of piping through the liner in a waterproof manner.
- (B) Where accepted for use, flexible sheet membrane liners shall be placed against relatively smooth, regular surfaces. Surfaces shall be free of sharp edges, corners, roots, nails, wire, splinters and other projections which might puncture, tear, or cut the liner. Where a smooth, uniform surface cannot be assured in the field, filter system plans must include specifications for liner protection. A four (4) inch bed of clean sand or a non-degradable filter fabric acceptable to the Agent, shall be used to provide liner protection.

Amend OAR 340-71-300(2) as follows:

- (2) Pre-Application Submittal. Prior to applying for a construction permit for a variation to the conventional sand filter the Department must approve the design. To receive approval the applicant shall submit the following required information to the Department:
  - (a) Effluent quality data. Filter effluent quality samples shall be collected and analyzed by a testing agency acceptable to the Department using procedures identified in the latest edition of "Standard Methods for the Examination of Wastewater," published by the American Public Health Association, Inc. The duration of filter effluent testing shall be sufficient to ensure results are reliable and applicable to anticipated field operating conditions. The length of the evaluation period and number of data points shall be specified in the test report. The following parameters shall be addressed:

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (A) BOD<sub>5</sub>;
- (B) [Suspended solids;] TSS;
- (C) Fecal coliform[.] ;
- (D) Nitrogen (Ammonia, Nitrate and Total Kjeldahl Nitrogen)
- (b) A description of unique technical features and process advantages.
- (c) Design criteria, loading rates, etc.
- (d) Filter media characteristics.
- (e) A description of operation and maintenance details and requirements.
- (f) Any additional information specifically requested by the Department.

Amend OAR 340-71-315(2) as follows:

(2) Construction Requirements:

- (a) Field collection drainage tile shall be installed on a uniform grade of two-tenths to four-tenths (0.2-0.4) feet of fall per one hundred (100) feet, and either
  - (A) A minimum of thirty-six (36) inches deep in soils with temporary groundwater, or
  - (B) A minimum of sixty-six (66) inches deep in soils with permanent groundwater.
- (b) Maximum drainage tile spacing shall be seventy (70) feet center to center.
- (c) Minimum horizontal separation distance between the drainage tile and absorption facility shall be twenty (20) feet.
- (d) Field collection drainage tile shall be rigid smooth wall perforated pipe with a minimum diameter of four (4) inches.
- (e) Field collection drainage tile shall be enveloped in clean filter material to within thirty (30) inches of the soil surface in soils with permanent groundwater, or to within twelve (12) inches of the soil surface in soils with temporary groundwater. Filter material shall be covered

Note: Underlined      material is new.  
 Bracketed [ ] material is deleted.

with filter fabric, treated building paper or other nondegradable material approved by the Agent.

- (f) Outlet tile shall be rigid smooth wall solid PVC pipe with a minimum diameter of four (4) inches. The outlet end shall be protected by a short section of Schedule 80 PVC or ABS or metal pipe, and a flap gate or grill to exclude rodents.
- (g) A silt trap with a thirty (30) inch minimum diameter shall be installed at the junction of the upgradient and downgradient collection drainage tile, between the field collection drainage tile and the outlet pipe unless otherwise authorized by the Department. The bottom of the silt trap shall be a minimum twelve (12) inches below the invert of the drainage pipe outlet.
- (h) The discharge pipe and tile drainage system are integral parts of the system, but do not need to meet setback requirements to property lines, streams, lakes, ponds or other surface water bodies.
- (i) The Agent has the discretion of requiring demonstration that a proposed tile dewatering site can be drained prior to issuing a Construction-Installation permit.
- (j) The absorption facility shall use equal or pressurized distribution.

Amend OAR 340-71-360(1) as follows:

(1) General Conditions for Approval. An on-site system construction-installation permit may be issued for a system to serve a single family dwelling on a site with soil shallow to saprolite provided requirements in either subsection (a) or subsection (b) of this section can be met.

(a) Slope does not exceed thirty (30) percent:

- (A) The saprolite is sufficiently weathered so that it can be textured, crushed, or broken with hand pressure to a depth of twenty-four (24) inches and can be dug from a test pit wall with a spade or other hand tool to a depth of forty-eight (48) inches; and
- (B) Clay films or iron coatings with moist values of five (5) or less and moist chromas of four (4) or more and/or organic coatings with moist values of three (3) or less and moist chromas of two (2) or more occur on fracture surfaces of the saprolite to a depth of forty-eight (48) inches.

Note: Underlined        material is new.  
Bracketed [ ] material is deleted.

- (b) Slope is in excess of thirty (30) percent but does not exceed forty-five (45) percent:
- (A) The saprolite is sufficiently weathered so that it can be textured, crushed, or broken with hand pressure to a depth of twenty-four (24) inches and can be dug from a test pit wall with a spade or other hand tool to a depth of sixty (60) inches; and
  - (B) Clay films or iron coatings with moist values of five (5) or less and moist chromas of four (4) or more and/or organic coatings with moist values of three (3) or less and moist chromas of two (2) or more occur on fracture surfaces of the saprolite to a depth of sixty (60) inches.

Amend OAR 340-71-400(5) as follows:

(5) Clatsop Plains Aquifer, Clatsop County:

The Clatsop Plains Groundwater Protection Plan, prepared by R.W. Beck and Associates and adopted by Clatsop County, provides a basis for continued use of on-site sewage disposal systems while protecting the quality of groundwater for future water supplies. For the plan to be successful, the following components must be accomplished:

- (a) By not later than January 1, 1983, Clatsop County shall identify and set aside aquifer reserve areas for future water supply development containing a minimum of two and one half (2-1/2) square miles. The reserve areas shall be controlled so that the potential for groundwater contamination from nitrogen and other possible pollutants is kept to a minimum.
- (b) The Agent may issue construction installation permits for new on-site sewage disposal systems or favorable reports of site evaluation to construct on-site systems, within the area generally known as the Clatsop Plains, which is bounded by the Columbia River to the North; the Pacific Ocean to the west; the Necanicum River, Neawanna Creek, and County Road 157 on the south; and the Carnahan Ditch-Skipanon River and the foothills of the Coast Range to the east, providing:
  - (A) The lot or parcel was created in compliance with the appropriate comprehensive plan for Gearhart (adopted by County Ordinance 80-3), Seaside (adopted by County Ordinance 80-10), Warrenton (adopted by County Ordinance 82-15), or the Clatsop County plan adopted through Ordinance No. 79-10; and either

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (B) The lot or parcel does not violate any rule of this Division; or
- (C) For a proposed single family dwelling or commercial facility with a projected sewage flow not exceeding four hundred fifty (450) gallons per day, the [The] lot or parcel does not violate the Department's Water Quality Management Plan or any rule of this Division, except the projected maximum sewage loading rate would exceed the ratio of four hundred fifty (450) gallons per one-half (1/2) acre per day. The on-site system shall be either a sand filter system or a pressurized distribution system; or
- (D) The Department may approve the use of standard on-site systems to serve single family dwellings within planned developments or clustered-lot subdivisions providing:
- (i) The planned development or clustered-lot subdivision is not located within Gearhart, Seaside, Warrenton, or their urban growth boundaries; and
  - (ii) The lots do not violate any rule of this Division, except the projected maximum sewage loading rate may exceed the ratio of four hundred fifty (450) gallons per acre per day; and
  - (iii) The Department is provided satisfactory evidence through a detailed groundwater study that the use of standard systems will not constitute a greater threat to groundwater quality than would occur with the use of sand filter systems or pressurized distribution systems.

Amend OAR 340-71-400 by adding a new section (6) as follows:

(6) Within areas east of the Cascade Range where the annual precipitation does not exceed twenty (20) inches, and after evaluating the site, the Agent may issue a construction-installation permit authorizing installation of a standard system to serve a single family dwelling, provided the requirements in subsections (6)(a) and (6)(b) of this rule are met.

(a) Minimum Site Criteria:

- (A) The property is twenty (20) acres or larger in size, with planning restrictions that prohibit division of the property into parcels containing less than twenty (20) acres;

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

(B) The property is not within an Urban Growth Boundary:

(C) The slope gradient ranges from five (5) percent to thirty (30) percent:

(D) The soils are diggable with a backhoe to a depth of at least twenty-four (24) inches:

(E) The setbacks in Table 1 can be met.

(b) Minimum Construction Requirements:

(A) The system shall contain not less than two hundred twenty-five (225) linear feet of disposal trench for projected sewage flows not exceeding four hundred fifty (450) gallons per day. Larger sewage flows shall be sized on the basis of seventy-five (75) linear feet per each one hundred fifty (150) gallons of projected flow.

(B) The system shall be constructed and backfilled in compliance with OAR 340-71-220: sections (4), (5), (6), (8), (9), (10), (11), and (12).

(c) At the discretion and request of the owner or the owner's authorized representative, a single application may be submitted to the Agent for both a site evaluation report and a construction-installation permit. The application would include the sum of the fees for both activities, pursuant to OAR 340-71-140(1)(a)(A) and OAR 340-71-140(1)(b)(A)(iii), as well as the following:

(A) Favorable land use compatibility statement:

(B) Property development plan acceptable to the Agent showing the location of existing and proposed improvements, including the locations of the dwelling and sewage disposal system.

(C) All other exhibits the Agent finds are necessary to complete the application.

(d) The Agent may waive the pre-cover inspection for a system installed pursuant to this section, provided the system installer certifies in writing that the system was installed in accordance with the permit plans and conditions.

Amend OAR 340-71-600(1) as follows:

340-71-600 SEWAGE DISPOSAL SERVICE.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (1) For the purpose of these rules "Sewage Disposal Service" means:
- (a) The installation of on-site sewage disposal systems (including the placement of portable toilets), or any part thereof; or
  - (b) The pumping out or cleaning of on-site sewage disposal systems (including portable toilets), or any part thereof; or
  - (c) The disposal of material derived from the pumping out or cleaning of on-site sewage disposal systems (including portable toilets); or
  - (d) Grading, excavating, and earth-moving work connected with the operations described in subsection (1) (a) of this rule, except streets, highways, dams, airports or other heavy construction projects and except earth-moving work performed under the supervision of a builder or contractor in connection with and at the time of the construction of a building or structure; or
  - (e) The construction of drain and sewage lines from five (5) feet outside a building or structure to the service lateral at the curb or in the street or alley or other disposal terminal holding human or domestic sewage[; or].

Amend OAR 340-71-600(6) as follows:

- (6) Each licensee shall:
- (a) Be responsible for any violation of any statute, rule, or order of the Commission or Department pertaining to his licensed business.
  - (b) Be responsible for any act or omission of any servant, agent, employee, or representative of such licensee in violation of any statute, rule, or order pertaining to his license privileges.
  - (c) Deliver to each person for whom he performs services requiring such license, prior to completion of services, a written notice which contains:
    - (A) A list of rights of the recipient of such services which are contained in ORS 454.705(2); and
    - (B) Name and address of the surety company which has executed the bond required by ORS 454.705(1); or

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Bracketed [ ] material is deleted.



(C) A statement that the licensee has deposited cash or negotiable securities for the benefit of the Department in compensating any person injured by failure of the licensee to comply with ORS 454.605 to 454.745 and with [OAR Chapter 340, Divisions 71 and 73.] rules of the Environmental Quality Commission

(d) Keep the Department informed on company changes that affect the license, such as business name change, change from individual to partnership, change from partnership to corporation, change in ownership, etc.

Amend OAR 340-71-600(8) as follows:

(8) [Personnel] Pumping and Cleaning Responsibilities:

(a) Persons performing the service of pumping or cleaning of sewage disposal facilities shall avoid spilling of sewage while pumping or while in transport for disposal.

(b) Any spillage of sewage shall be immediately cleaned up by the operator and the spill area shall be disinfected.

(c) Persons performing the service of cleaning septic tanks, cesspools or seepage pits shall not use any method of cleaning the facility other than pumping.

Amend OAR 340-71-600(9) as follows:

(9) License Suspension or Revocation:

(a) The Department may suspend, revoke, or refuse to grant, or refuse to renew, any sewage disposal service license if it finds:

(A) A material misrepresentation or false statement in connection with a license application; or

(B) Failure to comply with any provisions of ORS 454.605 through 454.785, the rules of [this Division], the Environmental Quality Commission or an order of the Commission or Department; or

(C) Failure to maintain in effect at all times the required bond or other approved equivalent security, in the full amount specified in ORS 454.705; or

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.

- (D) Nonpayment by drawee of any instrument tendered by applicant as payment of license fee.
- (b) Whenever a license is suspended, revoked or expires, the licensee shall remove the license from display and remove all Department identifying labels from equipment. The licensee shall surrender the suspended or revoked license, and certify in writing to the Department within fourteen (14) days after suspension or revocation that all Department identification labels have been removed from all equipment.
- (c) A sewage disposal service may not be considered for re-licensure for a period of at least one (1) year after revocation of its license.
- (d) A suspended license may be reinstated, providing:
  - (A) A complete application for reinstatement of license is submitted to the Department, accompanied by the appropriate fee as set forth in Subsection 340-71-140(1)(i); and
  - (B) The grounds for suspension have been corrected; and
  - (C) The original license would not have otherwise expired.

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Amend OAR 340, Division 71, by replacing the existing Table 1 with the revised Table 1.

TABLE 1  
Minimum Separation Distances

Items Requiring Setback	From Sewage Disposal Area Including Replacement Area	From Septic Tank and Other Treatment Units, Effluent Sewer and Distribution Units
1. Groundwater Supplies	100'	50'
2. Temporarily Abandoned Wells	100'	50'
3. Springs: -- upgradient	50'	50'
-- downgradient	100'	50'
*4. Surface Public Waters: -- <u>year round</u>	100'	50'
-- <u>seasonal</u>	<u>50'</u>	<u>50'</u>
5. Intermittent Streams:		
-- Piped (watertight not less than 25' from any part of the on-site system)	20'	20'
-- Unpiped	50'	50'
6. Groundwater Interceptors:		
On a slope of 3% or less	20'	20'
On a slope greater than 3%		
-- Upgradient	10'	10'
-- Downgradient	50'	25'
7. Irrigation Canals:		
Lined (watertight canal)	25'	25'
Unlined		
-- Upgradient	25'	25'
-- Downgradient	50'	50'
8. Cuts Manmade in Excess of 30 Inches (Top of Downslope Cut):		
-- Which Intersect Layers that Limit Effective Soil Depth Within 48 Inches of Surface	50'	25'
-- Which Do Not Intersect Layers That Limit Effective Soil Depth	25'	10'
9. Escarpments:		
-- Which Intersect Layers that Limit Effective Soil Depth	50'	10'
-- Which Do Not Intersect Layers That Limit Effective Soil Depth	25'	10'
10. Property Lines	10'	10'
11. Water Lines	10'	10'
12. Foundation Lines of any Building, Including Garages and Out Buildings	10'	5'

\* This does not prevent stream crossings of pressure effluent sewers.

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Note: Underlined        material is new.  
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Amend OAR 340-72-050 by deleting the entire rule.

Amend OAR 340-72-060 by deleting the entire rule.

Amend OAR 340-73-025(8) as follows:

- (8) Septic tanks shall be constructed of concrete, not less than twelve (12) gauge or thicker steel, or other materials approved by the Department:
- (a) Steel tanks shall be coated inside and out with asphalt or other protective coatings, meeting the most current American National Standards Institute UL 70 standard [U.S. Department of Commerce Commercial Standard CS 177], Sections [5.3.1 through 5.3.4.4] 25 through 44, or other coatings of equal or better performance approved by the Department.
  - (b) Precast concrete tanks shall have a minimum wall, compartment, and bottom thickness of two and one-half (2 1/2) inches, and shall be adequately reinforced. The top shall be at least four (4) inches thick.
  - (c) Where concrete block tanks are permitted by the Agent, the tanks shall be constructed of heavyweight concrete block, eight (8) inch minimum thickness, laid on a six (6) inch (minimum) poured foundation slab. The mortared joints shall be well filled. All block holes or cells shall be filled with mortar or concrete. "k" webbing shall be installed at every third row of block. Number three (3) re-bar shall be installed vertically in every block. Tank interiors shall be surfaced with at least two (2) one-quarter (1/4) inch thick coats of corrosion resistant water-proof sealant. The first row of blocks shall be keyed or doweled to the concrete foundation.
  - (d) Cast-in-place concrete tanks shall be constructed using the minimum sidewall thickness, bottom thickness, top thickness, and reinforcing shown in Diagram 1. All other requirements contained herein shall also be met. A structural permit is required from the Department of Commerce or the municipality with jurisdiction as defined in ORS 456.750(5). (See Diagram 1.)
  - (e) For cast-in-place septic tanks with dimensions different from those shown in Diagram 1, or when the septic tank is

Note: Underlined        material is new.  
Bracketed [ ] material is deleted.

to be located under a road or driveway, two (2) copies of detailed plans and specifications, prepared by a registered professional engineer licensed to practice in Oregon shall be provided to the Agent for review and approval.

Amend OAR 340-73-050 as follows:

340-73-050 DOSING TANK CONSTRUCTION.

- (1) Dosing tanks used in on-site sewage disposal systems in Oregon shall be watertight. They may be constructed of concrete, fiberglass, or other noncorrosive materials approved by the Department:
  - (a) Fiberglass dosing tanks shall be a minimum three sixteenths (3/16) inch thick and constructed with a glass fiber content of 40 percent and a resin content of 60 percent, with no exposed non-resin-covered glass fibers.
  - (b) Precast concrete dosing tanks shall have a minimum wall and bottom thickness of two and one-half (2 1/2) inches. The top shall be not less than four (4) inches thick. There shall be no seams in the walls or bottom.
  - (c) Cast-in-place concrete dosing tanks shall have a minimum wall, top, and bottom thickness of six (6) inches when the liquid capacity is twelve hundred (1200) gallons or less. A structural permit from the Department of Commerce or the municipality with jurisdiction (as defined in ORS 456.750(5)) is required when cast-in-place concrete dosing tanks are used. Cast-in-place concrete dosing tanks with a liquid capacity greater than twelve hundred (1200) gallons shall require submittal of detailed plans and specifications, prepared by a registered professional engineer licensed to practice in Oregon.
- (2) Each dosing tank shall be constructed and reinforced to withstand the loads imposed upon the top, walls and bottom.
- (3) Each dosing tank employing one (1) or more pumps shall have a minimum liquid capacity equal to the projected daily sewage flow for flows up to twelve hundred (1200) gallons per day. The Department may use its discretion in sizing dosing tanks when the projected daily sewage flow is greater than twelve hundred (1200) gallons per day. The liquid capacity shall be as measured from the invert elevation of the inlet fitting.
- (4) The inlet fitting shall be of hubbed cast iron soil pipe or other materials approved by the Department, with a minimum diameter of four (4) inches. The dosing tank manufacturer shall supply a rubber or neoprene rubber compression gasket meeting the minimum requirements of ASTM specification C-564 with each fitting, or an appropriate coupler

Note: Underlined     material is new.  
Bracketed [ ] material is deleted.

which the Department determines will provide for a watertight connection.

(5) Each dosing tank proposed to serve a commercial facility with a maximum projected daily sewage flow of twenty-five (2500) gallons, or proposed to serve a single family dwelling, shall be provided with an access manhole and a manhole cover, both having [with] a minimum horizontal measurement of eighteen (18) inches [where entry is necessary for operation and maintenance].

(6) Each dosing tank proposed to serve a commercial facility with a projected daily sewage flow greater than twenty-five (2500) gallons or when containing more than one (1) pump or siphon shall be provided with a manhole access that conforms to the following minimum horizontal dimensions:

(a) Opening at tank soffit---thirty (30) inches:

(b) Inside of manway---forty-two (42) inches:

(c) Manhole cover opening---twenty-three (23) inches.

[(6)] (7) Each prefabricated dosing tank shall be marked on the uppermost surface with the liquid capacity and the manufacturer's full business name[, ] or number assigned by the Department.

[(7)] (8) Each commercial manufacturer of prefabricated dosing tanks shall provide two (2) complete sets of plans and specifications, prepared by a registered professional engineer, licensed to practice in Oregon, to the Department for review and approval. Each manufacturer must also provide written certification to the Department that such tanks distributed for use in on-site sewage disposal systems in Oregon will comply with all requirements of this Rule.

[(8)] (9) Dosing tanks with siphons shall be designed and sized for each specific project and shall allow sufficient clearance above the siphon dome to allow removal of the dome.

Amend OAR 340-73-055 as follows:

340-73-055 EFFLUENT PUMPS, CONTROLS & ALARMS, AND DOSING SIPHONS..

(1) Pumps, Controls, and Alarms: Electrical components used in on-site sewage disposal systems shall comply with State of Oregon Electrical Code, and the following provisions:

(a) Motors shall be continuous-duty, with overload protection.

(b) Pumps shall have durable impellers of bronze, cast iron, or other materials approved by the Department.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

- (c) Submersible pumps shall be provided with an easy, readily accessible means of electrical and plumbing disconnect, and a noncorrosive lifting device as a means of removal for servicing.
  - (d) Except where specifically authorized in writing by the Director, the pump shall be placed within a corrosion-resistant screen that extends above the maximum effluent level within the pump chamber. The screen shall have at least twelve (12) square feet of surface area, with one-eighth (1/8) inch openings. The use of a screen is not required if the pump does not discharge into a pressurized distribution system, and the pump has a nonclog impeller capable of passing a 3/4 inch diameter solid sphere.
  - (e) Pumps shall be automatically controlled by sealed mercury float switches with a minimum mercury tube rating of twelve (12) amps at one hundred fifteen (115) volts A.C. or by a Department approved equivalently reliable switching mechanism. The switches shall be installed so that approximately twenty (20) percent of the projected daily sewage flow is discharged each cycle.
  - (f) An audible and visual high water level alarm with manual silence switch shall be located in or near the building served by the pump. The audible alarm only may be user cancelable. The switching mechanism controlling the high water level alarm shall be located so that at time of activation the dosing tank has at least one-third (1/3) of its capacity remaining for effluent storage.
  - (g) When a system has more than one (1) pump, the Department may require they be wired into the electrical control panel to function alternately after each pumping cycle. If either pump should fail the other pump will continue to function, while an audible (user cancelable) and visual alarm (not user cancelable) indicating pump malfunction will activate. A cycle counter shall be installed in the electrical control panel for each pump.
- (2) Dosing Siphons. Dosing siphons used in on-site sewage disposal systems shall comply with all of the following minimum requirements:
- (a) Shall be constructed of corrosion-resistant materials.
  - (b) Shall be installed in accordance with the manufacturer's recommendations.

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

Amend OAR 340-73-060(2)(a) as follows:

(2) Distribution and Header Pipe and Fittings:

(a) Plastic Pipe and Fittings:

- (A) Styrene-rubber plastic distribution and header pipe and fittings shall meet the most current ASTM (American Society for Testing and Materials) Specification D 2852 and Sections 5.5 and 7.8 of Commercial Standard 228, published by the U.S. Department of Commerce. Pipe and fittings shall also pass a deflection test withstanding three hundred-fifty (350) pounds/foot without cracking by using the method found in ASTM 2412. In addition to the markings required by ASTM 2852, each manufacturer of styrene-rubber plastic pipe shall certify, in writing to the Department, that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section.
- (B) Polyethylene distribution pipe in ten (10) foot lengths and header pipe in lengths of ten (10) feet or greater of which pipe and fitting shall meet the current ASTM Specification F405. Pipe and fittings shall also pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Pipe used in absorption facilities shall be heavy duty. In addition to the markings required by ASTM F405, each manufacturer of polyethylene pipe shall certify, in writing to the Department that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section.
- (C) Polyvinyl chloride (PVC) distribution and header pipe and fittings shall meet the most current ASTM Specification D-2729. Pipe and fittings shall pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Markings shall meet requirements established in ASTM Specification D-2729, subsections 9.1.1., 9.1.2 and 9.1.4. Each manufacturer of polyvinyl chloride pipe shall certify, in writing to the Department, that pipe and fittings to be distributed for use in absorption facilities within the State of Oregon

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will comply with all requirements of this section.

- (D) [High density polyethylene] Polyethylene smooth wall distribution and header pipe (ten (10) foot lengths) and fittings shall meet the [specifications designated as Appendix 1.] most current ASTM specification F 810. Pipe and fittings shall also pass a deflection test of three hundred fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Markings shall meet the requirements established in ASTM specification F 810, Section 9. Each manufacturer of [high density] polyethylene smooth wall pipe shall certify, in writing to the Department that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this Rule.
- (E) The four types of plastic pipe described above shall have two (2) rows of holes spaced one hundred-twenty (120) degrees apart and sixty (60) degrees on either side of a center line. For distribution pipe, a line of contrasting color shall be provided on the outside of the pipe along the line furthest away and parallel to the two (2) rows of perforations. Markings, consisting of durable ink, shall cover at least fifty (50) percent of the pipe. Markings may consist of a solid line, letters, or a combination of the two. Intervals between markings shall not exceed twelve (12) inches. The holes of each row shall be not more than five (5) inches on center and shall have a minimum diameter of one-half (1/2) inch.

Amend OAR 340, Division 73, by deleting Appendix 1.

Amend OAR 340-73-085(2)(e)(D)(viii) as follows:

- (viii) Final inspection and acceptance. [As completed, the liner installation should be tested for functional integrity. All joints, seams and mechanical seals should be checked both during and after installation. Hydrostatic testing to evaluate watertightness of the completed liner installation before placement of any backfill may be required at the discretion of either the Agent or the owner/purchaser. The lined basin shall be filled to the four (4) foot level with water after the pipe inlets and outlets have been fitted with

Note: Underlined \_\_\_\_\_ material is new.  
Bracketed [ ] material is deleted.

temporary plugs. Acceptance of workmanship shall be based upon a leakage rate of no more than 0.25 inches in a 24 hour period. Virtually no leakage should result from good workmanship, however.] Completed liner installations shall be visually checked for punctures, rips, tears and seam discontinuities before placement of any backfill. At this time the installer shall also manually check all factory and field seams with an appropriate tool. In lieu of or in addition to manual checking of seams by the installer, either of the following tests may be performed:

(I) Wet Test: The lined basin shall be flooded to the four (4) foot level with water after inlets and outlets have been plugged. Workmanship shall be accepted if leakage rate in a 24-hour period is no greater than 0.25 inches.

(II) Air Lance Test: Inspect all seams (factory and field) for unbonded areas using an air nozzle directed on the upper seam edge and surface to detect loose edges. Riffles indicate unbonded areas within the seam, or other undesirable seam construction. Check all bonded seams using a minimum 50 PSI (gauge) air supply directed through a 3/16 inch (typical) nozzle, held not more than 2 inches from the seam edge and directed at the seam edge.

Amend OAR 340, Division 73, by adding a new rule, as follows:

Filter Fabric

340-73-041 Except as otherwise allowed by the Department on a case-by-case basis, filter fabric used within on-site systems in Oregon shall meet the following specifications:

1. Material synthetic fabric, either spunbonded or woven.
2. Burst Strength, psi--not less than 25 psi.
3. Air Permeability, cfm per sq. ft.--not less than 500.
4. Water Flow Rate--not less than 500 gpm per sq. ft. at 3 inches of head.
5. Surface Reaction to Water--Hydrophilic.
6. Equivalent Opening Size--70 to 100 sieve.

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Bracketed [ ] material is deleted.

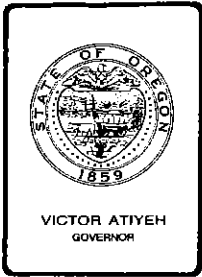
7. Chemical Properties:

A. Non-biodegradable.

B. Resistant to acids and alkalies within a pH range of 4 to 10.

C. Resistant to common solvents.

Note: Underlined      material is new.  
Bracketed [ ] material is deleted.



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission  
From: Director  
Subject: Agenda Item O, June 13, 1986, EQC Meeting

Proposed Adoption of a Rule Establishing a Maximum Repair Permit Fee for Linn County, OAR 340-71-140(2) and OAR 340-72-090

### Background and Problem Statement

ORS 454.745(4) provides that the Commission, at the request of the Director or any Contract County, may by rule increase fees to conduct on-site sewage disposal program services above the maximum levels established in Subsection (1) of ORS 454.745. Fee increases permitted by the Commission shall be based upon actual costs for efficiently conducted minimum services as developed by the Director or Contract County. Under ORS 454.745(3), the total amount of fees collected by a local unit of government cannot exceed the total cost of the program to provide the on-site sewage disposal services and issue permits.

Linn County has requested it be allowed the ability to establish a repair permit fee equal to the average amount the County has determined it incurs in providing this service (the County Board of Commissioners are currently considering a \$75 fee). The amount requested is greater than the \$35 repair permit fee adopted by the Commission in 1983. Based on a time study of on-site services provided by the County, on the average they expend four and seventeen hundredths (4.17) hours of technical staff time on each residential repair permit. During the period of their study, the average rate of income for all permit related activities was \$23.87 per hour, whereas the overall hourly cost of the County to provide technical services to conduct the on-site program was determined to be \$39 per hour. The average repair permit costs Linn County \$164 -- (4.17 hours x \$39). Since the County may not charge more than \$35 at this time, the difference is subsidized by the County general fund.

The Department recognizes that the currently established \$35 repair permit fee does not cover the cost of providing technical services for this activity. In 1983, the fee of \$35 was estimated to cover approximately half of the technical service cost, but did not include associated expenses for administration, secretarial help, vehicle costs, etc. The Department

believed that by keeping the fee level low, individuals would be encouraged to apply for a repair permit, and thus a greater number of needed repairs of failing or inadequate on-site sewage disposal systems would be made. The Department utilizes general funds and other revenue sources to subsidize repair permit activities. The Department wants and intends to reevaluate the adequacy of the statewide repair permit fee, but does not view it as reasonable to postpone Linn County's request until completing the necessary data analyses.

At its April 25, 1986 meeting, the Commission authorized a public hearing to take testimony on the proposed rule amendments establishing the repair permit fee for Linn County (refer to Exhibit "C" for a copy of the April 25, 1986 agenda item). Notice of public hearing was provided by publication in the May 1, 1986 edition of the Secretary of State's Administrative Rules Bulletin. Notice was also mailed to the Department's general On-Site Sewage Disposal mailing list.

A public hearing was held in Albany on May 16, 1986. No oral testimony was offered. The Board of Commissioners offered written testimony for the hearing record to supplement their request for authority to establish the repair permit fee. The Hearing Officer's report summarizing all testimony is attached as Exhibit "B".

#### Alternatives and Evaluation

The alternatives are as follows:

1. Adopt the proposed rule amendments establishing a repair permit fee for Linn County, as presented in Exhibit "A".
2. Adopt a modified version of the proposed rule amendments.
3. Do not adopt rule amendments at this time.

No adverse testimony was received on the proposed rule amendments. In staff's view the proposed rule language clearly expresses the latitude Linn County has requested in establishing a residential system repair permit fee. The maximum fee the County could charge does not exceed the average cost the County has determined it incurs in processing residential repair permits. Therefore, the first alternative appears to be appropriate.

The Department last reviewed the Linn County on-site sewage disposal program in 1984. It was found to be well run. Although the issue of program efficiency was not specifically examined, it is staff's opinion the Linn County program is performed efficiently.

Summation

1. The Commission may by rule increase minimum on-site fees established in ORS 454.745 at the request of the Director or any Contract County. At the conclusion of the public hearing process and staff evaluation of testimony, the Commission must determine that fee increases are based upon actual cost for efficiently conducted services.
2. Linn County has requested the ability to establish a repair permit fee equal to the average amount the County has determined it incurs in performing repair permit activities.
3. On April 25, 1986, the Commission authorized a public hearing to receive testimony on the proposed rule amendments establishing a repair permit fee for Linn County.
4. Notice of public hearing was published in the Secretary of State's Administrative Rules Bulletin on May 1, 1986, and mailed to the Departments mailing list of known interested individuals, in accordance with ORS Chapter 183 and OAR Chapter 340, Division 11.
5. A public hearing was held in Albany, on May 16, 1986.
6. It is staff's belief that Linn County performs activities associated with the sewage disposal program in an efficient manner.

Director's Recommendation

Based upon the summation, it is recommended the Commission adopt the proposed rule amendments establishing a maximum repair permit fee for Linn County.

*Mike Hansen*  
for  
Fred Hansen

Exhibits: (3)

- "A" Proposed Rule Amendments
- "B" Hearing Officer's Report
- "C" Agenda Item No. D, April 25, 1986 EQC Meeting

Sherman O. Olson:h  
WH811  
229-6443  
May 20, 1986

PROPOSED RULE AMENDMENTS

Amend OAR 340-71-140(2) as follows:

- (2) Contract County Fee Schedules. Pursuant to ORS 454.745(4), fee schedules which exceed maximum fees in ORS 454.745(1), and Section (1) of this rule, are established for Contract Counties as follows:
- (a) Lane County: See OAR 340-72-050.
  - (b) Clackamas County: See OAR 340-72-060.
  - (c) Multnomah County: See OAR 340-72-070.
  - (d) Jackson County: See OAR 340-72-080.
  - (e) Linn County: See OAR 340-72-090.

Amend OAR 340 Division 72 by adding a new rule as follows:

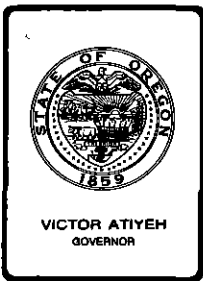
Linn County

340-72-090 Linn County is authorized to establish fees for permits to repair failing on-site sewage disposal systems in amounts not to exceed the following:

- (1) System serving a single family dwelling . . . \$163.
- (2) System serving a commercial facility . . . The appropriate fee identified in OAR 340-71-140(1)(b)(A) and (B).

Sherman O. Olson:h  
WH660.3

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.



## Environmental Quality Commission

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission

From: Sherman O. Olson, Jr, Hearing Officer

Subject: Report on Public Hearing Held on May 16, 1986, in Albany, and Summary of Written Testimony, on the Question of Adopting an Administrative Rule Establishing the Maximum Fee Linn County May Charge for a Residential Sewage Disposal System Repair Permit

### Summary of Procedure

Pursuant to public notice, a public hearing was convened at 11:00 a.m., on May 16, 1986, in Miller Room A-1 of the old Albany Armory Building, located at Forth and Lyons, Albany, Oregon. The purpose of the hearing was to receive testimony on the proposed adoption of a rule establishing the maximum fee Linn County could charge for a residential sewage disposal system repair permit.

### Summary of Oral Testimony

No oral testimony was offered for consideration.

### Summary of Written Testimony

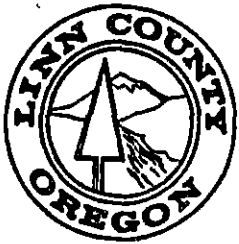
Linn County Board of Commissioners, letter dated May 6, 1986. There are more than 60 unresolved sewage complaints in Linn County. The Linn County Commissioners are concerned because failing systems effect public health and the livability of neighborhoods and communities. They state they are sensitive to the possibility that some people may be discouraged from repairing their systems, but even so, the County needs the revenue increase to maintain the staffing required to investigate complaints and process repairs. The Board of Commissioners also stressed the average time spent per repair permit does not include time spent on complaint investigations or enforcement activities. A copy of the May 6, 1986 letter is attached to this report.

Respectfully submitted,

Sherman O. Olson, Jr.  
Hearing Officer

SSO:h  
229-6443  
WH811.1





LINN COUNTY BOARD OF COMMISSIONERS

VERNON SCHROCK  
Commissioner

CARL J. STEPHANI  
Commissioner

RICHARD STACH  
Commissioner

Linn County Courthouse  
P.O. Box 100, Albany, Oregon 97321  
(503) 967-3825

WILLIAM L. OFFUTT  
Administrative Officer

May 6, 1986

RECEIVED  
MAY 15 1986  
Water Quality Division  
Dept. of Environmental Quality

Oregon Environmental Quality Commission  
c/o Mr. Sherman Olson  
Water Quality Division  
Department of Environmental Quality  
P.O. Box 1760  
Portland, OR 97207

Re: Proposed Rule - OAR 340-72-090  
Linn County Repair Permit Fee

Dear Commission Members:

In addition to the documentation previously submitted as justification for this rule, the Linn County Board of Commissioners would like to take this opportunity to offer the following comments.

The Board has been advised by the Environmental Health Division that there are currently more than 60 unresolved sewage complaints in the county. We are very concerned with this situation, because failing on-site sewage systems effect public health and the livability of our neighborhoods and communities.

The Board is sensitive to the possibility that a fee set too high may discourage some people from making necessary repairs. Unfortunately, increased revenue from repair permits is needed at this time to maintain the staffing required to investigate complaints and process repairs.

It should be noted for the record that the average of 4.17 hours per repair permit does not include time spent on the investigation of complaints nor any enforcement activities leading up to the issuance of permits. We are hopeful that with your support, Linn County can continue to provide this valuable service to our citizens into the foreseeable future.

Yours truly,

LINN COUNTY BOARD OF COMMISSIONERS

*Carl J. Stephani*  
Carl J. Stephani, Chairman

*Vernon Schrock*  
Vernon Schrock, Commissioner

*Richard Stach*  
Richard Stach, Commissioner



## *Environmental Quality Commission*

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

### MEMORANDUM

To: Environmental Quality Commission  
 From: Director  
 Subject: Agenda Item No. D, April 25, 1986, EQC Meeting

Request for Authorization to Conduct a Public Hearing on the Proposed Adoption of a Rule Establishing the Maximum Repair Permit Fee for Linn County

### Background and Problem Statement

ORS 454.745(4) provides that the Commission, at the request of the Director or any Contract County, may by rule increase fees to conduct on-site sewage disposal program services above the maximum levels established in Subsection (1) of ORS 454.745. Fee increases permitted by the Commission shall be based upon actual costs for efficiently conducted minimum services as developed by the Director or Contract County. Under ORS 454.745(3), the total amount of fees collected by a local unit of government cannot exceed the total cost of the program to provide the on-site sewage disposal services and issue permits.

Linn County has requested it be allowed the ability to establish a repair permit fee equal to the average amount the County has determined it incurs in providing this service. The amount requested is greater than the \$35 repair permit fee adopted by the Commission in 1983. Based on a time study of on-site services provided by the County, on the average they expend four and seventeen hundredths (4.17) hours on each residential repair permit. During the period of their study, the average rate of income for all permit related activities was \$23.87 per hour, whereas the overall hourly cost of the County to provide technical services to conduct the on-site program was determined to be \$39 per hour. The average repair permit costs Linn County \$163 -- (4.17 hours x \$39). Since the County may not charge more than \$35 at this time, the difference is subsidized by the County general fund. Attachment "A" contains Linn County's request and the supporting information.

The Department recognizes that the currently established \$35 repair permit fee does not cover the cost of providing technical services for this activity. In 1983, the fee of \$35 was estimated to cover one-half of the cost. The Department believed that by keeping the fee level low, individuals would be encouraged to apply for a repair permit, and thus a greater number of needed repairs of failing or inadequate on-site sewage disposal systems would be made. The Department utilizes general funds to subsidize repair permit activities. The Department wants and intends to reevaluate the adequacy of the statewide repair permit fee, but does not view it as reasonable to postpone Linn County's request until completing the necessary data analyses.

Alternatives and Evaluation

The alternatives are as follows:

1. Authorize the Department to conduct a public hearing on the proposed rule amendment.
2. Do not authorize a public hearing.

Department staff have examined and evaluated the supporting information furnished with the request for a higher repair permit fee for Linn County. The average amount of time spent on each repair activity appears to be consistent with estimates given by other offices. Also, the cost analyses developed by the County to provide technical services for the on-site sewage disposal program appear to offer adequate rationale and support to justify a public hearing on the issue. The total cost for program administration in Linn County for 1985 was \$69,801.58, while the income from fees for the same period was \$37,525. Repair permit activities are heavily subsidized by general fund monies. The County would like to shift more of this burden from the general fund back to the permittee so that an efficient level of program service can be maintained. The Department believes it is desirable to conduct a public hearing on this matter.

Summation

1. The Commission may by rule increase minimum on-site fee established in ORS 454.745 at the request of the Director or any Contract County. At the conclusion of the public hearing process and staff evaluation of testimony, the commission must determine that fee increases are based upon actual costs for efficiently conducted services.
2. Linn County has requested the ability to establish a repair permit fee equal to the average amount the County has determined it incurs in performing repair permit activities.

Director's Recommendation

Based upon the summation, it is recommended the Commission authorize a public hearing to take testimony on the proposed rule amendments establishing a repair permit fee for Linn County. It is further recommended that the Commission authorize the Director to appoint a Department staff member to serve as Hearings Officer in this matter.

  
Fred Hansen

Attachments (4):

- "A" Linn County's Request for EQC Action
- "B" Public Hearing Notice
- "C" Statement of Need for Rulemaking
- "D" Proposed Rule Amendments

Sherman O. Olson:h  
229-6443  
March 17, 1986  
WH660

## LINN COUNTY BOARD OF COMMISSIONERS

VERNON SCHROCK  
Commissioner

CARL J. STEPHANI  
Commissioner

RICHARD STACH  
Commissioner

Linn County Courthouse  
P.O. Box 100, Albany, Oregon 97321  
(503) 967-3825

WILLIAM L. OFFUTT  
Administrative Officer

March 4, 1986

DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**

WATER QUALITY CONTROL

Oregon Environmental Quality Commission  
C/O Mr. Sherman Olson  
Water Quality Division  
Department of Environmental Quality  
P.O. Box 1760  
Portland, OR 97207

Re: On-Site Sewage Disposal Repair Permit Fee

Dear Commission Members:

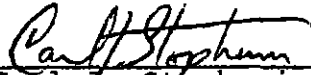
In order to help maintain funding for a viable on-site sewage disposal program, the Linn County Board of Commissioners finds it necessary at this time to consider the adoption of a repair permit fee in excess of \$35. It is our understanding that any fee higher than those specifically authorized under Oregon Administrative Rules 340-71-140 must receive prior approval from the Oregon Environmental Quality Commission. Therefore, the Board hereby requests that this matter be considered by the Commission at its earliest convenience.


The Board is currently considering a repair permit fee of \$75. However, it would be our desire to have the ability to adopt a fee up to the amount justified by this request.

Attached please find documentation prepared by Bob Wilson of our Environmental Health Division which we feel justifies this request. Please let Mr. Wilson know if you will require additional information, or if there will be a hearing that he should attend. We are hopeful that with your support, Linn County can continue to provide this valuable service to our citizens into the foreseeable future.

Yours truly,

LINN COUNTY BOARD OF COMMISSIONERS

  
\_\_\_\_\_  
Carl J. Stephani, Chairman

  
\_\_\_\_\_  
Vernon Schrock, Commissioner

  
\_\_\_\_\_  
Richard Stach, Commissioner

klb  
Attachments

JUSTIFICATION FOR AN INCREASE IN REPAIR  
PERMIT FEES PURSUANT TO ORS 454.745(4)

Prepared for Submission to the  
Environmental Quality Commission

By: Bob Wilson, Director  
Linn County Environmental Health Division

March, 1986

JUSTIFICATION FOR AN INCREASE IN REPAIR  
PERMIT FEES PURSUANT TO ORS 454.745(4)

In the past few years, the on-site sewage disposal program in Linn County has experienced a steady decline in the number of applications for new sites and new permits, while the number of repair permits and sewage related complaints has remained relatively constant (Attachment I). Since there are no fees for complaint investigations, and repair permits are heavily subsidized by the county; this trend has resulted in an increasing burden on the county general fund.

In order to evaluate possible alternatives to help reverse this trend, a six month time study of on-site sewage activities was conducted. A summary of the results as they relate to the fee generating activities has been attached (Attachment II). The most significant discovery was the extent to which repair permits are subsidized by the county. Repairs require approximately 27 percent of our staff time while producing only 8.7 percent of the revenue.

Fees for all of the on-site activities have been evaluated by comparing the fee for a specific application to the average amount of technical (sanitarian) time required for processing each application. For example, the fee for a site evaluation is \$150, and the average time for processing a single application is 4.21 hours. Therefore, the average income to the county for processing a site evaluation is \$35.60 per hour.

By comparison, the average income to the county for processing a repair permit is \$8.40 per hour. Using the fee for site evaluations as a standard, an increase in the repair permit fee by a factor of 4.24 ( $\$35.60/\text{hr.} \div \$8.40/\text{hr.}$ ) can be justified--from \$35 to \$148.

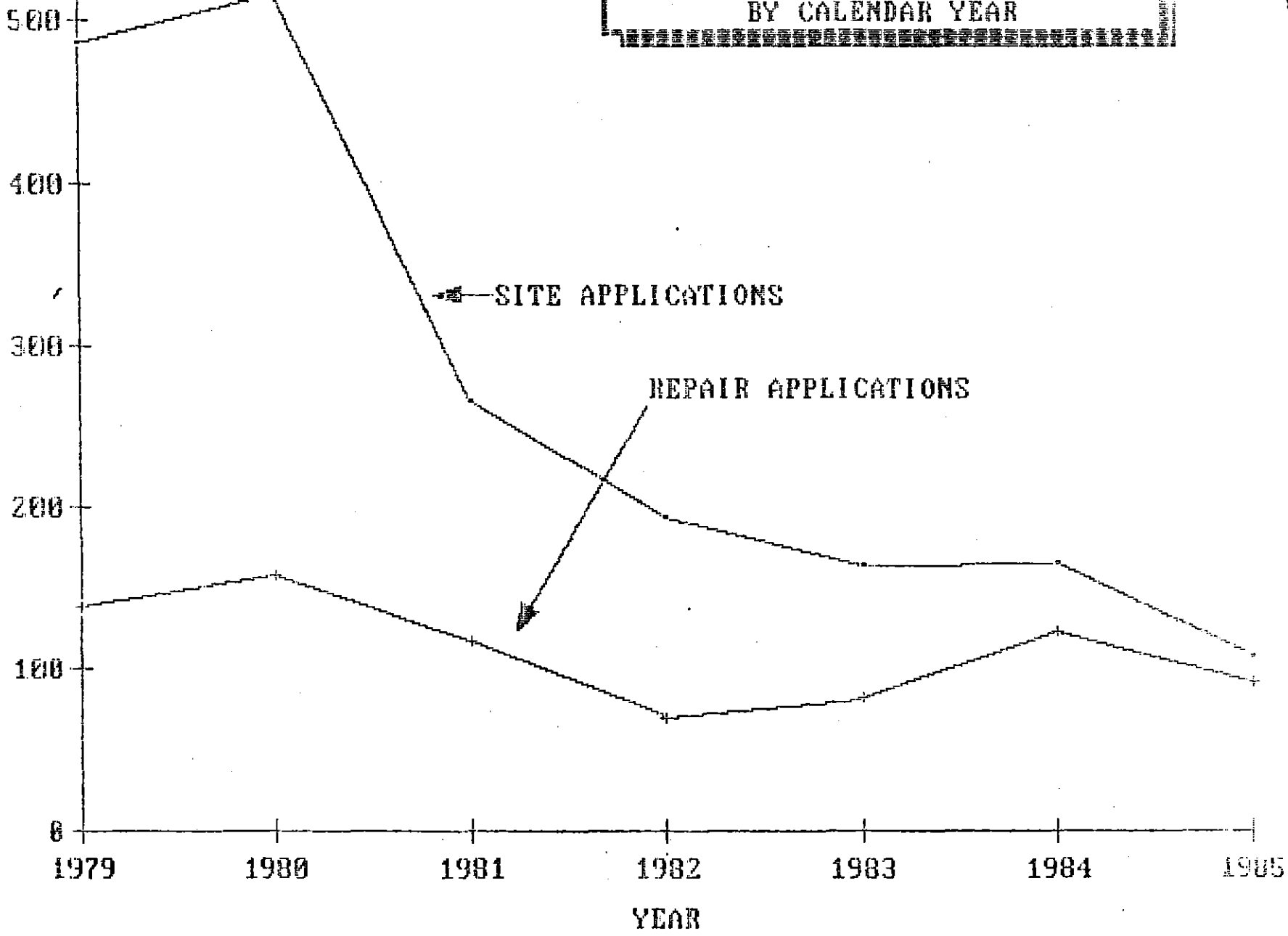
For reference, the overall county cost per hour to provide technical services in the on-site sewage disposal program has been calculated to be \$39 per hour (Attachment III). This figure includes administration, training, record keeping, reporting, and consultative services which cannot always be charged to an applicant. If we used the \$39 per hour figure, however, the average 4.17 hours spent on a repair permit would cost \$163.

One of the reasons repair permits require so much time is that we are often dealing with severe site limitations. The property owner must be consulted during the process in order to deal with special concerns such as the location of water lines and financial ability. Many times several options have to be considered before the most cost effective solution can be determined.

A breakdown of how technical time is spent on a typical repair permit has been attached for review (Attachment IV). This time is extremely important in terms of benefit to property owners when a cost effective solution to a nagging sewage problem is achieved. An increase in the repair permit fee would shift the burden from the county general fund to the actual recipient of the service, and is therefore justified.

LINN COUNTY ENVIRONMENTAL HEALTH  
COMPARISON OF SITE AND  
REPAIR APPLICATIONS  
BY CALENDAR YEAR

N  
U  
M  
B  
E  
R  
  
O  
F  
  
A  
P  
P  
L  
I  
C  
A  
T  
I  
O  
N  
S



REVIEW OF ON-SITE SEWAGE DISPOSAL FEE ACTIVITIES

July 1 to December 31, 1985

	No. of Apps.	Fee (\$)	Revenue (\$)	Total San. Time (hrs.)	Avg. San. Time/App. (hrs.)	Avg. Rate of Income/App.
Annual Evaluations	50 1	10 35	500 35 <u>535</u>	27.50	.50	\$19.50/hr.
Alteration Permits	6	95	570	21.25	3.53	26.80/hr.
Authorization Notices	53 23	60 10	3,180 230 <u>3,410</u>	101.25	1.33	33.70/hr.
New Permits Standard Capping Fill Sand Filter Holding Tank Tile Dewatering Seepage Trench Renewal	32 3 2 2 1 1 5	95 240 280 120 120 120 10	3,040 720 560 240 120 120 50 <u>4,850</u>	176.00	3.83	27.60/hr.
Site Evaluations	54	150	8,100	227.25	4.21	35.60/hr.
Repair Permits (Renewals)	47 2	35 10	1,645 20 <u>1,665</u>	204.75	4.27	8.40/hr.
<b>TOTALS</b>			\$19,130	758.00		



CALCULATION OF LINN COUNTY'S HOURLY COST FOR  
TECHNICAL SERVICES IN THE ON-SITE SEWAGE PROGRAM

Each hour of technical time (Sanitarian III) requires the following:

- .25 hour - Director - Administrative and technical support.
- .65 hour - Office Specialist I - Counter coverage, permit processing, record keeping, microfilming.
- .50 hour Office Specialist II - Back-up counter coverage, reporting, correspondence, bookkeeping.

Annualizing these costs, then:

Personal Services

1.0 FTE (Sanitarian III)	=	\$25,710	
.25 FTE (Director)	=	7,653	
.65 FTE (Office Specialist I)	=	8,307	
.50 FTE (Office Specialist II)	=	<u>7,728</u>	
		\$49,398	
32% for Fringes & Payroll		<u>15,807</u>	
		<u>\$65,205</u>	Subtotal

Materials & Services

Materials & Supplies		3,600	
Motor Pool Services (15,000 mi. @ .25/mi.)		<u>3,750</u>	
		<u>7,350</u>	Subtotal

TOTAL \$72,555

There are approximately 1,950 work hours per year:

(21.67 days/mo. x 7.5 hr./day x 12 mo.)

Subtract 75 hours for holidays (7.5 hrs./day x 10 days)  
22.5 hours for training (7.5 hrs./day x 3 days)

1,950 hours - 97.5 hours = 1,852.5 hours/year

Therefore each hour of technical services in the on-site program costs

\$72,555 divided by 1,852.5 hours = \$39/hour

**BREAKDOWN OF TECHNICAL TIME FOR PROCESSING  
A TYPICAL REPAIR PERMIT**

	Time (hr.)	
	Average	Range
I. First Field Visit		
A. Round trip travel	.5	.25 - 4.0
B. Site investigation	1.333	.75 - 2.0
II. Office Time		
A. Consultation with owner, installer, realtor, etc.	.333	0 - 2.0
B. Preparation of permit specifications and plot plan	.5	.25 - .75
III. Second Field Visit		
A. Round trip travel	.5	.25 - 4.0
B. Precover inspection and preparation of as-built drawing	1.0	.75 - 1.5
<u>TOTALS</u>	<u>4.17</u>	<u>2.25 - 14.25</u>

*Oregon Department of Environmental Quality*

## **A CHANCE TO COMMENT ON...**

**PUBLIC HEARING ON PROPOSED RULE ESTABLISHING THE MAXIMUM FEE LINN COUNTY MAY CHARGE FOR A RESIDENTIAL SEWAGE DISPOSAL SYSTEM REPAIR PERMIT**

Date Prepared: March 14, 1986  
 Hearing Date: May 16, 1986  
 Comments Due: May 16, 1986

**WHO IS AFFECTED:** Persons that must repair their failing on-site sewage disposal systems in Linn County.

**WHAT IS PROPOSED:** DEQ is proposing to establish by rule the maximum fee Linn County may charge applicants for a permit to repair a failing on-site sewage disposal system serving a single family dwelling. On the average, it costs Linn County \$163.00 to process each repair permit.

**HOW TO COMMENT:** Public Hearing

(TIME): 11:00 a.m.

(DATE): May 16, 1986

(PLACE): Miller Room A-1  
 Old Albany Armory Building  
 Fourth and Lyons  
 Albany, Oregon

A Department of Environmental Quality staff member will be appointed to preside over and conduct the hearing. Written comments should be sent to DEQ, Water Quality Division, Sewage Disposal Section, P.O. Box 1760, Portland, Oregon 97207. The comment period will end on Friday, May 16, 1986, at 5:00 p.m.

Any questions or requests for information or copies of the proposed rule amendment should be directed to Mr. Sherman Olson, Sewage Disposal Section, 229-6443 or toll free, 1-800-452-4011.

**WHAT IS THE NEXT STEP:** Once public testimony has been received and evaluated, the proposed amendments will be revised, if necessary, and be presented to the Environmental Quality Commission for adoption. Upon making the determination as to whether the proposed fee increases are based on actual costs for efficiently conducted services, the Commission may adopt rule amendments identical to the proposed rule amendments, adopt modified rule amendments, or decline to adopt rule amendments. The Commission's deliberation may come in June as part of the agenda at a regularly scheduled meeting. A Statement of Need, Fiscal and Economic Impact Statement, and Land-use Consistency Statement are attached to and made a part of this notice.



P.O. Box 1760  
 Portland, OR 97207

8/16/84

WH660.1

**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.

STATEMENT OF NEED FOR RULE MAKING

Pursuant to ORS 183.335(2), this statement provides information on the Environmental Quality Commission's intended action to adopt rules.

(1) Legal Authority

ORS 454.745(4) provides that the Commission, at the request of the Director or any Contract County, may by rule increase fees above the maximum levels established in Subsection (1) of ORS 454.745. Fee increases permitted by the Commission shall be based upon actual costs for efficiently conducted minimum services as developed by the Director or Contract County.

ORS 454.625, which authorizes the Environmental Quality Commission to adopt rules pertaining to on-site sewage disposal.

(2) Need for the Rule

Linn County has requested it be allowed the ability to establish a repair permit fee for residential sewage disposal systems equal to the average amount it costs the County to provide this service. This will allow the County to continue to maintain the present level of service by shifting the program funding more to fees collected with less general fund support.

(3) Principle Documents Relied Upon in This Rulemaking

Letter from the Linn County Board of Commissioners, to the Oregon Environmental Quality Commission, dated March 4, 1986.

FISCAL AND ECONOMIC IMPACT

The proposed amendments are not expected to have a significant or adverse fiscal or economic impact. Persons applying for permits to repair failing on-site sewage disposal systems serving single family dwellings in Linn County will be paying for more of the costs incurred by the County in processing repair permits. This will reduce a portion of the County general fund support for this activity. No impact upon small business is expected.

LAND USE CONSISTENCY STATEMENT

This proposed rule does not affect land use as defined in the Department's coordination program approved by the Land Conservation and Development Commission (LCDC).

PROPOSED RULE AMENDMENTS

Amend OAR 340-71-140(2) as follows:

- (2) Contract County Fee Schedules. Pursuant to ORS 454.745(4), fee schedules which exceed maximum fees in ORS 454.745(1), and Section (1) of this rule, are established for Contract Counties as follows:
- (a) Lane County: See OAR 340-72-050.
  - (b) Clackamas County: See OAR 340-72-060.
  - (c) Multnomah County: See OAR 340-72-070.
  - (d) Jackson County: See OAR 340-72-080.
  - (e) Linn County: See OAR 340-72-090.

Amend OAR 340 Division 72 by adding a new rule as follows:

Linn County

340-72-090 Linn County is authorized to establish fees for permits to repair failing on-site sewage disposal systems in amounts not to exceed the following:

- (1) System serving a single family dwelling . . . \$163.
- (2) System serving a commercial facility . . . The appropriate fee identified in OAR 340-71-140(1)(b)(A) and (B).

Sherman O. Olson:h  
WH660.3

Note: Underlined \_\_\_ material is new.  
Bracketed [ ] material is deleted.

# SEPTICLEAR INC.

6233 S.E. Fern, Portland, Oregon 97206

(503) 774-9659

Testimony to D.E.Q. (Oregon Department of Environmental Quality) 2/26/86

RE: OAR 340-71-130

We regret that we were not allowed more time between notification and these hearings. In the short time available to us, we were able to put together the following:

1. To our knowledge, we are the only company that offers a complete cesspool, septic tank and drainfield cleaning and restoration process as an alternative to pumping.
2. We, Septiclear Inc., agree with prohibiting the placement of materials or substances into on-site sewage systems that cause an adverse impact upon the system or public waters.

3. We have requested copies of the numerous complaints received by D.E.Q. about the chemicals that have been used to improve the performance of, or clean on-site systems as an alternative to pumping. Our letter to D.E.Q. dated Febr. 17th, 1986 requests the following:

Please provide us with copies of the principal documents relied upon for amending O.A.R. 340-71-130, which you did yesterday at your hearing in Newport, OR.. We find no complaints or verification of statements made in attachment "E" PAR.2.

We do however agree with letters from R. Swenson, Benton County health dep. and Bob Wilson, Linn County health dep. about access to septic tanks via a riser to the surface of the ground.

As you stated also yesterday in Newport, OR. you have no written complaints from pumpers nor can you provide any proof or evidence of the following:

Who complained and why?

What injuries were caused to whom and by what products?

What was the PH of the rejected pumpings?

How many days were between treatment and the rejected pumpings?

What portions of on-site systems were damaged and by what products?

What are the ground water pollutants?

# SEPTICLEAR INC.

6233 S.E. Fern, Portland, Oregon 97206

(503) 774-9659

4. We agree that strong alkalies, namely caustic soda can ruin the operation of a cesspool and/or septic tank. Septic tank manual, U.S. Department of Health and Welfare, Publication No. (HSM) 72-10020 states:

" Some products used to clean septic tanks contain sodium hydroxide or potassium hydroxide. Such compounds may result in sludge bulking and a large increase in alkalinity, and may interfere with digestion. The resulting effluent may severely damage soil structure and cause accelerated clogging even though some temporary relief may be experienced immediately after the application of the product."

5. To our knowledge no system that was treated with Septiclear products had to be pumped. We also have verified with our local retail stores that they have not had any complaints about Septiclear products damaging on-site sewage disposal systems.

In the short time we had to obtain these signatures, we could only get to 9 of our local stores. These stores have sold Septiclear prod, for a combined time of 99 years.

6. We would like to see evidence of on-site sewage disposal units that have been treated with Septiclear products polluting ground water. What are the ground water pollutants??

7. What is the acceptable PH range at the various treatment plants?

8. We strongly disagree with you that the only method of cleaning a Septic tank or cesspool is pumping.

There are instances when a cesspool or septic tank should be pumped and they are:

Pools are full of non-degradable solids, such as plastics, rubber gloves, plastic baby diaper liners, etc.

In any other instance, such as a pool full of degradable solids (organic solids), our method of treatment is highly effective. The Septiclear method aids the natural process. It is simple, convenient, affordable, more effective than pumping and guaranteed to make the system work or your money back. Pumping just empties a tank which fills up again-- like

# SEPTICLEAR INC.

6233 S.E. Fern, Portland, Oregon 97206

(503) 774-9659

a bucket. No guaranty. Pumping cures temporarily the symptoms but not the cause of the problem.

9. We have for your inspection a list of our 2000 customers whose systems have been treated successfully in the past, by Septiclear. There are no complaints against Septiclear for fraud or for not honoring warranties; or for that matter, any unethical practices.
10. We have, however, received complaints from people who had their systems pumped and the system failed to operate. They paid for pumping and still had to treat with our chemical treatment and super Pack bacteria to make the system work. In our opinion it is a waste of money to pump, especially a cesspool. Pumping does not clean the wheepholes, nor does it restore the bacteria needed for the system to function properly.
11. Septiclear chemical treatment does not adversely affect the systems process, nor does it pollute the ground water. The chemical process liquefies the undigested organics and degradable solids in the system. In the process, the chemical treatment loses its acidity and becomes a sulfate. Sulfates are used in fertilizers every day and almost every place. Our treatment is followed by the introduction of new bacteria which are necessary to do the day-to-day chore of natural digestion.
12. We agree that the final PH in a pool after treatment should be no less than 4 and no more than 9 on the PH scale. Bacteria function much better at a PH level of less than 7 or slightly on the acid side. In order to reduce the high PH of a pool (8-9) you would have to put large quantities of a solution with a PH 4 into the pool. We recommend therefore, that the standard of PH 4 to 9 apply only to the final PH of the pool but not the treatment used.
13. We feel that household chemicals do affect the operation of a pool, especially the high PH in detergents, soaps, dishwasher detergents.



# SEPTICLEAR INC.

6233 S.E. Fern, Portland, Oregon 97206

(503) 774-9659

Some of these have a PH of 10 and higher. Adding caustic soda to a pool that is already in the upper range of the PH scale has an even more negative effect besides caustic soda not being a degradable substance.

14. We have conducted tests on the following pools to determine the PH after treatment. These tests were done by an E.P.A. approved laboratory. They showed that the PH in a pool treated 1/5/86 with 12 Gal. <sup>SEPTICLEAR</sup> Chemical Treatment was 5 on 1/7/86. On 2/11/86 after completed treatment the PH was 6.1.

A pool treated 1/14/86 with 12 Gal. Chem. Treatment completed on 2/8/86 with Super Pack Bacteria showed a PH of 7.4 on 2/11/86. Due to the short time between notification and these hearing, we were not able to conduct any more tests.

15. As stated by Mr. Olson Febr. 20th, 1986 in Bend, OR. and known to us for a long time, there are many on-site disposal systems that have no access.

These systems cannot be pumped or back filled when abandoned. Should a system like that stop to function properly, it can be restored only by Chemical Treatment or by putting a new system in.

16. As pointed out by Mr. Lamb at the Bend, OR. hearing, the average cost to an individual for installing a new cesspool is approx. \$ 2700.-. Knowing that sewers are coming in Mid Multnomah County within the next 20 years, it would be unreasonable to burden the homeowner with this cost and than slap him with the cost of sewers on top of it.

Compare the cost: ~~AVE~~ \$ 2700.- for a new cesspool plus torn-up property, which needs to be fixed.

or a complete chemical treatment by Septiclear for \$ 250.- with a money back guaranty.

Septictanks generally cost half of what pumpers charge to pump. NO DIGGING - NO MESS.

# SEPTICLEAR INC.

6233 S.E. Fern, Portland, Oregon 97206

(503) 774-9659

17. We are as much concerned as the D.E.Q. about persons putting materials into on-site systems, that have an adverse affect on the system or pollute or ground waters. Those persons generally are NOT a legitimate business. Pick up the nickel ads and you find them.

We hear from people almost every day about practices we feel are adversely affecting a system, and in some cases are simly a RIP-OFF.

Example: Cesspool pumped by pumper - 200 Lbs. of caustic soda put into pumped tank - system failed within 2 weeks.

Cesspool pumped - standpipe installed - charged \$450.- system didn't work.

Then system was treated with Septiclear Chemical Treatment and Super Pack Bacteria. Charge \$ 250.- system works.

18. We again repeat:

There is an alternative to pumping, that is safe, doesn't pollute the environment, is affordable and can be done by the homeowner or by a qualified person.

Septiclear guarantees the system to work or your money back.

19. There are many people that would rather have a professional do this type treatment for them.

Your proposed ammendment would prohibit us or professionals using our products now from doing so.

Our products, if bought in a store or used by a trained professional are always labeled and contain complete instructions.

Our products are not sold in bulk to anyone for resale or use.

20. In closing, we want to state that we are very much interested in preserving our ground water quality.

We are also very much interested in the proper functioning of on-site disposal units and offering an affordable, guaranteed alternative to pumping.

We ask the D.E.Q. to work with us and seriously look at our alternatives to pumping. They do have merit.

xx

# **SEPTICLEAR INC.**

---

6233 S.E. Fern, Portland, Oregon 97206

(503) 774-9659

You did work with the pipe industry to decide on a standard for plastic pipes.

You have referred to a " Hydrogen peroxide " treatment for seepage pits which is manufactured in another state and does not work.

Why not a local product you can monitor, from a local company that backs its products and treatments with a money back guaranty.

We ask you to change your ammendment to read:

" The final PH after treatment of an on-site disposal system to be in the range of PH 4 to 9, which will maintain a safe ecological standard, but allow the product used to obtain that PH to be outside that range."

We submit to you our suggestion of the ammendment to O.A.R. 340-71-130 section (16).

Amend OAR 340-71-130 by adding a new section (16) as follows:

- (16) No person shall place or cause to be placed into an on-site sewage disposal system or part thereof any substance or material in sufficient quantity which is capable of: adversely affecting the system's treatment process; causing damage or hazard to one or more components of the system; or otherwise altering the physical, chemical or biological properties of any waters of the state in a manner not lawfully authorized. Final PH after treatment cannot be outside the range of four (4) to nine (9) on the PH scale. Organic solvents and explosives are prohibited. Cleaning compounds typically found in a home and used in accordance with manufacturers' directions are not likely to have an adverse impact upon the system or groundwater quality.

EPCRCORD  
Submitted 6/13/86

**SPEARS, LUBERSKY, CAMPBELL, BLEDSOE, ANDERSON & YOUNG**

ATTORNEYS AT LAW

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OF COUNSEL  
JOHN B. CROWELL, JR.

15316-1

OUR FILE NO.

PLEASE REPLY TO PORTLAND OFFICE

\*MEMBER OREGON AND WASHINGTON STATE BARS

April 23, 1986

HAND-DELIVERED

DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**  
MAY 2 1986

Department of Environmental Quality  
Box 1760  
Portland, Oregon 97207

ATTN: Sherman O. Olson

Re: Proposed Amendments to On-Site Sewage Disposal  
Rules, OAR 340-71-130, OAR 340-71-600(8)

Gentlemen:

On February 21, 1986 Chasm Chemical Company, Inc. (Chasm) requested an extension of time within which to submit additional comments on the proposed amendments to OAR 340-71-130(16). The purpose of Chasm's request was to enable Chasm to examine DEQ's files and respond to the "numerous complaints" of damage to cesspools and septic tanks from the addition of chemical treatments that were the supposed justification for DEQ's amendments. Chasm has completed its review of DEQ's file and now submits the following additional comments:

Chasm's position, which is set out in more detail below, is first, that it objects to DEQ's proposed rule, and second, that it supports the proposed rule submitted by Septiclear, Inc. at the February 26, 1986 hearing in Portland.

1. The DEQ file still does not contain any reliable basis to support DEQ's proposed rule. DEQ's "Discussion of Proposed On-Site Sewage Disposal Rule Modifications" states that DEQ has heard "numerous complaints" of damage to on-site systems from the addition of commercial chemicals. The record does not support this allegation. Chasm would certainly have heard of such complaints, if there were any, because Chasm offers a ten-year unconditional guarantee on its treatment process. But Chasm has not heard of any such complaints. Septiclear representatives testified to the same effect. Chasm asked DEQ representatives before the February 26, 1986 hearing in Portland to substantiate the alleged complaints. No such evidence has appeared.

The record does not contain a single written complaint. The only oral evidence of complaints was from a clerical employee of Multnomah County, Michael Jabling, who testified only that he was aware of complaints from others. However, Jabling had no specific information on the substance of the complaints, the identity of the complainants or even

what chemicals were allegedly involved. For all we know, the alleged complaints derive from the use of "explosives" or "organic solvents" which DEQ's proposed rule mentions and which Chasm agrees should be prohibited. The alleged complaints also could have derived from the use of caustic soda or lye, which Chasm also agrees should not be used to clean septic tanks or cesspools.

In support of its use of acids to clear septic tanks and cesspools, Septiclear introduced written endorsements from nine retail sellers of its products, some of whom have sold the products for over 15 years. These endorsements testified to a total absence of any complaints of damage to septic tanks or cesspools. In addition, Septiclear offered to provide a list of over 2,000 satisfied customers, and Chasm offered to produce a similar list for DEQ's inspection. Septiclear also requested that DEQ provide some evidence that systems treated with acids have caused any pollution to groundwater. The record is still devoid of such evidence.

Chasm is thus left wondering what the real basis for DEQ's proposed rule is. Is there is any evidence of groundwater pollution? If so, where is it? Why was it not introduced?

2. DEQ's proposed rule would substantially lessen competition in the sewage treatment industry, and would harm low income consumers. Both Septiclear and Chasm would be legislated out of the on-site sewage treatment business if DEQ's proposed rule is adopted. This would greatly benefit sewage pumpers by eliminating their only competition. But consumers would be harmed because they would have no alternative method of sewage treatment except pumping or complete replacement of their cesspools or septic tanks.

If a septic tank or cesspool becomes clogged, pumping out the sewage does not unclog the system, it merely empties it. The average cost of pumping is approximately \$400. Pumping frequently must be repeated, sometimes every few months. After a few \$400 pumping bills, consumers are frequently advised by septic tank pumpers that the only real long-term solution is to dig up and replace the cesspool or septic tank. The average cost of a new cesspool or new septic tank is approximately \$2,700 to \$3,000. In East Multnomah County, the total economic impact of DEQ's proposed rule would be approximately \$20,000 to \$40,000 per day in unnecessary cesspool and septic tank construction. These costs would be visited primarily on those least able to afford them, the lower income residents of East Multnomah County. The average cost of one treatment by Septiclear or Chasm is approximately \$200-\$250.



One treatment normally solves the problem. Cesspools and septic tanks that were treated by Chasm as long as 18 years ago are still functioning without damage.

Adoption of DEQ's proposed rule would not only hurt consumers, it would also involve the Environmental Quality Commission in the impermissible role of market regulator insofar as the Commission would be eliminating competition in the sewage treatment industry. Neither DEQ nor EQC is authorized by law to undertake market regulation, and both bodies should carefully consider whether that is not the result of DEQ's otherwise well-intended regulation. DEQ's proposed rule would hand the entire sewage treatment market to sewage pumpers on a silver platter. Is that really what DEQ and EQC want to do?

Adoption of DEQ's proposed regulation would create yet another serious problem for Chasm: The proposed regulation would prevent Chasm from honoring its ten-year guarantee to refund the treatment price or to fix the treatment system at no additional charge to the consumer. What is Chasm supposed to do about this?

3. The Septiclear proposal, by contrast, accomplishes everything DEQ's proposed rule seeks, without any negative impact on the industry or the public.

The amendment proposed by Septiclear seeks to regulate not the inflow into sewage treatment systems, but the outflow. It uses the same pH parameters as DEQ's proposed rule, but it states that the acceptable range of four to nine on the pH scale is to be measured "after treatment." This is a sensible way to regulate. DEQ has no real interest in regulating what goes into a sewage treatment system except to the extent that such material may be a source of pollution if it leaves the system undigested by bacteria. In addition, DEQ's attempt to regulate the inflow is not sensible. Under DEQ's proposed rule fresh lemon juice or vinegar, both of which have pH's in the range of 1.0-1.5, and are perfectly safe, could not be deposited in a sewage treatment system. Yet lye and caustic soda, which have a pH of 13, could be used, because they are active ingredients in "cleaning compounds typically found in the home," which is an exception from the prohibition in DEQ's proposed rule.

The only conceivable downside to Septiclear's proposed rule is that, due to the absence of any controlled scientific tests by DEQ, it would be difficult at the present time for DEQ to know which chemicals qualify and which do not. But this is

only a temporary problem. It could be easily solved by having DEQ or an independent testing laboratory conduct tests to determine whether the outflow of systems treated by Chasm and Septiclear are within the pH limits of 4-9.

Surely Chasm, which would be legislated out of business by DEQ's proposed rule, has a right to demand that DEQ conduct the minimum of scientific tests before recommending the complete elimination of acidic treatments.

#### Conclusion

The bottom line is that DEQ does not know whether acidic system treatment poses any danger of groundwater pollution or not. DEQ has not conducted a single test, and has no real evidence to support its proposed rule. If DEQ wishes to investigate groundwater pollution scientifically, Chasm will cooperate. In the meantime, DEQ's proposed rule should not be adopted. It is clearly overbroad and it is economically unfair to both East County residents and to Chasm (and Septiclear), which would be eliminated from the on-site sewage treatment business.

DEQ's proposed rule has produced one great advantage, however: It has prompted enough awareness of the potential danger to cause Septiclear to draft a more appropriate rule to

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accomplish the result at which DEQ legitimately aims -- namely, to prevent groundwater pollution -- and it has prompted Chasm to agree to study the outflow of treatment systems under DEQ's supervision.

Very truly yours,

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cc: Paul Oldenberg  
Richard H. Williams