

4/6/1984

OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS



State of Oregon
Department of
Environmental
Quality

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OREGON ENVIRONMENTAL QUALITY COMMISSION MEETING

April 6, 1984

14th Floor Conference Room
Department of Environmental Quality
522 SW Fifth Avenue
Portland, Oregon

REVISED TENTATIVE AGENDA

9:00 am

CONSENT ITEMS

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

- A. Minutes of the February 24, 1984 EQC regular meeting, and the March 16, 1984 Special Meeting.
- B. Monthly Activity Report for January and February, 1984.
- C. Tax Credits.

9:10 am

PUBLIC FORUM

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

HEARING AUTHORIZATIONS

- D. Request for authorization to conduct a public hearing on proposed rules for the Pollution Control Tax Credit Program.
- E. Request for authorization to conduct a public hearing on the Construction Grants Management System and Priority List for FY 85.
- F. Request for authorization to conduct a public hearing on a proposed rule amendment relating to the exemption of certain classes of disposal sites from the solid waste permit requirements, OAR 340-61-020(2).
- G. Request for authorization to conduct a public hearing on proposed hazardous waste permit fees, OAR 340-105-070.

ACTION AND INFORMATION ITEMS

Public testimony will be accepted on the following, except items for which a public hearing has previously been held. Testimony will not be taken on items marked with an asterisk (*). However, the Commission may choose to question interested parties present at the meeting.

- H. Proposed adoption of hazardous waste management rules, OAR Chapter 340, Divisions 100 to 110.
- I. Informational report: Uncontrolled (abandoned) hazardous waste disposal site survey - Progress Report IV.

(OVER)

- J. Proposed adoption of temporary rules for indirect sources in the Medford area (amendments to OAR 340-20-100 to 340-20-135).

WORK SESSION

After the regular meeting the Commission will hold a work session with staff on the proposed woodstove regulations.

Because of the uncertain length of time needed, the Commission may deal with any item at any time in the meeting except those set for a specific time. Anyone wishing to be heard on any item not having a set time should arrive at 9:00 am to avoid missing any item of interest.

The Commission will breakfast at 7:30 am at the Imperial Hotel, 400 SW Broadway in Portland, and lunch at the DEQ offices, 522 SW Fifth Avenue, Portland.

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EQC.AG (4/84)

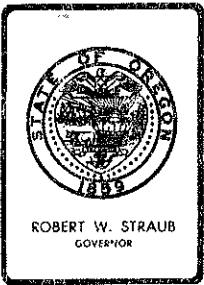
ENVIRONMENTAL QUALITY COMMISSION

April 6, 1984

Breakfast Meeting

AGENDA

1. Review of Salem YMCA Noise. Hector
2. Georgia-Pacific, Toledo, NPDES Permit Issuance Hearing Sawyer
3. Medford Indirect Source Rule Kowalczyk
Hough



Environmental Quality Commission

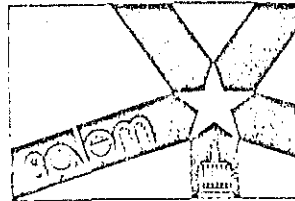
POST OFFICE BOX 1760, PORTLAND, OREGON 97207 PHONE (503) 229-5696

EQC BREAKFAST MEETING

April 6, 1984

Noise Compliance Efforts - Salem YMCA

- ° Variance request denied at February 24, 1984 EQC meeting. YMCA claimed that DEQ data was different than data taken by City of Salem and Salem's data showed the noise was not a problem.
- ° DEQ received a copy of a letter from the City of Salem to the YMCA. This letter stated that their findings concur with those of the DEQ.
- ° DEQ letter dated March 7, 1984 to YMCA established March 16, 1984 to retain an acoustical consultant and April 2, 1984 to submit a proposed abatement plan.
- ° March 19, 1984, a YMCA letter was received informing DEQ that an acoustical engineer had been retained.
- ° April 3, 1984, DEQ received the engineer's report and letter from YMCA proposing to:
 - 1) Shut off all noise generating equipment at night (10 p.m. - 7 a.m.).
 - 2) Sound control some of the equipment to within 10 dB of the daytime standards or a 7 dB reduction.
 - 3) Request a variance for the 10 dB excess based upon:
 - a) No exterior activity.
 - b) Acceptable interior noise environment with closed windows.
- ° A rejected option within the April 3, 1984 transmittal letter proposed to:
 - 1) Determine engineering feasibility of relocating the air conditioning units.
 - 2) Relocate and replace major noise sources to be within 5 dB of the standards.
- ° DEQ proposes to:
 - 1) Request a feasibility study on relocating the air conditioning units.
 - 2) Request cost information on all control options included in the study.



CITY
OF SALEM,
OREGON

City Hall / 555 Liberty St. S.E.
Zip Code 97301

COMMUNITY DEVELOPMENT
BUILDING & SAFETY DIVISION
Room 320
Telephone (503) 588-6242

February 23, 1984

John J. Mistkawi
YMCA Executive Director
685 Court Street NE
Salem, OR 97301

Dear Mr. Mistkawi:

At your request, City staff monitored noise levels of the heat pump/ventilation system at the YMCA on the evening of February 22, 1984.

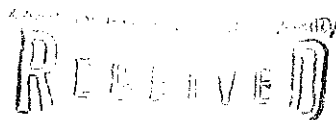
The results of these readings are attached. Our findings concur with those of the Department of Environmental Quality. Since the City's noise ordinance is consistent with DEQ's regulations, the City will abide by the Environmental Quality Commission's decision on your pending variance.

Should you have any questions, you may contact me at 588-6242.

Sincerely,

John I. Elegant
Administrator

JIE:mj
attachment
cc: Terry Obteshka, DEQ



MAR 02 1984

Noise Pollution Control

THESE MINUTES ARE NOT FINAL UNTIL APPROVED BY THE EQC

MINUTES OF THE ONE HUNDRED FIFTY-FIFTH MEETING

OF THE

OREGON ENVIRONMENTAL QUALITY COMMISSION

April 6, 1984

On Friday, April 6, 1984, the one hundred fifty-fifth meeting of the Oregon Environmental Quality Commission convened in the 14th Floor Conference Room of the Department of Environmental Quality Offices, 522 SW Fifth Avenue, Portland, Oregon. Present were Commission Chairman James Petersen; and members Wallace B. Brill; Mary V. Bishop; and Arno H. Denecke. Vice-Chairman Fred J. Burgess was absent. Present on behalf of the Department were its Director, Fred Hansen, and several members of the Department staff.

The staff reports presented at this meeting, which contain the Director's recommendations mentioned in these minutes, are on file in the Office of the Director of the Department of Environmental Quality, 522 SW Fifth Avenue, Portland, Oregon. Written information submitted at this meeting is hereby made a part of this record and is on file at the above address.

BREAKFAST MEETING

Chairman Petersen and members Brill, Bishop and Denecke were present at the breakfast meeting along with Director Hansen and several members of the Department staff.

1. Review of Salem YMCA Noise. John Hector of the Department's Noise Control Section, presented a written status report. Mr. Hector indicated the staff would request additional information on control alternatives and costs of all options. The Commission agreed such a request would be appropriate.
2. Georgia-Pacific, Toledo, NPDES Permit Issuance Hearing. Harold Sawyer, Water Quality Division Administrator, reviewed the status of this process. He said a public notice was issued April 4, 1984, and the hearing was scheduled for May 9, 1984 in Newport. Linda Zucker will be the hearings officer.
3. Medford Indirect Source Rule. John Kowalczyk of the Department's Air Quality Division, reviewed the status of the carbon monoxide State Implementation Plan in Medford. Mr. Kowalczyk said EPA was moving to disapprove the State Implementation Plan because of the failure to implement the Inspection/Maintenance Program.

The staff proposed emergency adoption of revised indirect source rules for the area, and told the Commission this item had been added to their regular agenda.

FORMAL MEETING

AGENDA ITEM A: Minutes of the February 24, 1984 regular EQC meeting, and the March 16, 1984 special meeting.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill and passed unanimously that the Minutes be approved.

AGENDA ITEM B: Monthly Activity Reports for January and February 1984.

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke and passed unanimously that the Monthly Activity Reports be approved.

AGENDA ITEM C: Tax Credit Applications

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill and passed unanimously that the Tax Credit Applications be approved.

PUBLIC FORUM:

James Lee, Portland, appeared with concerns about noise at the Portland International Raceway (PIR) in North Portland. He was mainly concerned about the exemption in the Commission's rules for unlimited class dragsters. He asked that the Commission take another look at this exemption as he felt there was technology available to adequately muffle these vehicles. The staff agreed to review this matter and report back to the Commission.

AGENDA ITEM D: Request for authorization to conduct a public hearing on proposed rules for Pollution Control Tax Credit Program.

Commissioner Denecke asked that a statement be included in all public hearing notices that the hearing would be before a hearings officer and not the Commission themselves.

This agenda item requests authorization to hold a public hearing on the proposed pollution control tax credit rules. The proposed rules would implement statutory authority given the EQC to adopt rules providing guidance for calculation of the percent allowable for pollution control facilities. They would, also, meet the need to provide guidance related to applying and qualifying for tax credits and make minor amendments to existing tax credit-related rules.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission authorize public hearings to take testimony on the proposed Pollution Control Tax Credit Rules, Chapter 340, Division 16.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM E: Request for authorization to conduct a public hearing on the Construction Grants Management System and Priority List for FY 85.

This agenda item is a request for a June 20, 1984, public hearing on the proposed federal construction grants priority list for federal fiscal year 1985. The list will be used to allocate approximately \$27 million which is expected to be appropriated for Oregon. Also proposed is one administrative rule change which would provide for a limited amount of state discretion in determining which projects are eligible for a grant.

The administrative rule is included in the agenda item. The proposed priority list for FY 85 is currently being accumulated; it will be available for public distribution by May 15, 1984.

Director's Recommendation

Based on the summation in the staff report, the Director recommends that the Commission authorize a public hearing on the FY 85 priority management system and priority list, to be held on June 20, 1984. All testimony entered into the record by 5 p.m. on June 27, 1984, will be considered by the Commission.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM F: Request for authorization to conduct a public hearing on a proposed rule amendment relating to the exemption of certain classes of disposal sites from the solid waste permit requirements, OAR 340-61-020(2).

The legal definition of "solid waste disposal site" includes recycling facilities and transfer stations. Solid waste disposal sites are required to have permits from the Department unless exempted by rule. The Department has drafted amendments to the rules to exclude recycling depots and one type of transfer station from the permit requirement. The Department requests authorization to conduct a public hearing on this matter.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission authorize a public hearing to take testimony on the proposed exemption of certain classes of disposal sites from the Department's permit requirements, OAR 340-61-020(2).

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM G: Request for authorization to conduct a public hearing on proposed hazardous waste permit fees, OAR 340-105-070.

The Department has been assessing annual permit fees for hazardous waste disposal sites since 1976; for hazardous waste storage and treatment sites since 1983. The amount of the fee has been determined by the Department and sought to recover part or all of our costs related to permit issuance, inspections and monitoring. The most recent disposal fee is \$103,654. The most recent schedule for storage and treatment varies from \$250 to \$2,500 depending on size.

Chapter 90 - Oregon Laws 1983 Regular Session, expanded the Department's authority to assess fees to generators and transporters, as well as, storage, treatment and disposal facilities. Chapter 90 also requires that the Commission adopt the fee schedule rather than the Department.

The request for hearing is to adopt the schedule we are currently using, except that permit filing and application processing fees are proposed to reflect the actual costs these activities periodically require. The disposal site fee was dropped \$3,654 to balance the likely money generated from the filing and processing fees.

Adequate federal funds appear available through June 30, 1985 so no fees are being proposed at this time on generators or air and water transporters.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission authorize a public hearing to take testimony on the proposed hazardous waste management facility permit fee schedule OAR 340-105-070.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM H: Proposed adoption of hazardous waste management rules, OAR Chapter 340, Divisions 100 to 110.

Due to a high potential for human health and environmental damage, hazardous wastes require special management controls. The Department has provided these controls since 1971 and today controls hazardous waste from the time of generation through transportation, storage, treatment and disposal.

However, as a result of the passage of RCRA in 1976, hazardous waste management has been taken over by EPA but it is possible for a state to be authorized to manage hazardous waste in EPA's place.

The adoption of these rules will enable the Department to apply for that authorization. They are basically a recodification of the Federal rules and differ from our present rules by having much more detailed construction, operating, and monitoring standards for facilities managing hazardous wastes.

The rules are the result of a process which included seven public meetings and two public hearings.

Director's Recommendation

Based upon the findings in the summation of the staff report, it is recommended that the Commission repeal OAR Chapter 340, Divisions 62 and 63, and adopt OAR Chapter 340, Divisions 100 to 110.

Lt. Colonel Jan A. Van Prooyen, Commander of U.S. Army Activity, Umatilla, said the state regulation was potentially a problem for national security. He said DEQ regulation was not necessary as federal control is already substantial and more stringent than proposed state rules. Colonel Van Prooyen also said they were not informed of this Commission meeting by DEQ, but learned of it from a reporter so they have not had time to thoroughly review the proposed rules. Colonel Van Prooyen requested that nerve gas agents be removed from the proposed rules and that the Army be given at least six months to evaluate the proposed rules. Colonel Van Prooyen was also concerned that if the rules were adopted the Army would be in technical non-compliance for six months. Staff told the Colonel that they could be put on a compliance order.

Commissioner Brill asked if the Department was aware of the potential security problem. Director Hansen replied that the proposed rules would not breach security and that the Department's concern was with the safety of Oregonians and in treating all hazardous waste in the same manner. Nerve gas was not included in EPA's rule because it was not anticipated it would be a waste. Richard Reiter of the Department's hazardous waste section, said that in any event the propellant in the nerve gas bombs was included by EPA and would have to be regulated.

Chairman Petersen said his preference would be to exclude nerve gas at this point and reevaluate in six months as the Army has requested. Mr. Reiter said the exclusion of nerve gas would not affect the Department's application for authorization, but the Army's application for incinerators may need to be reevaluated.

Kenneth Lepic, Chem Security, was concerned that the proposed rules would only allow a trust fund as financial assurance for disposal facilities. Currently, Chem Security uses a combination of a trust fund and surety bond. Mr. Lepic said these two mechanisms were essentially equivalent. Mr. Lepic requested the rules be amended to provide minor changes allowing less stringent financial assurance.

Tom Donaca, Associated Oregon Industries, was also concerned about financial assurance for closure and post-closure. Mr. Donaca said a better definition was needed for "parent," and that definition should include sole corporations that do not have a parent. Mr. Donaca urged that the financial assurance test in the original proposed rules be retained and that the rest be set over for an additional hearing.

Mr. Donaca was also concerned about the landfilling of liquid hazardous waste. He asked for a one year extension of the prohibition date to allow continued landfilling, but agreed that it must cease. Mr. Donaca said this would be consistent with regulations in Washington and California. The closest incinerator for these wastes is in Texas.

Bob Westcott, Westco Parts Cleaners, runs a business that rents a parts cleaning solvent. Mr. Westcott said that small business could not operate under the proposed rules. They only recycle solvent owned by them, and if they did not recycle it there was no licensed facility to take it. Mr. Westcott asked that a very narrow exemption be written into the rules for his business.

It was MOVED by Commissioner Denecke, seconded by Commissioner Bishop and passed unanimously that action on this item be deferred until a telephone conference call meeting on April 20, 1984.

AGENDA ITEM I: Informational report: Uncontrolled (abandoned) hazardous waste disposal site survey - Progress Report IV.

Department staff investigates uncontrolled (abandoned) hazardous waste disposal sites and initiates remedial action where necessary. Staff also submits names of candidate sites to the EPA for entry on the national Superfund list. It is recommended that the Commission concur with the Department's intention to continue investigating sites, initiate remedial action where necessary, and determine candidate sites for inclusion on the national Superfund list.

Director's Recommendation

It is recommended that the Commission approve the following course of action to be pursued by the Department:

1. Continue investigating uncontrolled (abandoned) hazardous waste disposal sites and initiate remedial action where necessary.
2. Submit candidate sites to the EPA for entry on the national Superfund list.

It was MOVED by Commissioner Brill, seconded by Commissioner Bishop and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM J: Proposed adoption of temporary rules for indirect sources in the Medford area (amendments to OAR 340-20-100 to 340-20-135).

This item concerns proposed adoption of Temporary Rules for Indirect Sources in the Medford area. The Department is proposing this action as a first step toward the rapid development of an alternative package of control measures that could effectively replace the recently defeated vehicle inspection and maintenance program in the Medford area. A revised carbon monoxide State Implementation Plan needs to be developed in a relatively short period of time in order to head off EPA-imposed sanctions on new industry and on funding of highway projects, air program activities, and sewage treatment.

Director's Recommendation

Based upon the summation in the staff report, the Director recommends that the Commission adopt temporary rule revisions to OAR 340-20-100 to 20-135 for indirect sources in the Medford area. The temporary rule revisions will be effective for 180 days after adoption. The Director also recommends that the Commission direct the Department to proceed expeditiously to develop an alternative CO control strategy for the Medford area which will bring the State Implementation Plan into conformance with the Federal Clean Air Act.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill and passed unanimously that the Director's Recommendation be approved including the following findings:

Failure to immediately adopt temporary rule changes to OAR 340-20-100 to 20-135 may result in serious prejudice to the public interest by allowing moderate size indirect sources (50 to 1,000 parking spaces) to construct in the Medford area without evaluating and mitigating CO impacts and by delaying traffic planning actions that the City of Medford could take to help develop an alternative strategy. This could specifically result in:

- a. Further delay or permanent prevention of attainment of the CO health standard in Medford;
- b. Permanent imposition of a federal construction moratorium on major new or modified CO sources in the Medford area; and
- c. Permanent imposition of federal sanctions on transportation projects, air planning, and sewage treatment funding.

There being no further business, the formal meeting was adjourned.

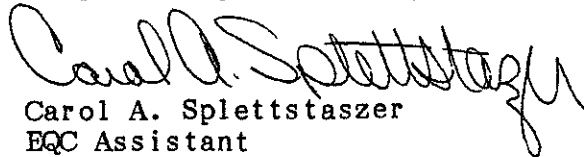
LUNCH MEETING

Chairman Petersen and members Bishop, Brill and Denecke were present for the lunch meeting along with Director Hansen and several members of the Department staff.

John Kowalczyk of the Department's Air Quality Division reviewed proposed woodstove rules with the Commission and answered questions.

The Commission discussed with staff the process for proceeding to adoption of proposed backyard burning rules. The Commission asked that a discussion of how to procedurally handle their May 18, 1984 meeting take place during their special conference call meeting April 20, 1984.

Respectfully submitted,


Carol A. Spletstaszer
EQC Assistant

CAS:d
DOD768

THESE MINUTES ARE NOT FINAL UNTIL APPROVED BY THE EQC

MINUTES OF THE ONE HUNDRED FIFTY-FOURTH MEETING

OF THE

OREGON ENVIRONMENTAL QUALITY COMMISSION

February 24, 1984

On Friday, February 24, 1984, the one hundred fifty-fourth meeting of the Oregon Environmental Quality Commission convened in Harris Hall, Lane County Courthouse, Eugene, Oregon. Present were Commission Chairman James Petersen; and members Wallace B. Brill; Mary V. Bishop; and Arno H. Denecke. Vice-Chairman Fred J. Burgess was absent. Present on behalf of the Department were its Director, Fred Hansen, and several members of the Department staff.

The staff reports presented at this meeting, which contain the Director's recommendations mentioned in these minutes, are on file in the Office of the Director of the Department of Environmental Quality, 522 SW Fifth Avenue, Portland, Oregon. Written information submitted at this meeting is hereby made a part of this record and is on file at the above address.

The Commission did not hold a breakfast meeting.

FORMAL MEETING

AGENDA ITEM A: Minutes of the January 6, 1984 regular EQC meeting, and January 5, 1984, January 11, 1984, and January 12, 1984 special meetings.

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke, and passed unanimously that the Minutes be approved.

AGENDA ITEM B: Monthly Activity Report for December 1983.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill, and passed unanimously that the Monthly Activity Report be approved.

AGENDA ITEM C: Tax Credit Applications

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke, and passed unanimously that the Tax Credit Applications be approved.

PUBLIC FORUM:

Jim Williams, McKenzie Fly Fishers, told the Commission his group was concerned about water quality issues and they were not pleased there was no water quality specialist from the Department working out of Eugene.

Norma Grier, Northwest Coalition for Alternatives to Pesticides, said her group would like DEQ to be responsible for monitoring and enforcing the use of pesticides. Chairman Petersen told Ms. Grier that that responsibility would have to be delegated to DEQ by the Legislature.

Edgar B. Grimes, Keep Oregon Green & Clean, told the Commission about solid waste incinerators he had seen in Germany and said such incinerators installed outside Portland, Salem, and Eugene would eliminate the solid waste disposal problems in the Willamette Valley.

AGENDA ITEM D: Request for authorization to conduct public hearings on proposed amendments to rules governing on-site sewage disposal, OAR 340-71-100 through 340-71-600 and 340-73-075.

This item requested the Commission to authorize a public hearing to receive testimony on whether specific on-site sewage disposal rules should be amended.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission authorize public hearings to take testimony on the question of amending OAR 340-71-100 through 340-71-600 and 340-73-075.

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM E: Request for authorization to conduct a public hearing on proposed amendments to the general groundwater quality protection policy (OAR 340-41-029) to incorporate additional policies for control program implementation.

This agenda item requested authorization to conduct a public hearing on a proposal to amend the existing State Groundwater Quality Protection Policy. The proposed amendment would provide the Department with additional policy guidance related to the development and adoption of rules requiring abatement of groundwater quality problems caused by on-site sewage disposal practices.

Director's Recommendation

Based on the summation in the staff report, it is recommended that the Commission authorize a public hearing to take testimony on whether to amend the existing General Groundwater Quality Protection Policy, OAR 340-41-029.

Commissioner Bishop presented revised language to OAR 340-41-029(1) (a) as follows:

It is the responsibility of the EQC to regulate and control waste sources so that impairment of the natural quality of groundwater is minimized to assure beneficial uses of these resources by future generations.

The Commission agreed to accept Commissioner Bishop's revised language.

It was MOVED by Commissioner Denecke, seconded by Commissioner Bishop, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM F: Request for authorization to conduct public hearings on proposed rules for land application and disposal of sewage treatment plant sludge and sludge derived products including septage.

House Bill 2240 enacted by the 1983 Legislature required the Environmental Quality Commission to adopt rules for use of sewage sludge on agricultural, horticultural or silvicultural lands. Informal guidelines developed and used by the Department over a period of several years have been enhanced and redrafted as proposed rules. This agenda item requested authorization to conduct a public hearing on the proposal.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission authorize public hearing(s) to take testimony on the proposed rules for land application and disposal of sewage treatment plant sludge and sludge derived products including septage.

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM G: Request for authorization to conduct public hearings to (1) accept testimony on specific proposed modifications to water quality standards (OAR Chapter 340, Division 41), and (2) solicit public comment on the adequacy of rules contained in OAR Chapter 340, Division 41.

This agenda item requested authorization to conduct a public hearing on proposals to clarify language in the Tables on Beneficial Uses relating to public and private domestic water supplies in eleven basins, and the Beneficial Uses Tables for the Malheur River and Owyhee River Basins relating to present and highest future uses of water. During hearings, the public would also be invited to comment more generally on the adequacy of present standards and the need for further changes.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission authorize the Department to give notice and proceed to public hearing to: (1) take testimony on specific proposed modifications to the Water Quality Standards in Division 41, and (2) invite public comments on the rules contained in OAR Chapter 340, Division 41.

It was MOVED by Commissioner Denecke, seconded by Commissioner Bishop, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM L: Request for a variance from noise control rules for industry and commerce (OAR 340-35-035) for the Salem YMCA.

Commissioner Denecke declared a conflict of interest in this matter and was excused during the discussion of this agenda item.

The Salem YMCA, located in downtown Salem, has been found in violation of the noise control standards due to the operation of a heating and cooling system and several ventilation fans. This equipment is impacting an adjacent apartment building owned by the YMCA by noise levels substantially above the standards.

Although this issue was identified in August, very little effort to control the noise has been accomplished. The Department has recommended that a noise study be conducted to identify all noise sources and develop control options for each. The YMCA claims that no funds are available to comply with these standards and that further noise controls would be impossible.

The Department does not believe sufficient evidence has been provided to grant a variance and therefore recommends denial.

John Mistkawi, Executive Director of the Salem Family Young Men's Christian Association (YMCA), testified that granting of this variance would not cause health harm to anyone. Mr. Mistkawi referenced data taken by the City of Salem on sound levels in and around the apartment building in question. He stated that the noise levels inside the buildings are all below state standards.

John Hector, DEQ Noise Control Program, told the Commission he believed the City of Salem results were basically in line with the state standard. Mr. Hector also said that the state standard was designed to be taken outside of buildings and the the noise outside the apartment exceeded the state standard.

Director's Recommendation

Based upon the findings in the summation in the staff report, it is recommended that the Salem Family Young Men's Christian Association's request for a variance from strict compliance with the noise control rules for industry and commerce be denied.

After some discussion, Commissioner Brill recommended the Commission postpone taking action on this item until more information could be developed.

It was MOVED by Commissioner Bishop and seconded by Chairman Petersen that the Director's Recommendation be approved. Commissioner Brill voted no and therefore the motion died for lack of approval by the majority of the members of the Commission.

It was MOVED by Commissioner Brill, seconded by Chairman Petersen and unanimously defeated that the variance request be approved.

Chairman Petersen said the effect of this action was that the variance request was denied as it was not approved.

AGENDA ITEM H: Public hearing and proposed adoption of open field burning rules, OAR 340-26-001 through 340-26-050.

This agenda item is a public hearing and proposed adoption of revisions to the rules governing open field burning in the Willamette Valley. The proposed revisions would reorganize and simplify the rules and modify certain other provisions including, but not limited to, civil penalties, priority areas, experimental burning, permit procedures, and the various criteria considered in the daily authorization of field burning.

Dave Nelson, Oregon Seed Council, testified that they generally supported the proposed rules. He said they were much more understandable and implementable and would add a degree of needed flexibility for the smoke managers. Mr. Nelson outlined some proposed minor changes to the rules.

Terry M. Smith, City of Eugene, said the City was generally pleased with the current field burning program and supported the proposed rules. He said it was important for the Commission to look at the rules on priority areas and the need to prevent traffic accidents in those areas.

Marty Douglass, Lane Regional Air Pollution Authority, testified in support of the proposed rules and also asked the Commission to review priority areas because of traffic accidents.

Jack Riches, grass seed grower near Cascade Highway, suggested that instead of priority areas, there be a limit of 50 to 100 acres burned at a time in the Silverton Hills. Mr. Riches felt the Cascade Highway area did not need to be designated as a priority area.

Representative Liz VanLeeuwen, Linn County District 37, and grass seed grower, presented a letter from the Lebanon Chamber of Commerce that asked for more flexibility in the rules to allow more burning under good conditions. Representative VanLeeuwen wanted to be assured that the inclusion of Class 4 agricultural areas in the backyard burning rules would not result in more restrictive rules for agricultural burners.

John Flanagan, Junction City grass seed grower, was disturbed by the elimination of 340-26-010 giving perennial crops first priority.

Sean O'Connell, DEQ Field Burning Office, responded to testimony. He agreed that DEQ needed to review priority areas and said the Department would have such a review ready by the Fall.

Chairman Petersen read into the record the following written testimony.

Margo and Anthony Ashcraft, Cheshire, opposed the proposed rule change which would allow burning at night. They urged the Commission to reject night burning and not to lower fines for violations.

Candace and Michael Syman-Degler, Cheshire, also opposed the proposed rule allowing nighttime burning. They felt the grass seed growers already had sufficient flexibility in the rules without having to burn at night.

Director's Recommendation

Based upon the summation in the staff report, testimony submitted in the public hearing before the Commission, it is recommended that the Commission adopt as permanent rules the proposed rules, OAR 340-26-001 through 340-26-050, and instruct staff to submit adopted rules to the Environmental Protection Agency as a revision to the Oregon State Implementation Plan.

It was MOVED by Chairman Petersen, seconded by Commissioner Bishop and passed unanimously that the rule on priority burning areas be amended to delete the Cascade Highway area.

It was MOVED by Commissioner Denecke, seconded by Commissioner Brill and passed unanimously that the rules as amended be adopted according to the Director's Recommendation.

AGENDA ITEM K: Request for a variance from OAR 340-35-035 for log loader noise at Murphy Company, Myrtle Point, Coos County.

The Murphy Company was granted a variance to operate two diesel log loaders at its Myrtle Point facility in excess of noise standards on November 16, 1979. The variance was to provide time for studying the feasibility of either purchasing new quieter equipment or retrofitting the existing loaders with noise controls. During the variance period, administrative controls limited the impacts to the extent practicable. The Commission extended this variance on June 20, 1980.

The Murphy Company has again requested an extension of the variance. An updated feasibility study did not find that new quieter log loading equipment or retrofit noise control kits were available. The Department is proposing the Company be granted a variance extension until July 1, 1987, after which this matter would be re-evaluated to determine whether strict compliance could be achieved.

Mr. Kevin Murphy, The Murphy Company, was present at the meeting, but had nothing to add to the staff recommendation.

Director's Recommendation

Based upon the findings in the summation in the staff report, it is recommended that The Murphy Company, Myrtle Point mill, be granted an extension of the previous variance from strict compliance with OAR 340-35-035, due to operation of two diesel log loaders, until July 1, 1987. This variance shall only apply between 6 a.m. and 12:30 a.m. the following morning. This variance shall be subject to the following conditions:

1. Operation of the log loaders shall be limited by administrative controls from 6 a.m. to 8 a.m. and 8 p.m. to 12:30 a.m. to mitigate noise pollution impacts. During these hours, the log loaders shall be limited to operation on the middle and west side of Murphy property keeping loaders at least 150 feet from noise sensitive buildings facing Maple Avenue and at least 200 feet from noise sensitive buildings facing 4th Street on the north and east sides of Murphy property. From 8 a.m. to 8 p.m., the log loaders may operate on any part of the Murphy Company log yard.
2. The Murphy Company shall consult with the Department prior to the replacement or major overhaul of either of the existing log loaders.
3. The Murphy Company shall obtain Department approval of "noise emission" specifications prior to the placement of an order for replacement or major overhaul of either or both log loaders.

4. The Murphy Company shall maintain all noise reduction equipment including residential mufflers in good working order.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill that the Director's Recommendation be approved, with the provision that the Commission be promptly informed of any complaints from The Murphy Company's neighbors.

AGENDA ITEM N: Request from the City of Hubbard for a waiver of the effluent dilution requirements of OAR 340-41-455(1)(f).

The City of Hubbard is preparing to expand and upgrade their sewage treatment plant without the benefit of sewage works construction grants. They will have to build the facility in two phases. The first phase will be plant upgrading and expansion. The second phase will be an improved method of effluent disposal. Until they are able to fund the second phase, the sewage effluent must continue to discharge to a small stream which, at times, does not provide much dilution.

The Commission is being asked to waive the dilution requirement for the first phase of the facility.

This agenda item is related to Agenda Item No. H wherein the Commission is being asked to adopt a temporary rule to allow the Director to grant these waivers under special conditions.

Director's Recommendation

It is recommended that the Commission approve Hubbard's proposal for phased sewage treatment plant upgrading and expansion by waiving the dilution requirement. This should be done with the understanding that an alternative disposal system will be in place before the BOD loadings from the new plant reach 28 pounds per day and current recognized beneficial uses of Mill Creek will be maintained.

The conditions of the waiver will be put into the permit where they will be subject to periodic review. If conditions change which make continued discharge unacceptable, the waiver will be modified or cancelled.

Jerry Orton, City of Hubbard Public Works Director, testified in support of the Director's Recommendation.

It was MOVED by Commissioner Brill, seconded by Commissioner Denecke and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM I: Proposed adoption of solid waste disposal permit fees, OAR 340-61-020.

At the January 6, 1984 EQC meeting and during a special telephone meeting on January 12, 1984, the EQC discussed Solid Waste Disposal Permit Fees. During the January 12, 1984 meeting the Commission approved the Director's recommended fee schedule. This schedule was accepted by the Emergency Board on February 3, 1984. We are therefore returning to the EQC for formal adoption of the rule containing the approved fee schedule. The rule and other appropriate filing documents are attached.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission adopt the proposed Solid Waste Disposal Permit fee schedule, OAR 340-61-115.

It was MOVED by Commissioner Denecke, seconded by Commissioner Bishop, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM J: Proposed adoption of amendments to rules which require surety bonds for construction and operation of private sewerage systems, OAR 340-15-020.

At the November Commission meeting a hearing was authorized for modified rules pertaining to the Surety Bond requirement for construction and operation of private sewerage systems. The hearing was held January 4, 1984. There was no written or oral testimony regarding the proposed rule modification. It is back before the Commission for formal adoption.

Director's Recommendation

Based upon the summation in the staff report, it is recommended that the Commission adopt the modified rule as proposed.

It was MOVED by Commissioner Bishop, seconded by Commissioner Denecke, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM M: Request for continuation of the class variance from OAR 340-22-020(4) to allow for extension of time to July 1, 1985 to apply for an exemption from the residential coal use and sale restriction.

The variance granted by the Commission to allow more time for individuals to apply for the Residential Coal Rule exemption expired as of January 1, 1984. We are still getting some legitimate requests for exemptions after this deadline from people who did not know of the Rule's existence. In order to not impose a potential substantial hardship on some homeowners in the form of excessive costs to install

alternative heating systems, the Department recommends extending the variance to July 1, 1985 which should insure adequate opportunity for all those eligible for the exemption to apply.

Director's Recommendation

Based upon the findings outlined in the summation in the staff report, it is recommended that the Commission grant a class variance from the original exemption application deadline of July 1, 1983 (OAR 340-22-020(4)) and allow a second extension of time to July 1, 1985 to affected parties to apply for an exemption from the residential coal rule restriction.

It was MOVED by Commissioner Bishop, seconded by Commissioner Brill, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM O: Review of status--City of Salem sewage treatment, collection and sludge disposal facilities.

The City of Salem entered into a Stipulation and Final Consent Order with the Department in mid-1981. Conditions leading to this agreement indicated that the City could not continually meet secondary waste water treatment standards from its two waste water treatment facilities. Further, overflow and bypass problems occur in the 600 miles of collection system during wet weather conditions, creating potential health hazards within the City.

In the two years since signing the Consent Agreement, Salem has achieved much progress in resolving many of its sewerage issues. The violation of effluent limits which necessitated the Consent Agreement has been satisfactorily remedied. Although significant progress has been made in many areas, work must continue on bypass elimination and planning for future capacity.

It is recommended that the Commission concur with the staff report findings, summary and recommendations.

Director's Recommendation

It is recommended that the Commission concur in the following course of action to be pursued by the Department:

1. Negotiate modifications to the Willow Lake Permit to (a) reflect the addition of the West Salem loads and abandonment of the Wallace Road Plant, (b) reflect an acceptable program for I/I correction and bypass elimination, (c) reflect appropriate schedules for completion of planning for any necessary treatment plant improvements, and (d) recognize existence of I/I related bypasses during the duration of the permit.

2. Upon issuance and acceptance of the Modified Permit, cancel the Wallace Road Permit and negotiate cancellation of the Stipulated Consent Order.

It was MOVED by Commissioner Denecke, seconded by Commissioner Brill, and passed unanimously that the Director's Recommendation be approved.

AGENDA ITEM P: Significant Lane County Activities.

This item brought to the Commission's attention recent environmental activities by the Department in Lane County. The Commission thanked staff for the report. No action was required on this item.

There being no further business, the formal meeting was adjourned.

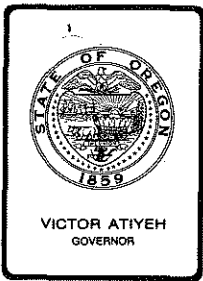
LUNCH MEETING

During lunch, the Commission received status reports from staff on proposed legislation for the 1985 Session, motor vehicle testing in Jackson County, and final federal authorization for the hazardous waste program. The Commission also agreed on the schedule for adoption of woodstove rules and the schedule for future EQC meetings.

Respectfully submitted,

Carol A. Splettstaszer
EQC Assistant

CAS:d
DOD566



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. B, April 6, 1984, EQC Meeting
January and February, 1984 Program Activity Reports

Discussion

Attached are the January and February, 1984 Program Activity Reports.

ORS 468.325 provides for Commission approval or disapproval of plans and specifications for construction of air contaminant sources.

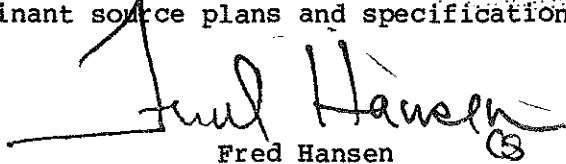
Water Quality and Solid Waste facility plans and specifications approvals or disapprovals and issuance, denials, modifications and revocations of air, water and solid waste permits are prescribed by statutes to be functions of the Department, subject to appeal to the Commission.

The purposes of this report are:

1. To provide information to the Commission regarding the status of reported activities and an historical record of project plan and permit actions;
2. To obtain confirming approval from the Commission on actions taken by the Department relative to air contaminant source plans and specifications; and
3. To provide logs of civil penalties assessed and status of DEQ/EQC contested cases.

Recommendation

It is the Director's recommendation that the Commission take notice of the reported program activities and contested cases, giving confirming approval to the air contaminant source plans and specifications.


Fred Hansen

CASplettstaszer:d
MD26
229-6484
Attachments



Contains
Recycled
Materials

DEPARTMENT OF ENVIRONMENTAL QUALITY

Monthly Activity Reports

January and February 1984

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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

AQ, WQ, SW Divisions (Reporting Unit)	January 1984 (Month and Year)
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SUMMARY OF PLAN ACTIONS

	Plans Received		Plans Approved		Plans Disapproved		Plans Pending
	Month	FY	Month	FY	Month	FY	
<u>Air</u>							
Direct Sources	8	120	8	118	-	-	20
Small Gasoline Storage Tanks Vapor Controls	-	-	-	-	-	-	-
Total	8	120	8	118	-	-	20
 <u>Water</u>							
Municipal	7	91	18	94	1	3	11
Industrial	3	29	2	41	-	-	3
Total	10	120	20	135	1	3	14
 <u>Solid Waste</u>							
Gen. Refuse	3	19	2	12	1	1	9
Demolition	-	3	-	2	-	-	1
Industrial	2	6	1	5	-	-	3
Sludge	-	1	-	3	-	-	-
Total	5	29	3	22	1	1	13
 <u>Hazardous Wastes</u>							
	-	6	-	8	-	-	-
 <u>GRAND TOTAL</u>							
	23	275	31	283	2	4	47

ME247(1)
MAR.2 (1/83)

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

January, 1984
(Month and Year)

SUMMARY OF AIR PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	Month	FY	Month	FY			
<u>Direct Sources</u>							
New	1	14	2	20	10		
Existing	1	11	1	8	17		
Renewals	22	127	23	96	118		
Modifications	<u>2</u>	<u>13</u>	<u>1</u>	<u>21</u>	<u>13</u>		
Total	26	165	27	145	158	1643	1670
<u>Indirect Sources</u>							
New	1	12	1	11	2		
Existing	0	0	0	0	0		
Renewals	0	0	0	0	0		
Modifications	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		
Total	<u>1</u>	<u>12</u>	<u>1</u>	<u>11</u>	<u>2</u>	<u>217</u>	<u>219</u>
<u>GRAND TOTALS</u>	27	177	28	156	160	1860	1889

Number of
Pending Permits

Comments

40	To be reviewed by Northwest Region
24	To be reviewed by Willamette Valley Region
23	To be reviewed by Southwest Region
6	To be reviewed by Central Region
10	To be reviewed by Eastern Region
24	To be reviewed by Program Operations Section
27	Awaiting Public Notice
<u>4</u>	Awaiting end of 30-day Public Notice Period
158	TOTAL

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT
DIRECT SOURCES
PERMITS ISSUED

COUNTY	SOURCE	PERMIT NUMBER	APPL. RECEIVED	STATUS	DATE ACHIEVED	TYPE APPL. PSEL
DOUGLAS	BONEMIA UMPQUA DIVISION	10	0103 11/25/83	PERMIT ISSUED	12/27/83	RNW
MULTNOMAH	PORTER W. YETT CO.	25	1757 11/03/83	PERMIT ISSUED	12/27/83	RNW
YAMHILL	WILLAMINA LUMBER CO	36	8008 06/01/83	PERMIT ISSUED	12/27/83	RNW
MULTNOMAH	ALPENROSE DAIRY	26	2771 03/29/83	PERMIT ISSUED	12/30/83	RNW
MARION	KEITZER SAND & GRAVEL	24	4725 12/25/83	PERMIT ISSUED	01/05/84	RNW
MARION	COMMERCIAL SAND & GRAVEL	24	6005 12/25/83	PERMIT ISSUED	01/05/84	RNW
WASHINGTON	ST VINCENT HOSPITAL	34	2585 06/15/83	PERMIT ISSUED	01/05/84	RNW
CLACKAMAS	PORTLAND ROAD & DRIVEWAY	03	1393 10/04/83	PERMIT ISSUED	01/11/84	RNW
CLACKAMAS	E.C. GRAVEL	03	2665 06/01/83	PERMIT ISSUED	01/11/84	RNW
DOUGLAS	KELLER LUMBER CO.	10	0019 03/25/83	PERMIT ISSUED	01/11/84	RNW
DOUGLAS	EMPIRE PACIFIC INDUSTRIES	10	0122 12/06/83	PERMIT ISSUED	01/11/84	RNW
JACKSON	BRISTOL SILICA-LIMESTONE	15	0100 01/11/83	PERMIT ISSUED	01/11/84	RNW
MULTNOMAH	BESS KAISER HOSPITAL	26	1793 11/30/83	PERMIT ISSUED	01/11/84	RNW
MULTNOMAH	PORTER YETT COMPANY	25	1933 11/03/83	PERMIT ISSUED	01/11/84	RNW
MULTNOMAH	OREGON LINEN RENTAL	26	2579 11/15/83	PERMIT ISSUED	01/11/84	RNW
MULTNOMAH	REED COLLEGE	25	2794 12/03/83	PERMIT ISSUED	01/11/84	RNW
POLK	DALLAS COOP WARE X	27	0137 10/04/83	PERMIT ISSUED	01/11/84	RNW
POLK	MCCOY WAREHOUSE CO. INC.	27	6023 10/04/83	PERMIT ISSUED	01/11/84	RNW
POLK	COASTAL FIBRE	27	8014 12/13/83	PERMIT ISSUED	01/11/84	RNW
PORT.SOURCE	ROY HOUCK CONSTR. CO.	37	0022 12/13/83	PERMIT ISSUED	01/11/84	RNW Y
PORT.SOURCE	SUPERIOR ASPHALT & CONCRE	37	0166 12/14/83	PERMIT ISSUED	01/11/84	RNW
MARION	J C JONES OIL CO	24	5426 10/25/83	PERMIT ISSUED	01/16/84	NEW
MULTNOMAH	THE KROEG COMPANY	26	3100 05/26/83	PERMIT ISSUED	01/16/84	NEW
WASHINGTON	OREGON ROCK PRODUCTS INCV	34	2682 02/17/83	PERMIT ISSUED	01/16/84	EXT
PORT.SOURCE	MID-OREGON CRUSHING CO	37	0174 11/02/83	PERMIT ISSUED	01/16/84	RNW
COOS	QUIET VALLEY VENEER INC	06	0094 01/09/84	PERMIT ISSUED	01/20/84	MOD
LINN	FRANK LUMBER COMPANY INC	22	2525 05/12/83	PERMIT ISSUED	01/20/84	RNW

TOTAL NUMBER QUICK LOOK REPORT LINES 27

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

January, 1984
(Month and Year)

PERMIT ACTIONS COMPLETED

<u>#</u>	<u>County</u>	<u>#</u>	<u>Name of Source/Project</u>	<u>#</u>	<u>Date of</u>	<u>#</u>	<u>Action</u>	<u>#</u>
<u>*</u>	<u>*</u>	<u>*</u>	<u>/Site and Type of Same</u>	<u>*</u>	<u>Action</u>	<u>*</u>	<u>*</u>	<u>*</u>
<u>*</u>	<u>*</u>	<u>*</u>	<u>*</u>	<u>*</u>	<u>*</u>	<u>*</u>	<u>*</u>	<u>*</u>

Indirect Sources

Multnomah	Federal Building East, 514 Spaces, File No. 26-8311	01/09/84	Final Permit Issued
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

January 1984
(Month and Year)

PLAN ACTIONS COMPLETED 21

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

MUNICIPAL WASTE SOURCES 19

Douglas	RUSA Preliminary Design Report	1/11/84	P.A.
Jackson	BCVSA Linden Lane Project 82-5	1/18/84	P.A.
Tillamook	Bay City Eighth Street Extension	1/18/84	P.A.
Harney	Hines Extension Along Central Oregon Highway	1/18/84	P.A.
Wasco	Rajneeshpuram Lagoon Aeration, Disinfection, and Irrigation	1/17/84	Comments to Central Region
Clackamas	West Linn Common Sewer Off Raw Hide Street	1/18/84	P.A.
Jackson	Medford Alder Creek Neighborhood Center	1/18/84	P.A.
Jackson	Ashland Ashland Business Park	1/19/84	P.A.
Columbia	St. Helens McBride Street Extension	1/19/84	P.A.

MAR.3 (5/79)

WL3084

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

<u>Water Quality Division</u>	<u>January 1984</u>
(Reporting Unit)	(Month and Year)

PLAN ACTIONS COMPLETED

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

MUNICIPAL WASTE SOURCES (CONTINUED)

Tillamook	NTCSA Lateral K-1, Pacific Lane. Manzanita	1/19/84	P.A.
Umatilla	Hermiston East Cornell Place	1/19/84	P.A.
Clackamas	Lake Oswego Kruse Way Plaza Residential Area	1/19/84	P.A.
Douglas	Florence Pacific Pines 3rd Addition 42nd St.	1/19/84	P.A.
Deschutes	Sunriver Conversion of Lift Station No. 3	1/20/84	Rejected
Multnomah	Portland Inverness WW Pump Station & WW Force Main	1/20/84	P.A.
Clackamas	Tri-City Service District Willamette Interceptor 1A, Outfall, Oregon City Interceptor, River Crossing (Preliminary Contract Document)	1/23/84	Review Comments to Engineer
Lane	Cottage Grove Dump Truck for Hauling Sludge	1/25/84	P.A.

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

January 1984
(Month and Year)

PLAN ACTIONS COMPLETED

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

MUNICIPAL WASTE SOURCES (CONTINUED)

Deschutes	Bend Research Septic Tank, Dose Tank & Low Pressure Distribution	1/26/84	Review Comments to Architect
Yamhill	Yamhill Extension Along Hwy 47 to Dale Goldsmith Property	2/2/84	P.A.

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

January 1984
(Month and Year)

PLAN ACTIONS COMPLETED 21

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

INDUSTRIAL WASTE SOURCES 2

Benton	Evans Products Battery Separator Plant Caustic Tank Containment Wall, Corvallis	12-29-83	Approved
Benton	Ag-Air Care, Inc. Aircraft Wash Water Containment System Corvallis	1-19-84	Approved

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

January 1984
(Month and Year)

SUMMARY OF WATER PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	Month	Fis.Yr.	Month	Fis.Yr.			
	* /**	* /**	* /**	* /**	* /**	* /**	* /**
<u>Municipal</u>							
New	0 /0	3 /9	0 /4	3 /9	3 /4		
Existing	0 /0	0 /0	0 /0	0 /0	0 /0		
Renewals	4 /1	33 /11	5 /2	21 /9	41 /9		
Modifications	1 /1	1 /2	0 /0	0 /1	1 /1		
Total	5 /2	37 /22	5 /6	24 /19	45 /14	236/135	239/139
<u>Industrial</u>							
New	0 /0	4 /3	0 /0	3 /5	1 /4		
Existing	0 /0	0 /0	0 /0	0 /0	0 /1		
Renewals	4 /1	17 /15	6 /4	16 /16	34 /13		
Modifications	1 /0	3 /0	0 /0	0 /0	3 /0		
Total	5 /1	24 /18	6 /4	19 /21	38 /18	194/164	195/169
<u>Agricultural (Hatcheries, Dairies, etc.)</u>							
New	0 /0	0 /0	0 /0	0 /0	0 /0		
Existing	0 /0	0 /0	0 /0	0 /0	0 /0		
Renewals	0 /0	0 /0	0 /4	0 /4	0 /0		
Modifications	0 /0	0 /0	0 /0	0 /0	0 /0		
Total	0 /0	0 /0	0 /4	0 /4	0 /0	2 /11	2 /11
<u>GRAND TOTALS</u>	10 /3	61 /40	11 /14	43 /44	83 /32	432/310	436/319

* NPDES Permits

** State Permits

6 General Permits Granted (1 NPDES transferred to GP from Pending List).
(1 WPCF transferred to GP from Pending List).

Pending Permits adjusted by count.

Number of sources under permit adjusted by subtracting 315 General Permits.

MAR.5W (8/79) WG3174

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality (Reporting Unit)	January 1984 (Month and Year)
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PERMIT ACTIONS COMPLETED

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

<u>MUNICIPAL AND INDUSTRIAL SOURCES</u>	NPDES	(11)		
Baker	Brooks Minerals Inc. E & E Mine, Bourne	1-11-84	Permit Renewed	
Lane	Georgia Pacific Corp. Eugene Resin Plant	1-11-84	Permit Renewed	
Crook	Ochoco Lumber Co. Prineville	1-11-84	Permit Renewed	
Multnomah	Panavista Improvement Dist. Portland, STP	1-11-84	Permit Renewed	
Linn	City of Brownsville STP	1-24-84	Permit Renewed	
Multnomah	Metropolitan Service District St. Johns Landfill Portland	1-24-84	Permit Renewed	
Douglas	City of Yoncalla, STP	1-24-84	Permit Renewed	
Jackson	City of Shady Cove, STP	1-24-84	Permit Renewed	
Yamhill	City of Newberg, STP	1-30-84	Permit Renewed	
Malheur	American Fine Foods, Inc. Nyssa	1-30-84	Permit Renewed	
Columbia	City of Scappoose, STP	1-30-84	Permit Renewed	

MAR.3 (5/79) WG3078

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality	January 1984
(Reporting Unit)	(Month and Year)

PERMIT ACTIONS COMPLETED

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

MUNICIPAL AND INDUSTRIAL SOURCES WPCF (14)

Clackamas	Clackamas County Service District #6 Fischers Forest Park Subdiv. Redland, STP	1-11-84	Permit Issued
Multnomah	Danco Investment, Ltd. Elmer's Pancake & Steak House, Inc. Portland, STP	1-11-84	Permit Issued
Jefferson	North Unit Irrigation District. Madras Airport, STP	1-11-84	Permit Issued
Douglas	U.S.F.S. Diamond Lake, STP	1-16-84	Permit Issued
Clackamas	PGE Co. Promontory Park, STP	1-24-84	Permit Renewed
Coos	Al Peirce Lumber Co. Log Storage - Coos Bay	1-24-84	Permit Renewed
Union	Robert H. Becker Hog Farm - Cove	1-24-84	Permit Renewed
Coos	Anadromous Inc. Coos Bay - North Spit STP	1-24-84	Permit Renewed

MAR.3 (5/79) WG3078

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality (Reporting Unit)	January 1984 (Month and Year)
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PERMIT ACTIONS COMPLETED

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

MUNICIPAL AND INDUSTRIAL SOURCES WPCF (Continued)

Malheur	Victorio Land & Cattle Co. Nyssa	1-24-84	Permit Renewed
Umatilla	Pendleton Ready Mix Co. Pendleton	1-24-84	Permit Renewed
Umatilla	Johns, Smith & Beamer, Inc. Feed Lot, Rieth	1-24-84	Permit Renewed
Umatilla	Johns, Smith & Beamer, Inc. Animal Feed Lot, Athena	1-24-84	Permit Renewed
Lane	Eugene Sand & Gravel, Inc. Eugene	1-24-84	Permit Renewed
Umatilla	Boise Cascade Corp. Starch Plant Stanfield	1-24-84	Permit Renewed

MUNICIPAL AND INDUSTRIAL SOURCES GENERAL PERMITS (6)

Cooling Water, Permit 0100J, File 32550 (2)

Benton	Hewlett Packard Corvallis	1-11-84	General Permit Granted
Baker	St. Elizabeth Community Hospital Baker County	1-17-84	General Permit Granted

MAR.3 (5/79) WG3078

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality
(Reporting Unit)

January 1984
(Month and Year)

PERMIT ACTIONS COMPLETED

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

MUNICIPAL AND INDUSTRIAL SOURCES

GENERAL PERMITS (Continued)

Log Ponds, Permit 0400J, File 32575 (1)

Douglas	Champion International Corporation Roseburg	1-5-84	Transferred to General Permit
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Gold Mining, Permit 0600, File 32580 (1)

Baker	Hereford Placer Co. Baker County	1-23-84	Transferred to General Permit
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Gravel Mining, Permit 1000, File 32565 (2)

Douglas	Tri-City Ready Mix, Inc. Myrtle Creek	1-5-84	General Permit Granted
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Columbia	Les Darr Trucking Co. Gravel Operations Deer Island	1-24-84	General Permit Granted
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MAR.3 (5/79) WG3078

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Solid Waste Division
(Reporting Unit)

January 1984
(Month and Year)

SUMMARY OF SOLID AND HAZARDOUS WASTE PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sites Under Permits	Sites Reqr'g Permits
	Month	FY	Month	FY			
<u>General Refuse</u>							
New	3	10	1	4	6		
Existing	-	-	-	-	-		
Renewals	3	9	-	3	12		
Modifications	2	6	-	5	1		
Total	8	25	1	12	19	170	170
<u>Demolition</u>							
New	-	2	-	2	-		
Existing	-	-	-	-	-		
Renewals	-	3	-	-	3		
Modifications	-	1	-	1	-		
Total	0	6	0	3	3	15	15
<u>Industrial</u>							
New	1	2	-	2	3		
Existing	-	-	-	-	-		
Renewals	-	4	-	3	11		
Modifications	-	-	-	-	3		
Total	1	6	0	5	17	98	98
<u>Sludge Disposal</u>							
New	-	-	-	-	-		
Existing	-	-	-	-	-		
Renewals	1	6	1	4	3		
Modifications	1	-	1	2	-		
Total	2	6	2	6	3	15	15
<u>Hazardous Waste</u>							
New	-	1	-	2	5		
Authorizations	62	611	62	611	-		
Renewals	-	-	-	-	1		
Modifications	-	-	-	-	-		
Total	62	612	62	613	6	14	19
<u>GRAND TOTALS</u>	73	655	65	639	47	312	317

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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Solid Waste Division
(Reporting Unit)

January 1984
(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action	*
Lincoln	T & L Sludge Lagoon Existing facility	1/23/84	Permit amended	*
Linn	Sweet Home Sludge Site Existing facility	1/23/84	Permit renewed	*
Linn	Sweet Home Transfer Station New facility	1/23/84	Permit issued	*

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Solid Waste Division
(Reporting Unit)

January 1984
(Month and Year)

HAZARDOUS WASTE DISPOSAL REQUESTS

CHEM-SECURITY SYSTEMS, INC., GILLIAM CO.

WASTE DESCRIPTION

* Date *	Type	Source	Quantity	
* * *	* * *	* * *	Present	Future

TOTAL DISPOSAL REQUESTS GRANTED - 62

OREGON - 12

1/13	Various small quantities of corrosive and poison lab chemicals	Fire dept.	7 drums	10 drums
1/18	Nitric acid solution	Electronic mfg.	19 drums	0
1/18	Copper electroplating solution with lead	" "	500 gal.	0
1/18	Electroplating bath with 3-4% lead	" "	325 gal.	0
1/18	Electroplating sludge	" "	13 drums	0
1/18	Electroplating bath with lead	" "	450 gal.	0
1/18	Ferric chloride solution (10% HCl)	" "	2 drums	0
1/18	Heavy metals sludge	Electroplating	0	5,000 gal.
1/23	PCB-contaminated soil	Plywood co.	200 cu.yd.	0
1/23	PCB transformer	" "	495 gal.	495 gal.
1/24	Aluminum potliner	Al smelting	0	4,500 tons
1/24	Paint sludge	Truck mfg.	0	37,400 gal.

* * Date *	* Type *	* Source *	* Present *	* Quantity * Future *	* *
WASHINGTON - 43					
1/3	Caustic solution with p-phenyl phenol	Printing	0	10,400 gal.	
1/3	Orthodichlorobenzene, methylene chloride, etc.	" "	0	2 drums	
1/4	PCB oils, contaminated rags, etc.	Shipyard	1 drum	0	
1/4	Parathion-contaminated soil	Spill	25 cu.yd.	0	
1/4	Polyacril amide/mineral spirits	Port Authority	3,300 gal.	0	
1/4	Slops containing alkid resins, oil, fat, solvents, etc.	Drum reconditioning	0	6,600 gal.	
1/4	Abrasive compounds containing basic lead carbonate	Mfg. of lapping compound	0	1/4 cu.yd.	
1/4	Asbestos cement bottom boards	Foundry	0	24 drums	
1/4	Asbestos boiler and steam pipe insulation	" "	0	48 drums	
1/6	Nickel nitrate	Research facil.	0	300 lb.	
1/6	Ethylene glycol	" "	0	1,550 gal.	
1/6	Sodium aluminate	" "	0	1,450 gal.	
1/6	Pickling tank sludge	Shipbuilding	0	1 drum	
1/6	Paint sludge	" "	0	26,000 gal.	
1/6	Phosphoric/glycolic acid cleaning solution	" "	0	12,000 gal.	
1/6	Industrial tank cleaning solution with ammonia	" "	0	12,000 gal.	
1/10	Paint sludge	Foundry	0	1 drum	
1/10	Paper contaminated with thinner/paint sludge	" "	0	100 drums	

* * Date *	* Type *	* Source *	* Quantity *		* *
			* Present	* Future	
1/10	Solvents toluene, Stoddard solvent, etc.	Foundry	0	3 drums	
1/10	Acetone	" "	0	1 drum	
1/10	Caustic solution	" "	0	4 drums	
1/10	Caustic cleaning solu- tion with detergent	Shipbuilding	0	12,000 gal.	
1/10	Sodium bisulfate solu- tion with Cr ⁺⁶	" "	0	6,000 gal.	
1/10	Alkaline cleaning solu- tion with Cr ⁺⁶	" "	0	6,000 gal.	
1/10	Paint stripping solution methylene chloride/ cresylic acid	" "	0	800 gal.	
1/10	Incinerator ash with heavy metals	Aerospace co.	0	2,700 cu.yd.	
1/10	Aerosal OT	Research	0	20 gal.	
1/10	Tetrahydrofuran	" "	0	7 gal.	
1/10	Ignitable organic sol- vents in lab quantities	" "	0	500 gal.	
1/10	Misc. lab chemicals	" "	0	2 drums	
1/10	Misc. toxic organic solvents	" "	0	450 gal.	
1/10	Acetonitrile, guaiacol, n-1-naphylethylene chloride	" "	0	1 drum	
1/13	Spent electrolytic potlining	Al smelting	300 cu.yd.	0	
1/13	Hydroxyl terminated poly oxalkylene poly- ether (99%) and tertiary amine (1%)	" "	0	50 drums	
1/18	Trichloroethylene degreaser bottoms	Aluminum co.	0	20 drums	
1/18	PCB capacitor/starter	Shipyards	1 drum	0	

* * Date *	* Type *	* Source *	* Quantity *		* Future *
			* Present	* Future	
1/18	PCB liquids/contaminated rags	Shipyards	1 drum	0	
1/18	PCB-contaminated transformer oil	Electrical shop	1 drum	0	
1/18	PCB lab samples	Research facil.	1 drum	0	
1/19	Mixed acids of HNO ₃ , and HF	Mgf. of metal tubings	0	40,000 gal.	
1/24	Methylene chloride empty drums	Al smelting	0	60 drums	
1/24	Paint thinner	" "	0	5 drums	
1/24	PCB transformers	Wood prod.	0.15 cu.yd.	0	
OTHER STATES - 7					
1/4	Lead-contaminated wave solder flux tinning fluid	Electronic co. (ID)	0	1,320 gal.	
1/4	Heavy metals sludge	" "	0	200,000 lb.	
1/13	Asbestos insulation	Oil refin. (MT)	7 drums	0	
1/18	Sodium cyanide	Railroad co.(ID)	2 gal.	0	
1/18	Mixed acids of chromic, hydrofluoric and nitric	Fabricator of Al products (B.C.)	0	15 drums	
1/18	PCB liquids	Construction co. (AK)	500 gal.	0	
1/19	PCB capacitors	Construction co. (AK)	6 units	0	

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program (Reporting Unit)	January, 1984 (Month and Year)
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SUMMARY OF NOISE CONTROL ACTIONS

Source Category	New Actions Initiated		Final Actions Completed		Actions Pending	
	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>Last Mo</u>
Industrial/ Commercial	5	60	9	51	122	126
Airports				6		

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program (Reporting Unit)	January, 1984 (Month and Year)
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FINAL NOISE CONTROL ACTIONS COMPLETED

County	Name of Source and Location	Date	Action
Clackamas	Caffall Brothers' Forest Products, Oregon City	01/84	No Violation
Multnomah	City Center Parking, Portland	01/84	In Compliance
Multnomah	Dillingham Ship Repair, Swan Island, Portland	01/84	Noise Discontinued
Washington	By Town Pipe Company, Hillsboro	01/84	In Compliance
Washington	Courtesy Auto Body, West Slope	01/84	In Compliance
Linn	Freres Lumber Company, Lyons	01/84	In Compliance
Lane	Valley River Dodge, Eugene	01/84	In Compliance
Josephine	Mastern Corporation, Cave Junction	01/84	Source Closed
Josephine	Valley of the Rogue Dairy, Grants Pass	01/84	In Compliance

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

AQ, WQ, SW Divisions
(Reporting Unit)

February 1984
(Month and Year)

SUMMARY OF PLAN ACTIONS

	Plans Received		Plans Approved		Plans Disapproved		Plans Pending
	Month	FY	Month	FY	Month	FY	
<u>Air</u>							
Direct Sources	3	123	3	121	-	-	20
Small Gasoline Storage Tanks Vapor Controls	-	-	-	-	-	-	-
Total	3	123	3	121	-	-	20
<u>Water</u>							
Municipal	11	102	6	100	-	3	17
Industrial	-	29	1	42	1	1	1
Total	11	131	7	142	1	4	18
<u>Solid Waste</u>							
Gen. Refuse	1	20	4	16	1	1	6
Demolition	-	3	-	2	-	-	1
Industrial	1	7	-	5	-	-	4
Sludge	1	2	1	4	-	-	1
Total	3	32	5	27	1	1	11
<u>Hazardous Wastes</u>							
	-	6	-	8	-	-	-
<u>GRAND TOTAL</u>	17	292	15	298	2	5	49

DEPARTMENT OF ENVIRONMENTAL QUALITY
 AIR QUALITY DIVISION
 MONTHLY ACTIVITY REPORT
 DIRECT SOURCES
 PLAN ACTIONS COMPLETED

COUNTY	NUMBER	SOURCE	PROCESS DESCRIPTION	DATE OF ACTION	ACTION
COLUMBIA	950	BOISE CASCADE PAPERS	OPACITY METER REPLACEMENT	02/24/84	APPROVED
DESCHUTES	951	WILLAMETTE INDUSTRIES	BIN INSTALLATION	02/15/84	APPROVED
KLAMATH	959	PAC GAS TRANSMISSION	GAS TURBINE REPLACEMENT	02/16/84	APPROVED
TOTAL NUMBER QUICK LOOK REPORT LINES			3		

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

February, 1984
(Month and Year)

SUMMARY OF AIR PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	Month	FY	Month	FY			
<u>Direct Sources</u>							
New	0	14	1	21	8		
Existing	5	16	1	9	22		
Renewals	14	141	14	110	117		
Modifications	<u>7</u>	<u>20</u>	<u>7</u>	<u>28</u>	<u>18</u>		
Total	26	191	23	168	165	1645	1675
<u>Indirect Sources</u>							
New	0	12	1	12	1		
Existing	0	0	0	0	0		
Renewals	0	0	0	0	0		
Modifications	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		
Total	<u>0</u>	<u>12</u>	<u>1</u>	<u>12</u>	<u>1</u>	<u>218</u>	<u>189</u>
<u>GRAND TOTALS</u>	26	203	24	180	166	1863	1894

Number of
Pending Permits

Comments

34	To be reviewed by Northwest Region
27	To be reviewed by Willamette Valley Region
24	To be reviewed by Southwest Region
3	To be reviewed by Central Region
9	To be reviewed by Eastern Region
22	To be reviewed by Program Operations Section
44	Awaiting Public Notice
<u>2</u>	Awaiting end of 30-day Public Notice Period
165	TOTAL

MAR.5 (8/79)
AZ603

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT
DIRECT SOURCES
PERMITS ISSUED

COUNTY	SOURCE	PERMIT NUMBER	APPL. RECEIVED	STATUS	DATE ACHIEVED	TYPE APPL. PSEL					
COUNTY NAME	SOURCE NAME	CNTY	SRCE	DATE	SCH	ACTION	DESCRIPT	DATE	ACH	RDES	RDE1
UNION	HOFF-RONDE VALLEY LUMBER	31	0013	00/00/00		PERMIT ISSUED		01/27/84	MOD		Y
KLAMATH	WEYERHAEUSER COMPANY	12	0013	01/23/84		PERMIT ISSUED		02/02/84	MOD		
UMATILLA	MID-COLUMBIA ASPHALT CO	30	0097	01/25/84		PERMIT ISSUED		02/02/84	MOD		Y
KLAMATH	WEYERHAEUSER COMPANY	12	0013	01/18/84		PERMIT ISSUED		02/13/84	MOD		
WASHINGTON	YOUNGS FUNERAL HOME	34	2645	10/11/82		PERMIT ISSUED		02/13/84	RNW		
DESCHUTES	BEND MILL WORKS CO.	09	0015	02/07/84		PERMIT ISSUED		02/14/84	MOD		
CLACKAMAS	PORTLAND ROAD & DRIVEWAY	03	1765	10/04/83		PERMIT ISSUED		02/15/84	RNW		
COLUMBIA	REICHHOLD CHEMICALS INC	05	2042	10/25/83		PERMIT ISSUED		02/15/84	RNW		
GRANT	MALHEUR LUMBER CO	12	0032	10/17/83		PERMIT ISSUED		02/15/84	NEW		
JACKSON	KOGAP MANUFACTURING	15	0015	05/26/83		PERMIT ISSUED		02/15/84	RNW		
UMATILLA	PENDLETON GRAIN GROWERS	30	0070	03/28/83		PERMIT ISSUED		02/15/84	RNW		
UMATILLA	PENDLETON GRAIN GROWERS	30	0090	03/25/83		PERMIT ISSUED		02/15/84	RNW		
PORT.SOURCE	POE ASPHALT PAVING INC.	37	0240	08/11/83		PERMIT ISSUED		02/15/84	RNW		
PORT.SOURCE	TRU MIX LEASING CO.	37	0249	12/12/83		PERMIT ISSUED		02/15/84	RNW		
PORT.SOURCE	N L STADELI	37	0271	12/06/83		PERMIT ISSUED		02/15/84	MOD		
PORT.SOURCE	BRACELIN & YEAGER ASPLT	37	0239	12/07/83		PERMIT ISSUED		02/15/84	RNW		Y
PORT.SOURCE	ANGELL ASPHALT&AGGREGATE	37	0091	01/06/84		PERMIT ISSUED		02/21/84	RNW		
KLAMATH	STURDI-CRAFT INC	12	0071	12/30/83		PERMIT ISSUED		02/22/84	EXT		
LINN	WILCOX FEED AND SEED	22	4008	01/16/84		PERMIT ISSUED		02/22/84	RNW		
MULTNOMAH	REYNOLDS HIGH SCHOOL	26	1812	12/23/83		PERMIT ISSUED		02/22/84	RNW		
MULTNOMAH	PARKROSE SR HIGH SCHOOL	26	2322	01/17/84		PERMIT ISSUED		02/22/84	RNW		
MULTNOMAH	FREMONT JR HIGH SCHOOL	26	2333	01/17/84		PERMIT ISSUED		02/22/84	RNW		
LINN	WESTERN KRAFT CORP	22	0471	00/00/00		PERMIT ISSUED		02/23/84	MOD		

TOTAL NUMBER QUICK LOOK REPORT LINES 23

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division	February, 1984
(Reporting Unit)	(Month and Year)

PERMIT ACTIONS COMPLETED

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

Indirect Sources

Marion	South Commercial Street, Superior Street to Vista Avenue	02-07-84	Final Permit Issued
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

February 1984
(Month and Year)

PLAN ACTIONS COMPLETED 7

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action	*
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MUNICIPAL WASTE SOURCES 6

Multnomah	City of Troutdale Sanitary Sewer Extensions	2/15/84	P.A.	
Umatilla	Milton Freewater Seaquist Subdivision (revised)	2/21/84	P.A.	
Clackamas	Rolling Hills Commercial Church Septic Tank and Dose Tank	2/28/84	Comments to Region	
Clackamas	Oregon Glass Septic Tank, Dose Tank and Sand Filter	2/28/84	Comments to Region	
Deschutes	Sunriver Pump Station No. 1 Conservation	3/1/84	P.A.	
Lincoln	Kernville Tavern Septic Tanks, Dose Tank and Sand Filter Kernville	3/2/84	Comments to Region	

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

February 1984
(Month and Year)

PLAN ACTIONS COMPLETED 8

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

INDUSTRIAL WASTE SOURCES 2

Linn	Teledyne Wah Chang Albany Metals Recovery System	2-7-84	Approved
Benton	Evans Products Addition of a second settling lagoon, pump station, flow recorder and continuous sampler, Corvallis	2-7-84	Withdrawn

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

February 1984
(Month and Year)

SUMMARY OF WATER PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	Month	Fis.Yr.	Month	Fis.Yr.			
	* /**	* /**	* /**	* /**	* /**	* /**	* /**
<u>Municipal</u>							
New	0 /0	3 /9	1 /0	4 /9	2 /4		
Existing	0 /0	0 /0	0 /0	0 /0	0 /0		
Renewals	7 /2	40 /13	4 /4	25 /13	45 /8		
Modifications	0 /0	1 /2	0 /0	0 /1	1 /1		
Total	7 /2	44 /24	5 /4	29 /23	48 /13	237/136	239/140
<u>Industrial</u>							
New	0 /0	4 /3	0 /0	3 /5	1 /4		
Existing	0 /0	0 /0	0 /0	0 /0	0 /0		
Renewals	6 /2	23 /17	3 /0	19 /16	35 /16		
Modifications	1 /0	4 /0	2 /0	2 /0	2 /0		
Total	7 /2	31 /20	5 /0	24 /21	38 /20	192/161	193/166
<u>Agricultural (Hatcheries, Dairies, etc.)</u>							
New	0 /0	0 /0	0 /0	0 /0	0 /0		
Existing	0 /0	0 /0	0 /0	0 /0	0 /0		
Renewals	0 /0	0 /0	0 /0	0 /4	0 /0		
Modifications	0 /0	0 /0	0 /0	0 /0	0 /0		
Total	0 /0	0 /0	0 /0	0 /4	0 /0	2 /12	2 /12
<u>GRAND TOTALS</u>	14 /4	75 /44	10 /4	53 /48	86 /33	431/309	434/318

* NPDES Permits

** State Permits

10 General Permits Granted.

Pending Permits adjusted by count.

Number of sources under permit adjusted by subtracting 326 General Permits.

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality	February 1984
(Reporting Unit)	(Month and Year)

PERMIT ACTIONS COMPLETED

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

MUNICIPAL AND INDUSTRIAL SOURCES NPDES (8)

Grant	City of Mt. Vernon, STP	2-14-84	Permit Renewed	
Malheur	City of Nyssa, STP	2-14-84	Permit Renewed	
Hood River	Mt. Hood Meadows Oregon Ltd., STP	2-14-84	Permit Renewed	
Multnomah	Sauvie Island Moorage Co. STP	2-14-84	Permit Renewed	
Tillamook	Jetty Fishery, STP Rockaway	2-14-84	Permit Issued	
Multnomah	Gilmore Steel Corp. Burgard Rd. Portland	2-22-84	Permit Renewed	
Multnomah	Parkrose Water District Portland	2-22-84	Permit Renewed	
Umatilla	Pendleton Grain Growers McKennon Station (Seed Mill)	2-22-84	Permit Renewed	

MUNICIPAL AND INDUSTRIAL SOURCES WPCF (4)

Union	Burr Courtright LaGrande, STP	2-14-84	Permit Renewed	
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality	February 1984
(Reporting Unit)	(Month and Year)

PERMIT ACTIONS COMPLETED

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

MUNICIPAL AND INDUSTRIAL SOURCES (Continued)

Linn	Pioneer Villa Restaurant & Motel Halsey, STP	2-14-84	Permit Renewed	
Umatilla	City of Pilot Rock, STP	2-14-84	Permit Renewed	
Baker	City of Unity, STP	2-14-84	Permit Renewed	

MUNICIPAL AND INDUSTRIAL SOURCES Modifications (2)

Linn	Willamette Industries, Inc., Duraflake Div. Millersburg	2-8-84	Reissued Permit	
Multnomah	Crown Zellerbach Corp. Flexible Packaging Div. Portland	2-27-84	Addendum #2	

MUNICIPAL AND INDUSTRIAL SOURCES GENERAL PERMITS (10)

<u>Cooling Water, Permit 0100J, File 32550</u>		(3)		
Malheur	J. A. Blackburn Vale	2-1-84	General Permit Granted	
Morrow	Kinzua Corporation Heppner	2-10-84	General Permit Granted	

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

<u>Water Quality</u>	<u>February 1984</u>
(Reporting Unit)	(Month and Year)

PERMIT ACTIONS COMPLETED

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

MUNICIPAL AND INDUSTRIAL SOURCES

GENERAL PERMITS (Continued)

Multnomah	Boeing Commercial Airline Company Portland	2-27-84	General Permit Granted
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Fish Hatcheries, Permit 0300J, File 32560 (1)

Curry	Oregon-Pacific Salmon Ranch, Inc. Brookings	2-21-84	General Permit Granted
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Log Ponds, Permit 0400J, File 32575 (1)

Polk	Willamina Lumber Co. Plywood Division	2-9-84	Transferred to General Permit
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Boiler Blowdown, Permit 0500J, File 32540 (1)

Morrow	Kinzua Corporation Heppner	2-10-84	General Permit Granted
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Gold Mining, Permit 0600, File 32580 (1)

Josephine	Montague Metal & Mining Cave Junction	2-1-84	Transferred to General Permit
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Suction Dredges, Permit 700J, File 32600 (1)

Curry	Floyd S. Higgins Two-8" suction dredges Upper Chetco River	2-24-84	General Permit Granted
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Water Quality (Reporting Unit)	February 1984 (Month and Year)
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PERMIT ACTIONS COMPLETED

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

<u>MUNICIPAL AND INDUSTRIAL SOURCES</u>	GENERAL PERMITS (Continued)
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Seafood Processing, Permit 0900J, File 32585 (1)

Curry	Oregon-Pacific Salmon Ranch, Inc. Brookings	2-21-84	General Permit Granted
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Gravel Mining, Permit 1000, File 32565 (1)

Yamhill	Dayton Sand & Gravel Co. Dayton	2-3-84	Transferred to General Permit
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Solid Waste Division
(Reporting Unit)

February 1984
(Month and Year)

SUMMARY OF SOLID AND HAZARDOUS WASTE PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sites Under Permits	Sites Reqr'g Permits
	Month	FY	Month	FY			
<u>General Refuse</u>							
New	1	11	-	4	7		
Existing	-	-	-	-	-		
Renewals	3	12	-	3	15		
Modifications	-	6	-	5	1		
Total	4	29	0	12	23	170	170
<u>Demolition</u>							
New	-	2	-	2	-		
Existing	-	-	-	-	-		
Renewals	-	3	-	-	3		
Modifications	-	1	-	1	-		
Total	0	6	0	3	3	15	15
<u>Industrial</u>							
New	1	3	-	2	4		
Existing	-	-	-	-	-		
Renewals	3	7	-	3	14		
Modifications	-	-	-	-	3		
Total	4	10	0	5	21	98	98
<u>Sludge Disposal</u>							
New	-	-	-	-	-		
Existing	-	-	-	-	-		
Renewals	1	7	-	4	4		
Modifications	-	-	-	2	-		
Total	1	7	0	6	4	15	15
<u>Hazardous Waste</u>							
New	-	1	-	2	5		
Authorizations	91	702	91	702	-		
Renewals	-	-	-	-	1		
Modifications	-	-	-	-	-		
Total	91	703	91	704	6	14	19
<u>GRAND TOTALS</u>	100	755	91	730	57	312	317

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Solid Waste Division
(Reporting Unit)

February 1984
(Month and Year)

HAZARDOUS WASTE DISPOSAL REQUESTS

CHEM-SECURITY SYSTEMS, INC., GILLIAM CO.

WASTE DESCRIPTION

* * *	* Date *	* Type *	* Source *	* Present *	* Quantity * Future *	* *
TOTAL DISPOSAL REQUESTS GRANTED - 91						
OREGON - 31						
	1/31	Battery acid	Telephone co.	135 gal.	0	
	1/31	Creosote wood treatment sludge	Wood preserving	0	2,700 gal.	
	1/31	Paint sludge	Steel fabrictn.	0	3,000 gal.	
	1/31	Muriatic acid	Electroplating	0	5,000 gal.	
	1/31	Solidified paint sludge	Paint mfg.	0	5 drums	
	1/31	Benzene-contaminated burn pit debris	Fire dept.	4 drums	0	
	2/1	PCB transformers	Plywood plant	0	200 gal.	
	2/1	PCB transformers	Plywood plant	0	500 gal.	
	2/1	PCB capacitors	Plywood plant	0	200 gal.	
	2/1	Paint sludge	Paint mfg.	0	1,000 gal.	
	2/1	Sulfuric acid battery fluid	Car shop	0	220 gal.	
	2/2	Tetrachlorophenol anti-sapstain solution	Lumber mill	0	1,600 lb.	
	2/2	Tetrachlorophenol anti-sapstain solution	Sawmill	0	100 gal.	

* * * *	* * * *	* * * *	* * * *	* * * *	Quantity		* * * *
					Present	Future	
2/2	Tetrachlorophenol-contaminated wood waste	Sawmill	0	100 lb.			
2/8	Tank washings containing isooctyl alcohol, 2,4-D isooctyl ester, phenolics & dicalite solids	Herbicide mfg.	0	6 drums			
2/8	2,4-D ester formulation waste	Herbicide mfg.	0	330 gal.			
2/8	Tank washings containing MCPA isooctyl alcohol, 2,4-D IBET, alcohols, phenolics, water	" "	0	20 drums			
2/8	Solvent and paint soaked filters in water	Mfg. of railcars	0	2,000 gal.			
2/8	Railcar waste paint and solvents	" "	0	3,000 gal.			
2/8	Marine waste paint and solvents	" "	0	3,000 gal.			
2/22	PCB capacitors	Electrical co-op	8 drums	8 drums			
2/22	Pesticides	Chemical supplier	4,160 lb.	0			
2/24	PCB transformers and contaminated materials	Electrical co-op	0	15 cu.yd.			
2/24	PCB-contaminated transformers and materials	" "	0	25 cu.yd.			
2/24	Sawdust/soil contaminated with penta and creosote	Wood preserving	0	6,000 gal.			
2/24	Soil contaminated with xylene, IOA, bromoxymil, etc.	Herbicide mfg.	10 drums	0			
2/24	2,4-D-contaminated soil	" "	1 drum	0			
2/24	Caustic sand	Foundry	0	72 cu.yd.			
2/24	Rosin flux-contaminated isopropyl alcohol	Electronic co.	0	500 gal.			

* * Date *	* Type *	* Source *	* Quantity *		* * *
			Present	Future	
2/24	PCB-contaminated water	Spill	5,000 gal.	0	
2/29	Foam seal saturated with gasoline	Oil co.	20 drums	0	
WASHINGTON - 45					
1/31	Phenol benzoic acid-contaminated inert solid materials	Chemical co.	0	250 drums	
1/31	PCB liquids	Food co.	1 drum	0	
1/31	Pentachlorophenol solution	Wood treatment	0	2,000 gal.	
1/31	Solution of carbolic acid, formaldehyde and water	Research & Development	0	1,100 gal.	
1/31	Paint thinner	" "	0	660 gal.	
1/31	Misc. lab chemicals in lab packs	" "	0	120 drums	
2/1	Trichloroethylene still bottoms	Mfg. of thin wall tubings	0	1,500 gal.	
2/1	Soldering oil with solder and dross	Electronic co.	85 gal.	0	
2/1	Insecticide chlordane	School	205 gal.	0	
2/1	Benzene/xylene	School	20 gal.	0	
2/1	Various ignitable organic solvents in lab packs	" "	5 drums	0	
2/1	Various toxic lab chemicals in lab packs	" "	4 drums	0	
2/1	Various organic acids and other corrosive chemicals in lab packs	" "	4 drums	0	
2/1	DDT insecticide	" "	1 drum	0	
2/1	Co-polymer ester resin	Insurance co.	1 drum	0	

* * *	* * *	* * *	* * *	* * *	* * *	* * *
Date	Type	Source	Present	Quantity	Future	
2/1	Baghouse dust with heavy metals	Foundry	0	250 tons		
2/2	Spent nickel plating bath	Electroplating	0	440 gal.		
2/2	Chlorinated solvent dry cleaning sludge	City gov't.	0	120 drums		
2/2	Oil/oil sludge and contaminated booms, rags, etc.	Foundry	0	24 drums		
2/8	Lead-contaminated soil, rocks, etc.	Gov't. agency	300 cu.yd.	0		
2/8	PCB-contaminated soil rags, etc.	Spill	0	0.2 cu.yd.		
2/8	Steel plates contaminated with cyanide	Waste treatment	0	2,000 lb.		
2/8	Carbon plates contaminated with cyanide	" "	0	2 drums		
2/8	PCB transformers	School	0	25 drums		
2/8	PCB capacitors	" "	0	25 drums		
2/8	PCB-contaminated liquids	" "	0	110 gal.		
2/8	PCB liquids	" "	0	110 gal.		
2/8	PCB-contaminated absorbent materials	" "	0	10 drums		
2/8	PCB-contaminated rags, gloves, etc.	Al reduction	0	4 drums		
2/8	PCB-contaminated liquids/transformers	" "	0	550 gal.		
2/8	PCB transformers/liquids	" "	0	2,000 gal.		
2/8	PCB capacitors	" "	0	4 drums		
2/8	Trichloroethane solvent	Cable co.	0	420 gal.		

* * Date *	* Type *	* Source *	* Quantity *		* *
			Present	Future	
2/15	PCB capacitors	Paper co.	2,000 lb.	0	
2/15	Ink-contaminated ethyl alcohol, n.p. alcohol and n.p. acetate	" "	0	1,888 gal.	
2/15	Soiled hydrocarbon based oil grease	Wire production	0	25 drums	
2/15	Soiled triaryl phosphate hydraulic fluid	" "	0	25 drums	
2/15	Soiled wire drawing lubricant containing tallow and mineral oil	" "	0	10 drums	
2/15	Oily water contaminated by trichloroethylene	Shipyard	2,500 gal.	0	
2/15	Ignitable still bottoms	Solvent recycl.	0	10,000 gal.	
2/22	Calcium fluoride filter cake	Electronic co.	0	50/800 drums	
2/24	Mercury-contaminated glass and cleanup materials	Oil co.	0	35 gal.	
2/24	Cleaning solution of methylene chloride and methyl alcohol contaminated with oil, grease and dirt	Mfg. of trucks	0	132 drums	
2/24	Heavy metals-contaminated monoethanolamine cleaning solution	Railroad co.	720 gal.	0	
2/28	Otto fuel-contaminated water	Defense Dept.	0	350,000 gal.	
OTHER STATES - 15					
2/1	Sludge of phosphoric acid, diatomaceous earth and water	Oil co. (MT)	50 drums	0	
2/1	PCB-contaminated rags	Paper co. (MT)	0	1 drum	

* * * *	* * * *	* * * *	* * * *	* * * *	* * * *	* * * *
Date	Type	Source	Present	Quantity	Future	
2/1	PCB-contaminated transformers	Electric util. (AK)	30 cu.yd.	0		
2/1	PCB liquids	" "	160 gal.	0		
2/1	Arsenic-contaminated wood chips, soil, sand etc.	Wood treatment (Weed, CA)	0		2,750 gal.	
2/1	Creosote-contaminated wood chips, soil, sand etc.	" "	0		2,750 gal.	
2/7	Trimsol machine oil	Machine shop	14,000 gal.	0		
2/8	Ignitable chemicals in lab packs	University (ID)	0		255 cu.ft.	
2/8	Poisonous lab chemicals in lab packs	" "	0		285 cu.ft.	
2/8	Oxidizing agents in lab packs	" "	0		75 cu.ft.	
2/8	Corrosive chemicals in lab packs	" "	0		225 cu.ft.	
2/14	PCB-contaminated soil	PCB spill cleanup project (AK)	123,790 lb.	0		
2/21	PCB transformers	University (UT)	500 gal.		500 gal.	
2/21	PCB-contaminated transformers	" "	500 gal.		500 gal.	
2/21	Corrosion Inhibitor containing sodium bichromate	Out-dated product (HI)	3 drums		3 drums	

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program
(Reporting Unit)

February, 1984
(Month and Year)

SUMMARY OF NOISE CONTROL ACTIONS

Source Category	New Actions Initiated		Final Actions Completed		Actions Pending	
	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>Last Mo</u>
Industrial/ Commercial	7	67	9	60	120	122
Airports			2	8		

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program			February, 1984	
(Reporting Unit)			(Month and Year)	
<u>FINAL NOISE CONTROL ACTIONS COMPLETED</u>				
County	Name of Source and Location	Date	Action	
Multnomah	LeIcicle, Portland	02/84	Source relocated	
Multnomah	Oregon Distributor #25, Portland	02/84	In Compliance	
Multnomah	Oregonian Publishing Company, Portland	02/84	In Compliance	
Multnomah	Union Pacific Railroad Portland	02/84	Source exempt	
Washington	Fred Meyer Store-Raleigh Hills, Portland	02/84	In Compliance	
Washington	U. S. Postal Service, West Slope Station	02/84	In Compliance	
Marion	Southern Pacific Transportation Salem	02/84	In Compliance	
Marion	Wood Lot, J. Kurka Farm, Salem	02/84	Source closed	
Coos	The Murphy Company, Myrtle Point	02/84	Variance granted	
Columbia	Chinook Ultralight Air Park, near Scappoose	02/84	Boundary approved	
Grant	Hi Country Airport, near Prairie City	02/84	Boundary approved	

CIVIL PENALTY ASSESSMENTS
DEPARTMENT OF ENVIRONMENTAL QUALITY
1984

CIVIL PENALTIES ASSESSED DURING MONTH OF JANUARY AND FEBRUARY, 1984:

<u>Name and Location of Violation</u>	<u>Case No. & Type of Violation</u>	<u>Date Issued</u>	<u>Amount</u>	<u>Status</u>
January, 1984: None				
February, 1984: None				

GB3131

JANUARY/FEBRUARY 1984
DEQ/EQC Contested Case Log

<u>ACTIONS</u>	<u>LAST MONTH</u>	<u>PRESENT</u>
Preliminary Issues	2	2
Discovery	0	2
Settlement Action	5	4
Hearing to be scheduled	7	5
Hearing scheduled	1	1
HO's Decision Due	2	2
Briefing	1	1
Inactive	4	5
 SUBTOTAL of cases before hearings officer.	 <u>22</u>	 <u>22</u>
HO's Decision Out/Option for EQC Appeal	1	0
Appealed to EQC	0	0
EQC Appeal Complete/Option for Court Review	0	0
Court Review Option Pending or Taken	0	0
Case Closed	3	1
 TOTAL Cases	 <u>26</u>	 <u>23</u>

15-AQ-NWR-81-178 15th Hearing Section case in 1981 involving Air Quality Division violation in Northwest Region jurisdiction in 1981; 178th enforcement action in the Department in 1981.

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

CONTES.B

DEQ/EQC Contested Case Log

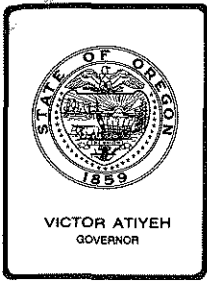
Fct/Resp Name	Hrng Rqst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
WAH CHANG	04/78	04/78		Prtys	16-P-WQ-WVR-78-2849-J NPDES Permit Modification	Current permit in force. Hearing deferred.
WAH CHANG	04/78	04/78		Prtys	03-P-WQ-WVR-78-2012-J NPDES Permit Modification	Current permit in force. Hearing deferred.
M/V TOYOTA MARU No. 10	12/10/79	12/12/79		Prtys	17-WQ-NWR-79-127 Oil Spill Civil Penalty of \$5,000	<u>Stipulated settlement to be submitted to EQC for approval.</u>
PULLEN, Arthur W. dba/Foley Lakes Mobile Home Park	07/15/81	07/15/81		Prtys	16-WQ-CR-81-60 Violation of EQC Order, Civil Penalty of \$500	<u>Community sewage facility installed. Department to review case status.</u>
SPERLING, Wendell dba/Sperling Farms	11/25/81	11/25/81	03/17/83	Hrngrs	23-AQ-FB-81-15 FB Civil Penalty of \$3,000	Decision due.
PULLEN, Arthur dba/Foley Lakes Mobile Home Park	03/16/82	03/29/82		Prtys	28-WQ-CR-82-16 Violation of EQC Order, Civil Penalty of \$4,500	See companion case above.
OLINGER, Bill Inc.	09/10/82	09/13/82	10/20-21/83 11/2-4/83 11/14-15/83	Resp	33-WQ-NWR-82-73 WQ Civil Penalty of \$1,500	<u>Post hearing argument re privilege.</u>
GIANELLA, Vermont	12/17/82	12/28/82	09/20/83	Hrngrs	41-AQ-FB-82-08 FB Civil Penalty of \$1,000	Decision due.
SCHLEGEL, George L.	12/30/82	01/03/83	01/26/84	Hrngrs	43-AQ-FB-82-05 FB Civil Penalty of \$400	Hearing deferred pending EQC settlement approval.
FAXON, Jay dba/Faxon Farms	01/03/83	01/07/83	02/09/84	Hrngrs	44-AQ-FB-82-07 FB Civil Penalty of \$1,000	Hearing deferred pending EQC settlement approval.
MARCA, Gerald	01/06/83	01/11/83	11/09/83	Resp	45-SS-SWR-82-101 SS Civil Penalty of \$500, 46-SS-SWR-82-114 Remedial Action Order.	Scheduled hearing postponed pending implementation of agreed compliance plan.
ALPHAUSBR, Glenn E.	01/28/83	02/03/83		Resp	47-SW-NWR-82-111 Solid Waste Civil Penalty of \$350	Case closed 2/13/84
HAYWORTH FARMS, INC., and HAYWORTH, John W.	01/14/83	02/28/83	04/04/84	Hrngrs	50-AQ-FB-82-09 FB Civil Penalty of \$1,000	<u>Hearing scheduled.</u>
McINNIS ENT.	06/17/83	06/21/83		Hrngrs	52-SS/SW-NWR-83-47 SS/SW Civil Penalty of \$500.	To be scheduled.
TELEDYNE WAH CHANG ALBANY	09/07/83	09/08/83		Prtys	53-AQOB-WVR-83-73 OB Civil Penalty of \$4000	To be scheduled.
CRAWFORD, Raymond, M.	09/15/83	09/16/83		Prtys	54-AQOB-NWR-83-63 OB Civil Penalty of \$2000	To be scheduled.
MID-OREGON CRUSHING	09/19/83	09/27/83		Prtys	55-AQ-CR-83-74 AQ Civil Penalty of \$4500	To be scheduled.
McINNIS ENTERPRISES, LTD., et al.	09/20/83 10/25/83	09/22/83 10/26/83		Prtys	56-WQ-NWR-83-79 WQ Civil Penalty of \$14,500, and 59-SS-NWR-83-33290P-5 SS license revocation.	<u>Discovery.</u>

January/February 1984

DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rgst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
WARRENTON, City of	8/18/83	10/05/83		Prtys	57-SW-NWR-PMT-120 SW Permit Appeal	Prtys discussing informal resolution.
CLEARWATER IND., Inc.	10/11/83	10/17/83		Prtys	58-SS-NWR-83-82 SS Civil Penalty of \$1000	<u>To be scheduled.</u>
WILLIS, DAVID T., Jr.	01/05/84	01/18/84		Prtys		Preliminary issues.
CLEARWATER IND., Inc.	01/13/84	01/18/84		Prtys		Preliminary issues Answer filed 1/13/84.

60



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 C, April 6, 1984, EQC Meeting

TAX CREDIT APPLICATIONS

Director's Recommendation

It is recommended the Commission approve the following tax credit applications.

<u>Appl. No.</u>	<u>Applicant</u>	<u>Facility</u>
T-1666	Teledyne Industries, Inc.	Automatic polymer mixing and feeding system
T-1667	Teledyne Industries, Inc.	Addition to existing waste water ammonia recovery system
T-1668	Teledyne Industries, Inc.	SO ₂ gas dechlorination system
T-1672	Reynolds Metals Co.	Recycling system for tar sludge
T-1675	Trojan Nuclear Project	Backwash solids settling system
T-1678	Roy Pierce, Jr.	Tropic Breeze wind machine
T-1680	Charles K. Benton, III	Tropic Breeze wind machine
T-1681	Nicolai Company	Carter Day bag house
T-1685	Medford Corporation	Burley Industries wet scrubbers on Boiler No. 3

Fred Hansen

CASplettstaszer/kno
229-5300
3/15/84
Attachments

Agenda Item C
April 6, 1984, EQC Meeting
Page 2

PROPOSED APRIL 1984 TOTALS

Air Quality	\$ 421,018
Water Quality	858,117
Solid/Hazardous Waste	276,586
Noise	-0-
	<hr/>
	\$1,555,721

1984 CALENDAR YEAR TOTALS

Air Quality	\$1,132,768
Water Quality	451,935
Solid/Hazardous Waste	101,435
Noise	-0-
	<hr/>
	\$1,686,138

- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing water pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468 and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 80 percent or more.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$48,982 with 80 percent or more allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1666.

Larry D. Patterson:l
WL3086
(503) 229-5374
February 13, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Teledyne Industries, Inc.
Teledyne Wah Chang Albany
1600 Old Salem Road
Albany, OR 97321

The applicant owns and operates a zirconium, hafnium, tantalum, titanium, and niobium production plant at Albany.

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

2. Description of Claimed Facility

The facility described in this application is an automatic polymer mixing and feeding system housed in a 16' x 28' building with a concrete slab floor.

Request for Preliminary Certification for Tax Credit was submitted on August 2, 1979, and approved August 13, 1979. Construction was initiated on the claimed facility September 1979, completed March 1980, and the facility was placed into operation March 1980.

Facility Cost: \$48,982 (Accountant's Certification was provided).

3. Evaluation of Application

The claimed facility automatically feeds polymers into the industrial waste water prior to entering a mechanical clarifier. The polymers enhance the removal of suspended solids. The polymer mixing and feeding equipment is housed in a 16' x 28' building. The building serves no other purpose. The quantity of suspended solids in the effluent was reduced approximately 37 percent after installation of the automatic system. The facility has resulted in no return on investment.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Teledyne Industries, Inc.
Teledyne Wah Chang Albany
1600 Old Salem Road
Albany, OR 97321

The applicant owns and operates a zirconium, hafnium, tantalum, titanium, and niobium production plant at Albany.

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

2. Description of Claimed Facility

The facility described in this application is an addition to the existing waste water ammonia recovery system consisting of an 18-inch diameter shell and tube heat exchanger, associated piping, and the supporting structure.

Request for Preliminary Certification for Tax Credit was made December 14, 1977, and approved December 20, 1977. Construction was initiated on the claimed facility February, 1978, completed March 8, 1978, and the facility was placed into operation March 8, 1978.

Facility Cost: \$23,354 (Accountant's Certification was provided).

3. Evaluation of Application

Prior to installation of the claimed facility, temperature fluctuations in the waste water ammonia recovery system caused upset conditions. These upset conditions lowered the efficiency of ammonia recovery which increased ammonia concentrations in the effluent discharged to the Willamette River. The heat exchanger greatly reduces the temperature variations and has resulted in about a 50 percent reduction of ammonia discharged to the river. Although the value of ammonia recovered annually is about \$159,000, it costs the company approximately \$2 million each year to operate the system. Therefore, there is no return on investment from this facility.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing water pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468 and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 80 percent or more.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$23,354, with 80 percent or more allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1667.

Larry D. Patterson:g
WG3213
(503) 229-5374
February 9, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Teledyne Industries, Inc.
Teledyne Wah Chang Albany
1600 Old Salem Road
Albany, OR 97321

The applicant owns and operates a zirconium, hafnium, tantalum, titanium, and niobium production plant at Albany.

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

2. Description of Claimed Facility

The facility described in this application is an SO₂ gas dechlorination system consisting of:

- a. An SO₂ unloading system;
- b. An SO₂ liquid storage tank;
- c. An SO₂ vaporizer;
- d. A vapor compressor;
- e. Electrical and plumbing equipment; and
- f. Foundation support work.

Request for Preliminary Certification for Tax Credit was made February 8, 1982, and approved March 17, 1982. Construction was initiated on the claimed facility March 18, 1982, completed July 20, 1982, and the facility was placed into operation July 20, 1982.

Facility Cost: \$156,810 (Accountant's Certification was provided).

3. Evaluation of Application

Prior to installation of the claimed facility, dechlorination was provided by a liquid sodium sulfite system. Although this system generally performed satisfactorily, it could not add sodium sulfite at a controlled rate rapidly enough to consistently dechlorinate during periods of high demand. Although too little sodium sulfite allows toxic chlorine or chloramines to be present in the industrial

effluent, too much sodium sulfite strips oxygen from the water which can also be detrimental to the biological community in the receiving stream. The new system relies on liquid SO₂ which is vaporized and mixed with the industrial waste water. The SO₂ gas mixes and reacts much faster than liquid sodium sulfite. This system is much easier to balance the SO₂ demand with the dechlorination needs. Bioassay tests have shown the new system has significantly reduced the toxicity of the effluent. There has been no return on investment from this installation. The sodium sulfite dechlorination system has been kept on hand as an emergency backup system.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing water pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468 and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 80 percent or more.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$156,810 with 80 percent or more allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1668.

Larry D. Patterson:g
WG3220
(503) 229-5374
February 13, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Reynolds Metals Co.
Troutdale Reduction
6601 West Broad Street
Richmond, VA 23261

The applicant owns and operates an aluminum plant at Troutdale.

Application was made for tax credit for a solid waste pollution control facility.

2. Description of Claimed Facility

The facility described in this application consists of a recycling system for tar sludge discharge of the carbon bake wet electrostatic precipitator. A list of major equipment follows:

Calcinated coke hopper
Hopper feed screw conveyor
Left bucket elevator
Coke storage tank
Centrifuge dewatering machine
Tar/coke mix screw conveyor
20 ton mix tank
Various other conveyors, electrical and piping

Request for Preliminary Certification for Tax Credit was made on December 19, 1980 and approved on January 21, 1981.

Construction was initiated on the claimed facility on April 1, 1981, completed on January 31, 1983, and the facility was placed into operation on January 31, 1983.

Facility Cost: \$276,586.00 (Accountant's Certification was provided).

3. Evaluation of Application

Facility was constructed for the sole purpose of recycling wet ESP sludge back into the manufacturing process as calcinated coke. Formerly

65,738 cubic feet \pm 60, 55 gal. drums/week of sludge per year was shipped to the Arlington disposal site. While not classified as a hazardous waste, the material was unacceptable for disposal in a general landfill. The process now produces 647,461 lbs./yr. of calcined coke to be reintroduced into the plant's manufacturing process. The product is competitive with raw materials shipped to the plant and is valued at \$0.07/lb. for an annual revenue of \$45,322.00.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. As required by ORS 468.165, the facility was under construction on or after January 1, 1973, and
 - (1) The substantial purpose of the facility is to utilize material that would otherwise be solid waste, by mechanical process; through the production, processing, or use of materials which have useful chemical or physical properties;
 - (2) The end product of the utilization is a usable source of power or other item of real economic value;
 - (3) The end product of the utilization, other than a usable source of power, is competitive with an end product produced in another state; and
 - (4) The Oregon law regulating solid waste imposes standards at least substantially equivalent to the federal law.
- c. In addition, the Commission finds that the facility will provide a new or different solution to a solid waste, hazardous waste, used oil problem than has been previously used, or the facility is a significant modification and improvement of similar existing facilities; and the Department has recommended the facility as the most environmentally sound method of solid waste control.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 459, and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 100 percent.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$276,586.00 with 100 percent allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1672.

R. L. Brown:b
(503) 229-5157
March 12, 1984
SB3123

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing water pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468 and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 80 percent or more.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$628,971 with 80 percent or more allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1675.

Larry D. Patterson:1
WL3121
(503) 229-5374
March 22, 1984

State of Oregon
Department of Environmental Quality,

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Trojan Nuclear Project
121 S. W. Salmon St.
Portland, OR 97204

The applicant owns and operates a nuclear fueled electrical generating facility near Rainier.

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

2. Description of Claimed Facility

The facility described in this application is a water treatment filter backwash solids settling system consisting of

1. A 70,000 gallon reinforced concrete basin
2. A wet well discharge pumping station with two 5-HP pumps
3. A 6'x 6'x 8' valve pit
4. 360' of 12" diameter pipe and 420' of 4" diameter pipe and associated valves
5. A sludge collection system and 3-HP sludge pump, and
6. Electrical control panel, flow recorders, and alarms.

Request for Preliminary Certification for Tax Credit was made February 25, 1977, and approved March 16, 1977. Construction was initiated on the claimed facility February 26, 1977, completed June 28, 1977, and the facility was placed into operation June 30, 1977.

Facility Cost: \$628,971 (Accountant's Certification was provided).

3. Evaluation of Application

Prior to installation of the claimed facility, filter backwash water from Trojan's intake water treatment system was discharged to the plant's main outfall. Thus, approximately 10,000 lbs. per year of solids were discharged to the Columbia River. The new system holds the backwash water in the 70,000 gallon basin to provide quiescent conditions for solids settling. The clarified water is then mixed in the main plant outfall and discharged to the river. The discharge of solids has been reduced to about 900 lbs. per year. The settled solids are periodically pumped from the basin to a tank truck. Since the solid material is silt removed from the Columbia River intake supply, it is disposed at the plant site. There is no return on investment from this facility.

340 heaters to 100 perimeter heaters to protect 10 acres on an average night. The return on investment was determined using the method shown in the Department's tax credit program guidance handbook. The return on investment is 35% and the percent of the cost allocable to pollution control is less than 20%.

The application was received on January 19, 1984, additional information was received on February 3, 1984, and the application was considered complete on February 3, 1984.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing air pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468, and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is less than 20%.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$13,880.00 with less than 20% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1678.

RAY POTTS:a
AA4187
(503) 229-6093
February 14, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Roy Pierce, Jr.
4456 Summit Drive
Hood River, OR 97031

The applicant owns and operates an apple orchard at 4420 Summit Drive, Hood River, Oregon.

Application was made for tax credit for an air pollution control facility.

2. Description of Claimed Facility

The facility described in this application is one Tropic Breeze wind machine used to provide frost damage protection to apple trees.

Request for Preliminary Certification for Tax Credit was made on November 18, 1983, and approved on November 22, 1983.

Construction was initiated on the claimed facility on November 23, 1983, completed on December 22, 1983, and the facility was placed into operation on December 22, 1983.

Facility Cost: \$13,880.00 (Accountant's Certification was provided).

3. Evaluation of Application

The wind machine reduces the number of oil fired orchard heaters needed to provide frost protection for fruit trees. The use of orchard heaters causes an air pollution problem in the surrounding communities due to incomplete combustion. The wind machine eliminates the use of heaters on light frost nights and reduces the number of heaters needed on heavy frost nights. A substantial purpose for installing the wind machine is to reduce air contaminant emissions and thus make the orchard a better neighbor. The emissions from farm operations are not regulated by the Department. The claimed facility was installed in 1983 and thus comes under the 1981 statute.

The factor used to establish the portion of cost allocable to pollution control is the estimated annual percent return on investment on the wind machine. The savings in cost of fuel oil for an average season is approximately \$4,850. The number of heaters is reduced from

The return on investment is determined by the method shown in the Department's tax credit program guidance handbook and is 15%. The corresponding percent of the cost allocable to pollution control is 40% or more, but less than 60%.

The application was received on February 8, 1984, additional information was received on February 22, 1984, and the application was considered complete on February 24, 1984.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1) (a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing air pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468, and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 40% or more, but less than 60%.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$13,800.00 with 40% or more, but less than 60%, allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1680.

Ray Potts:d
AD522
(503) 229-6093
March 1, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Charles K. Benton, III
2005 Tucker Road
Hood River, OR 97031

The applicant owns and operates an orchard at 2005 Tucker Road, Hood River.

Application was made for tax credit for an air pollution control facility.

2. Description of Claimed Facility

The facility described in this application is one Tropic Breeze wind machine used for frost protection of pear trees, Tower No. T84G0031.

Request for Preliminary Certification for Tax Credit was made on May 2, 1983, and approved on May 11, 1983.

Construction was initiated on the claimed facility on May 14, 1983, completed on May 18, 1983, and the facility was placed into operation on May 18, 1983.

Facility Cost: \$13,800.00 (Accountant's Certification was provided).

3. Evaluation of Application

The wind machine reduces the number of oil fired orchard heaters needed to provide frost protection for fruit trees. The use of orchard heaters causes an air pollution problem in the surrounding communities due to incomplete combustion. The wind machine eliminates the use of heaters on light frost nights and reduces the number of heaters needed on heavy frost nights. A substantial purpose for installing the wind machine is to reduce air contaminant emissions and thus make the orchard a better neighbor. The emissions from farm operations are not regulated by the Department. The claimed facility was installed in 1983 and thus comes under the 1981 statute.

The factor used to establish the portion of cost allocable to pollution control is the estimated annual percent return on investment on the wind machine. The number of heaters is reduced from 280 heaters to 100 perimeter heaters to protect 10 acres on an average night. The savings in the cost of fuel oil for an average season is \$2,109, determined from the operating data submitted by the applicant.

The cost of the bag house was \$56,492.77. The company claimed a salvage value of \$13,000 for the removed unit. It was more economical to install a new bag house than to repair the pre-existing system. Adjusting for salvage value results in a facility cost of \$43,492.77 (\$56,492.77 - \$13,000).

The primary purpose of the facility is for pollution control and there is no economic benefit to the company. Therefore, 80% or more of the adjusted facility cost is allocable to pollution control.

The application was received on February 8, 1984, and the application was considered complete on February 8, 1984.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing air pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468, and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 80% or more.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$43,492.77 with 80% or more allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1681.

D. Neff:g
AG3309
(503) 229-6480
March 14, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Nicolai Company
Springfield Division
500 N.E. Multnomah
Portland, OR 97232

The applicant owns and operates a stile and rail door manufacturing facility at Springfield.

Application was made for tax credit for an air pollution control facility.

2. Description of Claimed Facility

The facility described in this application is a Carter Day bag house on a sawdust/sander dust collection system.

Plans and specifications were reviewed and approved by Lane Regional Air Pollution Authority.

Request for Preliminary Certification for Tax Credit was made on September 6, 1983, and approved on November 23, 1983.

Construction was initiated on the claimed facility on October 1, 1983, completed on October 4, 1983, and the facility was placed into operation on October 4, 1983.

Facility Cost: \$43,492.77 (As adjusted for salvage value of the replaced unit.) (Accountant's Certification was provided).

3. Evaluation of Application

Nicolai Company installed a new 376 RF10 Carter Day bag house on 2 sawdust/sander dust collection systems. The bag house replaced an existing bag house which was experiencing frequent failures which resulted in venting excessive wood particulate emissions to the atmosphere.

The new bag house is more efficient than the original unit based on the more favorable air to cloth ratio design application. Lane Regional Air Pollution Authority indicates that the facility is in compliance with emission standards.

4. Summation

- a. Facility was constructed in accordance with the requirements of ORS 468.175, regarding preliminary certification.
- b. Facility was constructed on or after January 1, 1967, as required by ORS 468.165(1)(a).
- c. Facility is designed for and is being operated to a substantial extent for the purpose of preventing, controlling, or reducing air pollution.
- d. The facility is necessary to satisfy the intents and purposes of ORS Chapter 468, and the rules adopted under that chapter.
- e. The portion of the facility cost that is properly allocable to pollution control is 80% or more.

5. Director's Recommendation

Based upon the findings in the Summation, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$349,846 with 80% or more allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-1685.

D. Neff:g
AG3308
(503) 229-6480
March 14, 1984

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Medford Corporation
P. O. Box 550
Medford, OR 97501

The applicant owns and operates wood products manufacturing facilities at Medford.

Application was made for tax credit for an air pollution control facility.

2. Description of Claimed Facility

The facility described in this application consists of Model BSC-3 Burley Industries wet scrubbers on Boiler No. 3.

Request for Preliminary Certification for Tax Credit was made on October 8, 1979, and approved on November 7, 1979.

Construction was initiated on the claimed facility in December 1979, completed in April 1980, and the facility was placed into operation in April 1980.

Facility Cost: \$349,846.00 (Accountant's Certification was provided).

3. Evaluation of Application

The facility claimed in this application is an emission control system for the 100,000 lb/hour boiler (No. 3). It consists of 4 Burley Industries BSC-3 scrubbers operated in parallel. Prior to installation of this control system, the boiler was unable to demonstrate compliance with the 0.05 grains/standard cubic foot limit. After installation of these scrubbers the boiler has demonstrated the ability to comply with the grain loading and opacity limits. The primary purpose of this equipment is air pollution control. There is no economic benefit to the company, therefore 80% or more of the cost is allocable to pollution control.

The application was received on December 16, 1983, and the application was considered complete on March 5, 1984.



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 6, 1984, EQC Meeting

Request for Authorization to Conduct a Public Hearing on
Pollution Control Tax Credits Rules, Chapter 340, Division 16.

Background and Problem Statement

Currently, the Pollution Control Tax Credit Program only has rules to address tax credits for alternative field burning methods (OAR 340-26-030) and tax credit fees (OAR 340-11-200). The Tax Credit Program has been operated mainly through direct implementation of the statute (ORS 468.155 to 468.190), with the assistance of attorney general's opinions, as necessary, and case-by-case statutory interpretation by the EQC. The Department is proposing additional rules to assist implementation of the current statute and to provide better guidance to the Department, the Commission, and the applicant. Furthermore, amendments to the pollution control tax credit legislation in 1983, specifically authorized the EQC to adopt rules establishing methods to be used to determine the portion of facility cost properly allocable to pollution control.

The significant issues staff propose to take to hearing are as follows:

1. Purpose - Generally, the rules are intended to apply only to facilities on which construction has been completed after December 31, 1983. Only Section 340-16-030, which deals with determination of percent of certified facility cost allocable to pollution control, is applicable to facilities on which construction has been completed before or after January 1, 1984. By consolidating the methods used for determining percent allocable for facilities completed before or after January 1, 1984, the certification process will be simplified for Department staff and applicants.
2. Special Circumstances Definition - The statute and rule (ORS 468.175(1) and OAR 340-16-010(9)) specifically allow the Commission to waive the filing of preliminary certification applications for facilities constructed on or after October 3, 1979 if it finds the filing inappropriate because of special circumstances. Those special circumstances which are eligible have previously been determined on a case-by-case basis by the Commission.

In order to provide the applicant with further guidance as to what shall be considered special circumstances, a definition has been developed which incorporates some examples of circumstances already determined by the Commission to qualify or not qualify.

3. Procedures for Receiving Preliminary Tax Credit Certification (OAR 340-16-015) - Procedures for preliminary tax credit certification are presented in the statute (ORS 468.175) and have been the subject of several attorney general's opinions. These opinions have been consolidated with the statutory language in the rule. The attorney general's opinions are reflected in OAR 340-16-015(1)(b) and OAR 340-16-015(2)(a).
4. Procedures for Receiving Final Tax Credit Certification (OAR 340-16-025) - Procedures for final tax credit certification are included in two sections of the statute (ORS 468.165 and ORS 468.170). These procedures have been reorganized and consolidated in the rule. An attorney general's opinion related to withdrawing an application is also incorporated in the rule (OAR 340-16-020(1)(d)). In addition, a deadline is imposed for requesting an extension of the filing deadline and the length of the extension is limited (OAR 340-16-020(1)(c)). This addition is consistent with the intent of the statute (ORS 468.165(6)), which is necessary to prevent requests for extensions from being received long after the application deadline, and will provide guidance to the applicant as to the maximum length of the extension and when to apply for an extension.
5. Achieving Compliance with Department Requirements (OAR 340-16-025(1)) - In addition to requiring the facility to be designed to comply with DEQ statutes, rules, and standards, this rule requires the facility to actually achieve compliance. This is consistent with the statutory intent of certifying facilities which comply with DEQ statutes, rules, and standards and closes any loopholes which would allow certification without achieving compliance.
6. Tax Credits for Approved Alternative Field Burning Methods and Facilities. (OAR 340-16-025(2)(f)) - The portion of the field burning rules related to tax credits (OAR 340-26-030) has been deleted from the field burning rules and moved to the tax credit rules where it is more appropriately located. The wording of the rule has also been amended to tighten up wording and results in no major changes related to which alternative field burning methods and facilities qualify for tax credits.
7. Fees for Final Tax Credit Certification (OAR 340-16-045) - OAR 340-11-200 is replaced by this section. Changes made to the rule are generally to improve readability. One new section has been included related to returning processing fees for incomplete applications (OAR 340-16-045(2)(a)). Present practice is to hold processing fees indefinitely after additional information is requested. The new procedure would require returning the processing fee within 180 days of the Department request for additional information. This would assist the Department in retaining more accurate, updated records and assure the applicant a timely reimbursement of the filing fee.

8. Determination of Allocable Costs (OAR 340-16-030) - This section sets forth policy and procedures on how to determine the percentage of certified facility cost that is properly allocable to pollution control. The Commission must certify this percentage on the tax credit certificate issued to the applicant and it plays a significant role in determining the actual amount of tax credit received.

The statute, ORS 468.190, allows the Commission to consider five factors in establishing the percentage allocable. The proposed rule requires the factor that results in the lowest percentage allocable to be used in establishing the portion of costs to be certified.

Of the five factors that can be considered by the Commission, the annual percent return on investment is most often used. The proposed rule sets out detailed procedures on how to calculate percent return and relate it to percent allocable. The method used, a modified internal rate of return calculation, is the same as contained in the current Tax Credit Guidance Handbook; however, it has been modified to tighten up the allowable percent return. The Handbook requires a 25% or greater return on investment to be certified at the minimum percent allocable. The 25% figure is based on a five-year average of national statistics on percent return before taxes. The proposed rule utilizes annual national statistics thereby more accurately reflecting the economic conditions at the time the facility is placed in operation. For the near term, since percent return on investment statistics have dropped off dramatically from the 25% average, the proposed rules should result in reductions in certified percent allocable and actual tax credits taken.

Alternatives and Summation

The Department could continue to operate under existing rules, dealing with specific questions on a case-by-case basis using advice from the attorney general's office. This would result in additional cost to the Department for each attorney general's opinion sought and provide less advance guidance to the Department and the applicant as to how the statute will be implemented. If the Commission does not adopt rules for determining the percent allocable, as authorized by the statute, the Commission could incorporate procedures to be followed into the Tax Credit Guidance Manual. The manual, however, has only been informally reviewed and approved by the Commission.

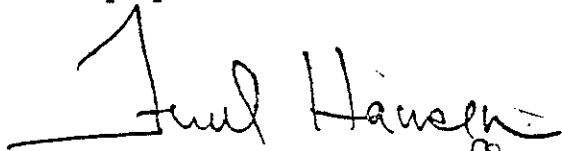
During development of these proposed rules, assistance was sought from the air and water quality, solid waste, and noise control divisions of the Department; the Association of Oregon Industries; the Oregon Environmental Council; and the Oregon Attorney General's Office. Comments were received from all Department divisions and the Association of Oregon Industries. These comments were incorporated into the proposed rules as appropriate.

Summation

1. The DEQ currently operates the Pollution Control Tax Credit Program with rules only for the Alternative Field Burning Methods Tax Credits and Tax Credit Fees.
2. New legislation was adopted in 1983 specifically giving the EQC authority to adopt rules establishing methods to be used to determine the portion of facility costs properly allocable to pollution control.
3. Adoption of the rules would meet the recognized need to provide guidance related to application and qualification for tax credit certification by the DEQ and to make minor amendments to the existing rules.
4. The proposed rules implement the statutory authority given the EQC to adopt rules to provide guidance for calculation of the percent allocable to pollution control facilities.
5. Existing rules related to tax credits presently located in other divisions of Chapter 340 (OAR 340-11-200 and 340-26-030) will be amended and incorporated into new Division 16 and deleted from Division 11 and 26.

Director's Recommendation

Based upon the summation, it is recommended that the Commission authorize public hearings to take testimony on the proposed Pollution Control Tax Credit Rules, Chapter 340, Division 16.



Fred Hansen

Attachments: I Statement of Need for Rules
 II Statement of Land Use Consistency
 III Draft Public Notice of Rules Adoption
 IV Proposed OAR Chapter 340, Division 16

M. Conley:d
MD460
229-6408
March 23, 1984

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

IN THE MATTER OF ADOPTING)
OAR CHAPTER 340,) STATEMENT OF NEED FOR RULES
DIVISION 16)

Statutory Authority:

ORS 468.150 to 468.190 gives authority for rule adoption. Specifically, ORS 468.190(3) gives the Commission authority to adopt rules establishing methods to be used to determine the portion of costs properly allocable to the prevention, control or reduction of air, water or noise pollution, or solid or hazardous waste, or to recycling or properly disposing of used oil.

Need for the Rules:

The Pollution Control Tax Credit Program is currently operated by implementing the pollution control tax credit statute and the rules on tax credit fees and tax credits for alternative field burning methods. The proposed rules are needed to carry out the statutory authority given the EQC to adopt rules and to provide better guidance to the DEQ staff, the EQC and tax credit applicants.

Principal Documents Relied Upon:

Existing state statute, ORS 468.150 to 468.190 and existing state rules OAR Chapter 340-26-030 and OAR 340-11-200.

Fiscal and Economic Impact:

Due to the narrowed definition of facilities eligible for tax credit, the elimination of tax credits for most replacement facilities and the new method for calculating the allocation of costs to pollution control, the economic effect may be that fewer facilities may be eligible for tax credit and the tax credits may be reduced. However, new tax credits are provided for facilities which treat, substantially reduce, or eliminate hazardous waste.

The overall impact of the rule would not be significant or adverse to small business.

Attachment II
Agenda Item No. D
April 6, 1984 EQC Meeting

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

IN THE MATTER OF ADOPTING)
OAR CHAPTER 340,) LAND USE CONSISTENCY
DIVISION 16)

The proposal described appears to be consistent with all statewide planning goals. Specifically, the rules comply with Goal 6 because they would provide tax credits for pollution control facilities, thereby contributing to the protection of air, water and land resource quality.

Public comment on this proposal is invited and may be submitted in the manner described in the accompanying Public Notice of Rules Adoption.

It is requested that local, state and federal agencies review the proposal and comment on possible conflicts with their programs affecting land use and with statewide planning goals within their jurisdiction. The Department of Environmental Quality intends to ask the Department of Land Conservation and Development to mediate any apparent conflicts thereby brought to its attention.

After public hearing, the Commission may adopt permanent rules identical to the proposal, adopt modified rules on the same subject matter, or decline to act. The Commission's deliberation should come on June 28, 1984 as part of the agenda of a regularly scheduled Commission meeting.

MC:d
MD460.2

April 6, 1984, EQC Meeting

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

Pollution Control Tax Credit Rules Public Hearing

Date Prepared: March 15, 1984
Hearing Date: June 1, 1984
Comments Due: June 1, 1984

**WHO IS
AFFECTED:**

Adoption of the rules will affect people applying for pollution control tax credits.

**WHAT IS
PROPOSED:**

The DEQ proposes to adopt OAR Chapter 340, Division 16 to assist the Department and Commission in implementation of the Pollution Control Tax Credit Statute (ORS 468.150 to .190) and to provide additional guidance to applicants. The only existing rules relating to pollution control tax credits address tax credits for alternative field burning methods (OAR 340-26-030) and tax credit fees (OAR 340-11-200). Portions of the Open Field Burning Rules are proposed to be amended (OAR 340-26-001) and removed (OAR 340-26-030) from the Oregon State Implementation Plan.

**WHAT ARE THE
HIGHLIGHTS:**

Adoption of the rules would consolidate procedures for application for tax credits, as are set out in various portions of the statute.

Adoption of the rules would provide notice of the agency's construction of the tax credit statute to the tax credit applicant.

Adoption of the rules will establish procedures for determination of the cost properly allocable to the prevention, control or reduction of air, water or noise pollution, solid or hazardous waste, or to recycling or properly disposing of used oil.

**HOW TO
COMMENT:**

Copies of the proposed rules can be obtained from:

Maggie Conley
Intergovernmental Coordinator
P.O. Box 1760
Portland, OR 97207
Telephone: 229-6408



P.O. Box 1760
Portland, OR 97207

8/10/82

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 1-800-452-7513, and ask for the Department of Environmental Quality.

1-800-452-4011



Contains
Recycled
Materials

Written comments should be sent to the same address by April 4, 1984. Verbal comments may be given during the public hearing scheduled as follows:

10:00 a.m.
June 1, 1984
Room 1400
522 SW Fifth Avenue
Portland, Oregon

**WHAT IS THE
NEXT STEP:**

After the public hearing, the Environmental Quality Commission may adopt rules identical to those proposed, modify the rules or decline to act. The Commission's deliberations should come on June 28, 1984 as part of the agenda of a regularly scheduled Commission meeting.

ATTACHMENTS:

Statement of Need for Rules (including Fiscal Impact)
Statement of Land Use Consistency

DEPARTMENT OF ENVIRONMENTAL QUALITY

OREGON ADMINISTRATIVE RULES FOR
POLLUTION CONTROL TAX CREDITS
CHAPTER 340, DIVISION 16

340-16-005 PURPOSE

The purpose of these rules is to prescribe procedures and criteria to be used by the Department and Commission for issuance of tax credits for pollution control facilities. These rules are to be used in connection with ORS 468.150 to 468.190 and apply only to facilities on which construction has been completed after December 31, 1983, except where otherwise noted herein.

340-16-010 DEFINITIONS

- (1) "Circumstances beyond the control of the applicant" means facts, conditions and circumstances which applicant's due care and diligence would not have avoided.

DEPARTMENT OF ENVIRONMENTAL QUALITY

- (2) "Commencement of erection, construction or installation" means the beginning of a continuous program of on-site construction, erection or modification of a facility which is completed within a reasonable time, including site clearing, grading, dredging, landfilling or similar physical change made in preparation for the facility.
- (3) "Commission" means Environmental Quality Commission.
- (4) "Department" means Department of Environmental Quality.
- (5) "Facility" means a pollution control facility.
- (6) "Filing" means the receipt of the application by the Department, the date of which is evidenced by the Department date stamp.
- (7) "Like-for-like replacement cost" means the current price of providing a new facility of the same type, size and construction materials as the original facility.
- (8) "Principal purpose" means the most important or primary purpose. Each facility may have only one principal purpose.

- (9) "Reconstruction or replacement" means the provision of a new facility with qualities and pollution control characteristics equivalent to the original facility. This does not include repairs or work done to maintain the facility in good working order.
- (10) "Sole purpose" means the exclusive purpose.
- (11) "Special circumstances" means emergencies which call for immediate erection, construction or installation of a facility, cases where applicant has relied on incorrect information provided by Department personnel as demonstrated by letters, records of conversations or similar evidence, or similar circumstances which directly resulted in applicant's failure to file a timely application for preliminary certification. Special circumstances shall not include cases where applicant was unaware of tax credit certification requirements or applied for preliminary certification in a manner other than that prescribed in 340-16-015(1).
- (12) "Substantial completion" means the completion of erection, installation, modification, or construction of all elements of the facility which are essential to perform its purpose.
- (13) "Useful life" means the number of years the claimed facility is capable of operating before replacement or disposal.

340-16-015 PROCEDURES FOR RECEIVING PRELIMINARY TAX CREDIT
CERTIFICATION

(1) Filing of Application

- (a) Any person proposing to apply for certification of a pollution control facility pursuant to ORS 468.165, before the commencement of erection, construction or installation of the facility shall file an application for preliminary certification with the Department of Environmental Quality. The application shall be made on forms provided by the Department. The preliminary certificate need not be issued prior to construction for compliance with this requirement.
- (b) If construction commences before the application is filed, the application will be rejected as incomplete due to failure to comply with ORS 465.175(1).
- (c) The Commission may waive the filing of the application if it finds the filing inappropriate because special circumstances render the filing unreasonable and if it finds such facility would otherwise qualify for tax credit certification pursuant to ORS 468.150 to 468.190.
- (d) Within 30 days of the receipt of an application the Department shall request any additional information, if any, that applicant needs to

submit in order for the application to be considered complete. After examination thereof, the Department may request corrections and revisions to the plans and specifications. The Department may also require any other information necessary to determine whether the proposed construction is in accordance with Department statutes, rules and standards.

(2) Approval of Preliminary Certification

- (a) If the Department determines that the proposed erection, construction or installation is eligible it shall issue a preliminary certificate approving the erection, construction or installation within 60 days of receipt of a completed application. It is not necessary for this certificate to include a determination of the full extent a facility is eligible for tax credit.
- (b) If within 60 days of the receipt of plans, specifications or any subsequently requested revisions or corrections to the plans and specifications or any other information required pursuant to this section, the department fails to issue a preliminary certificate of approval and the commission fails to issue an order denying certification, the preliminary certificate shall be considered to have been issued. The construction must comply with the plans, specifications and any corrections or revisions thereto, if any, previously submitted.

(c) Issuance of a preliminary tax credit certification does not guarantee final tax credit certification.

(3) Denial of Preliminary Certification

If the Department determines that the erection, construction or installation does not comply with the Department statutes, rules and standards, the Commission shall issue an order denying certification within 60 days of receipt of a completed application.

(4) Appeal

Within 20 days from the date of mailing of the order any person against whom an order is directed pursuant to section (3) of this rule may demand a hearing. The demand shall be in writing, shall state the grounds for hearing and shall be mailed to the Director of the Department. The hearing shall be conducted in accordance with the applicable provisions of ORS 183.310 to 183.550.

340-16-020 PROCEDURES FOR RECEIVING FINAL TAX CREDIT CERTIFICATION

(1) Filing of Application

(a) A written application for final tax credit certification shall be made to the Department on forms provided by the Department.

The application shall be submitted within two years of substantial completion of construction of the facility. Failure to file a timely application shall make the facility ineligible for tax credit certification. An application shall not be considered filed until all requested information is furnished by the applicant.

(b) The Commission may grant an extension of time to file an application if circumstances beyond the control of the applicant would make a timely filing unreasonable.

(c) An extension shall only be considered if applied for within two years of substantial completion of construction of the facility. An extension may be granted for no more than 90 days. Only one extension may be granted.

(d) An application may be withdrawn and resubmitted by applicant at any time within two years of substantial completion of construction of the facility.

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(e) Within 30 days of receipt of an application, the Department shall request any additional information, if any, that applicant needs to submit in order for the application to be considered complete. After examination thereof, the Department may request corrections and revisions to the plan and specifications. The Department may also require any other information necessary to determine whether the proposed construction is in accordance with Department statutes, rules and standards.

(2) Commission Action

(a) The Commission shall act on an application for certification before the 120th day after the filing of the application. The 120 day period begins to run when the application is complete. The Commission may consider and act upon an application at any of its regular or special meetings. The matter shall be conducted as an informal public informational hearing, not a contested case hearing, unless ordered otherwise by the Commission.

(b) Certification

(A) If the Commission determines that the facility is eligible, it shall certify the actual cost of the facility and the portion of the actual cost properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to

recycling or properly disposing of used oil as set forth in ORS 468.190(2). Each certificate shall bear a separate serial number for each such facility.

(B) The Commission shall certify a pollution control, solid waste, hazardous waste or used oil facility or portion thereof, for which an application has been made under ORS 468.165, if the Commission finds that the facility:

- (i) Was erected, constructed or installed in accordance with the requirements of ORS 468.165(1) and 468.175;
- (ii) Is designed for, and is being operated or will operate in accordance with the requirements of ORS 468.155; and
- (iii) Is necessary to satisfy the intents and purposes of and is in accordance with the applicable Department statutes, rules and standards.

(C) No determination of the proportion of the actual cost of the facility to be certified shall be made until receipt of the application.

(D) If one or more facilities constitute an operational unit, the commission may certify such facilities under one certificate. A certificate is effective for purposes of tax relief in accordance

with ORS 307.405, 316.097 and 317.072 if erection, construction or installation of the facility was begun before December 31, 1988.

(E) Certification of a pollution control facility qualifying under ORS 468.165(1) shall be granted for a period of 10 consecutive years which 10-year period shall begin with the tax year of the person in which the facility is certified under this section, except that if ad valorem tax relief is utilized by a corporation organized under ORS Chapter 61 or 62 the facility shall be exempt from ad valorem taxation, to the extent of the portion allocable, for a period of 20 consecutive years from the date of its first certification by the Commission.

(F) Portions of a facility qualifying under ORS 468.165(1)(c) may be certified separately under this section if ownership of the portions is in more than one person. Certification of such portions of a facility shall include certification of the actual cost of the portion of the facility to the person receiving the certification. The actual cost certified for all portions of a facility separately certified under this subsection shall not exceed the total cost of the facility that would have been certified under one certificate. The provisions of ORS 316.097(8) or 317.072(8), whichever is applicable, shall apply to any sale, exchange or other disposition of a certified portion to a facility.

(b) Rejection

If the Commission rejects an application for certification, or certifies a lesser actual cost of the facility or a lesser portion of the actual cost properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil than was claimed in the application for certification, the Commission shall cause written notice of its action, and a concise statement of the findings and reasons therefore, to be sent by registered or certified mail to the applicant within 120 days after the filing of the application. Failure of the Commission to act constitutes rejection of the application.

(3) Appeal

If the application is rejected for any reason, or if the applicant is dissatisfied with the certification of actual cost or portion of the actual cost properly allocable to prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil, the applicant may appeal from the rejection as provided in ORS 468.110. The rejection or the certification is final and conclusive on all parties unless the applicant takes an appeal therefrom as provided in ORS 468.110 before the 30th day after notice was mailed by the Commission.

340-16-025 QUALIFICATION OF FACILITY FOR TAX CREDITS

- (1) "Pollution control facility" or "facility" shall include any land, structure, building, installation, excavation, machinery, equipment or device, or alternative methods for field sanitation and straw utilization and disposal as approved by the Field Burning Advisory Committee and the Department, or any addition to, reconstruction of or improvement of, land or an existing structure, building, installation, excavation, machinery, equipment or device reasonably used, erected, constructed or installed by any person, which will achieve compliance with Department statutes and rules or Commission orders or permit conditions, where applicable, if:
- (a) The principal purpose of such use, erection, construction or installation is to comply with a requirement imposed by the department, the federal Environmental Protection Agency or regional air pollution authority to prevent, control or reduce air, water or noise pollution or solid or hazardous waste or to recycle or provide for the appropriate disposal of used oil; or
- (b) The sole purpose of such use, erection, construction or installation is to prevent, control or reduce a substantial quantity of air, water or noise pollution or solid or hazardous waste or to recycle or provide for the appropriate disposal of used oil.

- (2) Such prevention, control or reduction required by this subsection shall be accomplished by:
- (a) The disposal or elimination of or redesign to eliminate industrial waste and the use of treatment works for industrial waste as defined in ORS 468.700;
 - (b) The disposal or elimination of or redesign to eliminate air contaminants or air pollution or air contamination sources and the use of air cleaning devices as defined in ORS 468.275;
 - (c) The substantial reduction or elimination of or redesign to eliminate noise pollution or noise emission sources as defined by rule of the commission;
 - (d) The use of a resource recovery process which obtains useful material or energy resources from material that would otherwise be solid waste as defined in ORS 459.005, hazardous waste as defined in ORS 459.410, or used oil as defined in ORS 468.850;
 - (e) The treatment, substantial reduction or elimination of or redesign to treat, substantially reduce or eliminate hazardous waste as defined in ORS 459.410; or

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(f) Approved alternative field burning methods and facilities which shall be limited to:

(A) Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning;

(B) Propane flammers or mobile field sanitizers which are alternatives to open field burning and reduce air quality impacts; and

(C) Drainage tile installations which will result in a reduction of grass seed acreage under production.

(3) "Pollution control facility" or "facility" does not include:

(a) Air conditioners;

(b) Septic tanks or other facilities for human waste;

(c) Property installed, constructed or used for moving sewage to the collecting facilities of a public or quasi-public sewerage system;

(d) Any distinct portion of a solid waste, hazardous waste or used oil facility that makes an insignificant contribution to the purpose of

utilization of solid waste, hazardous waste or used oil including the following specific items:

- (A) Office buildings and furnishings;
 - (B) Parking lots and road improvements;
 - (C) Landscaping;
 - (D) External lighting;
 - (E) Company signs;
 - (F) Artwork; and
 - (G) Automobiles.
-
- (e) Facilities not directly related to the operation of the industry or enterprise seeking the tax credit;
 - (f) Replacement or reconstruction of all or a part of any facility for which a pollution control facility certificate has previously been issued under ORS 468.170, except:

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- (A) If the cost to replace or reconstruct the facility is greater than the like-for-like replacement cost of the original facility due to a requirement imposed by the department, the federal Environmental Protection Agency or a regional air pollution authority, then the facility may be eligible for tax credit certification up to an amount equal to the difference between the cost of the new facility and the like-for-like replacement cost of the original facility; or
- (B) If a facility is replaced or reconstructed before the end of its useful life then the facility may be eligible for the remainder of the tax credit certified to the original facility.
- (4) Any person may apply to the commission for certification under ORS 468.170 of a pollution control facility or portion thereof erected, constructed or installed by the person in Oregon if:
- (a) The air or water pollution control facility was erected, constructed or installed on or after January 1, 1967.
- (b) The noise pollution control facility was erected, constructed or installed on or after January 1, 1977.
- (c) The solid waste facility was under construction on or after January 1, 1973, or hazardous waste or used oil facility constructed on or after October 3, 1979, and if:

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- (A) The facility's principal or sole purpose conforms to the requirements of ORS 468.155(1);

- (B) The facility will utilize material that would otherwise be solid waste as defined in ORS 459.005, hazardous waste as defined in ORS 459.410 or used oil as defined in ORS 468.850 by burning, mechanical process or chemical process or through the production, processing including presegregation or otherwise, or use of materials for their heat content or other forms of energy of or from the material, or the use of materials which have useful chemical or physical properties and which may be used for the same or other purposes, or materials which may be used in the same kind of application as its prior use without change in identity;

- (C) The end product of the utilization is a usable source of power or other item of real economic value;

- (D) The end product of the utilization, other than a usable source of power, is competitive with an end product produced in another state; and

- (E) The Oregon law regulating solid waste imposes standards at least substantially equivalent to the federal law.

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- (d) The hazardous waste control facility was erected, constructed or installed on or after January 1, 1984 and if:
- (A) The facility's principal or sole purpose conforms to the requirements of ORS 468.155(1) and
- (B) The facility is designed to treat, substantially reduce or eliminate hazardous waste as defined in ORS 459.410.
- (e) Subsequent additions to a solid waste facility, made either to an already certified facility or to an operation which would have qualified as a facility but for the fact that it was erected, constructed or installed before January 1, 1973, which will increase the production or recovery of useful materials or energy over the amount being produced or recovered by the original facility whether or not the materials or energy produced or recovered are similar to those of the original facility.

340-16-030 DETERMINATION OF PERCENTAGE OF CERTIFIED FACILITY COST
 ALLOCABLE TO POLLUTION CONTROL

(1) Definitions

- (a) "Annual operating expenses" means the costs of operating the claimed facility including labor, utilities, property taxes, insurance, and other cash expenses, less any savings in expenses attributable to installation of the claimed facility. Depreciation and interest expenses are not included.
- (b) "Average annual cash flow" means the average annual cash flow from the claimed facility for the first five full years of operation calculated as follows:
- (A) Calculate the annual cash flow for each of the first five full years of operation by subtracting the annual operating expenses from the gross annual income for each year and
- (B) Sum the five annual cash flows and divide the total by five. Where the useful life of the claimed facility is less than five years, sum the annual cash flows for the useful life of the facility and divide by the useful life.
- (c) "Claimed facility cost" means the actual cost of the claimed facility minus the salvage value of any facilities removed from service.
- (d) "Gross annual income" means the total annual income from the claimed facility derived from sale or reuse of recovered materials or energy

or any other means prior to deduction of State and Federal income taxes.

(e) "Salvage value" means the value of a facility at the end of its useful life minus what it costs to remove it from service. Salvage value can never be less than zero.

(2) In establishing the portion of costs properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil for facilities qualifying for certification under ORS 468.170, the Commission shall consider the following factors:

(a) If applicable, the extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

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

(c) If applicable, the alternative methods, equipment and costs for achieving the same pollution control objective.

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

- (e) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.
- (3) For facilities that have received preliminary certification and on which construction has been completed before January 1, 1984, the portion of actual costs properly allocable shall be:
- (a) Eighty percent or more.
 - (b) Sixty percent or more but less than 80 percent.
 - (c) Forty percent or more but less than 60 percent.
 - (d) Twenty percent or more but less than 40 percent.
 - (e) Less than twenty percent.
- (4) For facilities on which construction has been completed after December 31, 1983, the portion of actual costs properly allocable shall be from zero to 100 percent in increments of one percent. If zero percent, the Commission shall issue an order denying certification.

- (5) In considering the factors listed in 340-16-050(2) to establish the portion of costs allocable to pollution control, the Commission will use the factor, or combination of factors, that results in the smallest portion of costs allocable.
- (6) When the estimated annual percent return on investment in the facility, 340-16-050(2)(b), is used to establish the portion of costs allocable to pollution control, the following steps will be used:
- (a) Determine the claimed facility cost, average annual cash flow and useful life of the claimed facility.
- (b) Determine the return on investment factor by dividing the claimed facility cost by the average annual cash flow.
- (c) Determine the annual percent return on investment by using Table 1. At the top of Table 1, find the number equal to the useful life of the claimed facility. In the column under this useful life number, find the number closest to the return on investment factor. Follow this row to the left until reaching the first column. The number in the first column is the annual percent return on investment for the claimed facility. For a useful life greater than 30 years, or percent return on investment greater than 25 percent, Table 1 can be extended by utilizing the following equation:

$$I_R = \frac{1-(1+i)^{-n}}{i}$$

Where: I_R is the return on investment factor.
 i is the annual percent return on investment.
 n is the useful life of the claimed facility.

- (d) Determine the reference annual percent return on investment from Table 2. Select the reference percent return from Table 2 that corresponds with the year construction was completed on the claimed facility. For years not shown in Table 2, calculate the reference percent return for the year of interest from the most current Quarterly Financial Report For Manufacturing, Mining, And Trade Corporations published by the U.S. Department of Commerce, Bureau of the Census, as follows:
- (A) From the table entitled "Rates of Return, All Manufacturing Corporations" determine the annual rate of profit or stockholder's equity before taxes for the four quarters closest to the year of interest.
- (B) Sum the four quarters of annual rate of profit or stockholder's equity before taxes and divide the total by four. The result is the reference percent return for the year of interest.
- (e) Determine the portion of actual costs properly allocable to pollution control from the following equation:

$$P_A = \left[\frac{R_R - R_A}{R_R} \right] \times 100\%$$

Where: P_A is the portion of actual costs properly allocable to pollution control in percent, rounded off to the nearest whole number.

R_A is the annual percent return on investment from Table 1.

R_R is the reference annual percent return on investment from Table 2.

If R_A is greater than or equal to R_R , then the portion of actual costs properly allocable to pollution control shall be zero percent.

VTXCR1A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L60

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

X R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	1	2	3	4	5	6	7	8	9	10
0.00	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000
0.25	0.998	1.993	2.985	3.975	4.963	5.948	6.931	7.911	8.889	9.864
0.50	0.995	1.985	2.970	3.950	4.926	5.896	6.862	7.823	8.779	9.730
0.75	0.993	1.978	2.956	3.926	4.889	5.846	6.795	7.737	8.672	9.600
1.00	0.990	1.970	2.941	3.902	4.853	5.795	6.728	7.652	8.566	9.471
1.25	0.988	1.963	2.927	3.878	4.818	5.746	6.663	7.568	8.462	9.346
1.50	0.985	1.956	2.912	3.854	4.783	5.697	6.598	7.486	8.361	9.222
1.75	0.983	1.949	2.898	3.831	4.748	5.649	6.535	7.405	8.260	9.101
2.00	0.980	1.942	2.884	3.808	4.713	5.601	6.472	7.325	8.162	8.983
2.25	0.978	1.934	2.870	3.785	4.679	5.554	6.410	7.247	8.066	8.866
2.50	0.976	1.927	2.856	3.762	4.646	5.508	6.349	7.170	7.971	8.752
2.75	0.973	1.920	2.842	3.739	4.613	5.462	6.289	7.094	7.878	8.640
3.00	0.971	1.913	2.829	3.717	4.580	5.417	6.230	7.020	7.786	8.530
3.25	0.969	1.907	2.815	3.695	4.547	5.373	6.172	6.946	7.696	8.422
3.50	0.966	1.900	2.802	3.673	4.515	5.329	6.115	6.874	7.608	8.317
3.75	0.964	1.893	2.788	3.651	4.483	5.285	6.058	6.803	7.521	8.213
4.00	0.962	1.886	2.775	3.630	4.452	5.242	6.002	6.733	7.435	8.111
4.25	0.959	1.879	2.762	3.609	4.421	5.200	5.947	6.664	7.351	8.011
4.50	0.957	1.873	2.749	3.588	4.390	5.158	5.893	6.596	7.269	7.913
4.75	0.955	1.866	2.736	3.567	4.360	5.117	5.839	6.529	7.188	7.816
5.00	0.952	1.859	2.723	3.546	4.329	5.076	5.786	6.463	7.108	7.722
5.25	0.950	1.853	2.711	3.525	4.300	5.035	5.734	6.398	7.029	7.629
5.50	0.948	1.846	2.698	3.505	4.270	4.996	5.683	6.335	6.952	7.538
5.75	0.946	1.840	2.685	3.485	4.241	4.956	5.632	6.272	6.876	7.448

16-24(a)

VTXCR2A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

X R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	11	12	13	14	15	16	17	18	19	20
0.00	11.000	12.000	13.000	14.000	15.000	16.000	17.000	18.000	19.000	20.000
0.25	10.837	11.807	12.775	13.741	14.704	15.665	16.623	17.580	18.533	19.484
0.50	10.677	11.619	12.556	13.489	14.417	15.340	16.259	17.173	18.082	18.987
0.75	10.521	11.435	12.342	13.243	14.137	15.024	15.905	16.779	17.647	18.508
1.00	10.368	11.255	12.134	13.004	13.865	14.718	15.562	16.398	17.226	18.046
1.25	10.218	11.079	11.930	12.771	13.601	14.420	15.230	16.030	16.819	17.599
1.50	10.071	10.908	11.732	12.543	13.343	14.131	14.908	15.673	16.426	17.169
1.75	9.927	10.740	11.538	12.322	13.093	13.850	14.595	15.327	16.046	16.753
2.00	9.787	10.575	11.348	12.106	12.849	13.578	14.292	14.992	15.678	16.351
2.25	9.649	10.415	11.164	11.896	12.612	13.313	13.998	14.668	15.323	15.964
2.50	9.514	10.258	10.983	11.691	12.381	13.055	13.712	14.353	14.979	15.589
2.75	9.382	10.104	10.807	11.491	12.157	12.805	13.435	14.049	14.646	15.227
3.00	9.253	9.954	10.635	11.296	11.938	12.561	13.166	13.754	14.324	14.877
3.25	9.126	9.807	10.467	11.106	11.725	12.324	12.905	13.467	14.012	14.539
3.50	9.002	9.663	10.303	10.921	11.517	12.094	12.651	13.190	13.710	14.212
3.75	8.880	9.523	10.142	10.740	11.315	11.870	12.405	12.920	13.417	13.896
4.00	8.760	9.385	9.986	10.563	11.118	11.652	12.166	12.659	13.134	13.590
4.25	8.644	9.250	9.833	10.391	10.927	11.440	11.933	12.406	12.859	13.294
4.50	8.529	9.119	9.683	10.223	10.740	11.234	11.707	12.160	12.593	13.008
4.75	8.417	8.990	9.537	10.059	10.557	11.033	11.488	11.921	12.335	12.731
5.00	8.306	8.863	9.394	9.899	10.380	10.838	11.274	11.690	12.085	12.462
5.25	8.198	8.740	9.254	9.742	10.206	10.647	11.066	11.465	11.843	12.202
5.50	8.093	8.619	9.117	9.590	10.038	10.462	10.865	11.246	11.608	11.950
5.75	7.989	8.500	8.983	9.441	9.873	10.282	10.668	11.034	11.379	11.706

16-24(b)

VTXCR3A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	21	22	23	24	25	26	27	28	29	30
0.00	21.000	22.000	23.000	24.000	25.000	26.000	27.000	28.000	29.000	30.000
0.25	20.433	21.380	22.324	23.266	24.205	25.143	26.077	27.010	27.940	28.868
0.50	19.888	20.784	21.676	22.563	23.446	24.324	25.198	26.068	26.933	27.794
0.75	19.363	20.211	21.053	21.889	22.719	23.542	24.359	25.171	25.976	26.775
1.00	18.857	19.660	20.456	21.243	22.023	22.795	23.560	24.316	25.066	25.808
1.25	18.370	19.131	19.882	20.624	21.357	22.081	22.796	23.503	24.200	24.889
1.50	17.900	18.621	19.331	20.030	20.720	21.399	22.068	22.727	23.376	24.016
1.75	17.448	18.130	18.801	19.461	20.109	20.746	21.372	21.987	22.592	23.186
2.00	17.011	17.658	18.292	18.914	19.523	20.121	20.707	21.281	21.844	22.396
2.25	16.590	17.203	17.803	18.389	18.962	19.523	20.072	20.608	21.132	21.645
2.50	16.185	16.765	17.332	17.885	18.424	18.951	19.464	19.965	20.454	20.930
2.75	15.793	16.343	16.879	17.401	17.908	18.402	18.883	19.351	19.806	20.249
3.00	15.415	15.937	16.444	16.936	17.413	17.877	18.327	18.764	19.188	19.600
3.25	15.050	15.545	16.024	16.488	16.938	17.373	17.795	18.203	18.599	18.982
3.50	14.698	15.167	15.620	16.058	16.482	16.890	17.285	17.667	18.036	18.392
3.75	14.358	14.803	15.232	15.645	16.043	16.427	16.797	17.154	17.498	17.829
4.00	14.029	14.451	14.857	15.247	15.622	15.983	16.330	16.663	16.984	17.292
4.25	13.712	14.112	14.496	14.864	15.217	15.556	15.881	16.193	16.492	16.779
4.50	13.405	13.784	14.148	14.495	14.828	15.147	15.451	15.743	16.022	16.289
4.75	13.108	13.468	13.812	14.141	14.454	14.753	15.039	15.312	15.572	15.820
5.00	12.821	13.163	13.489	13.799	14.094	14.375	14.643	14.893	15.141	15.372
5.25	12.544	12.868	13.176	13.469	13.747	14.012	14.263	14.502	14.728	14.944
5.50	12.275	12.583	12.875	13.152	13.414	13.662	13.898	14.121	14.333	14.534
5.75	12.015	12.308	12.584	12.846	13.093	13.326	13.547	13.756	13.954	14.141

16-24(c)

VTXCR4A
 01/06/84
 PRINT B1-L45
 FILE SIZE 91-L60

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	1	2	3	4	5	6	7	8	9	10
6.00	0.943	1.833	2.673	3.465	4.212	4.917	5.582	6.210	6.802	7.360
6.25	0.941	1.827	2.661	3.445	4.184	4.879	5.533	6.149	6.728	7.274
6.50	0.939	1.821	2.648	3.426	4.156	4.841	5.485	6.089	6.656	7.189
6.75	0.937	1.814	2.636	3.406	4.128	4.804	5.437	6.030	6.585	7.105
7.00	0.935	1.803	2.624	3.387	4.100	4.767	5.389	5.971	6.515	7.024
7.25	0.932	1.802	2.612	3.368	4.073	4.730	5.343	5.914	6.447	6.943
7.50	0.930	1.796	2.601	3.349	4.046	4.694	5.297	5.857	6.379	6.864
7.75	0.928	1.789	2.589	3.331	4.019	4.658	5.251	5.802	6.312	6.786
8.00	0.926	1.783	2.577	3.312	3.993	4.623	5.206	5.747	6.247	6.710
8.25	0.924	1.777	2.566	3.294	3.967	4.588	5.162	5.693	6.182	6.635
8.50	0.922	1.771	2.554	3.276	3.941	4.554	5.119	5.639	6.119	6.561
8.75	0.920	1.765	2.543	3.258	3.915	4.520	5.075	5.587	6.057	6.489
9.00	0.917	1.759	2.531	3.240	3.890	4.486	5.033	5.535	5.995	6.418
9.25	0.915	1.753	2.520	3.222	3.865	4.453	4.991	5.484	5.935	6.348
9.50	0.913	1.747	2.509	3.204	3.840	4.420	4.950	5.433	5.875	6.279
9.75	0.911	1.741	2.498	3.187	3.815	4.387	4.909	5.384	5.817	6.211
10.00	0.909	1.736	2.487	3.170	3.791	4.355	4.868	5.335	5.759	6.145
10.25	0.907	1.730	2.476	3.153	3.767	4.324	4.829	5.287	5.702	6.079
10.50	0.905	1.724	2.465	3.136	3.743	4.292	4.789	5.239	5.646	6.015
10.75	0.903	1.718	2.454	3.119	3.719	4.261	4.751	5.192	5.591	5.951
11.00	0.901	1.713	2.444	3.102	3.696	4.231	4.712	5.146	5.537	5.889
11.25	0.899	1.707	2.433	3.086	3.673	4.200	4.674	5.101	5.484	5.828
11.50	0.897	1.701	2.423	3.070	3.650	4.170	4.637	5.056	5.431	5.768
11.75	0.895	1.696	2.412	3.053	3.627	4.141	4.600	5.011	5.379	5.709

16-24(d)

VTXCR5A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

%	EXPECTED USEFUL LIFE IN YEARS									
	R.O.I.	11	12	13	14	15	16	17	18	19	20
6.00	7.887	8.384	8.853	9.295	9.712	10.106	10.477	10.828	11.158	11.470
6.25	7.787	8.270	8.725	9.153	9.556	9.935	10.291	10.627	10.943	11.241
6.50	7.689	8.159	8.600	9.014	9.403	9.768	10.111	10.432	10.735	11.019
6.75	7.593	8.050	8.477	8.878	9.253	9.605	9.935	10.243	10.532	10.803
7.00	7.499	7.943	8.358	8.745	9.108	9.447	9.763	10.059	10.336	10.594
7.25	7.406	7.838	8.240	8.616	8.966	9.292	9.596	9.880	10.145	10.391
7.50	7.315	7.735	8.126	8.489	8.827	9.142	9.434	9.706	9.959	10.194
7.75	7.226	7.635	8.014	8.365	8.692	8.995	9.276	9.537	9.779	10.004
8.00	7.139	7.536	7.904	8.244	8.559	8.851	9.122	9.372	9.604	9.818
8.25	7.053	7.439	7.796	8.126	8.430	8.712	8.971	9.212	9.433	9.638
8.50	6.969	7.345	7.691	8.010	8.304	8.575	8.825	9.055	9.268	9.463
8.75	6.886	7.252	7.588	7.897	8.181	8.442	8.683	8.904	9.107	9.294
9.00	6.805	7.161	7.487	7.786	8.061	8.313	8.544	8.756	8.950	9.129
9.25	6.726	7.071	7.388	7.678	7.943	8.186	8.408	8.612	8.798	8.968
9.50	6.647	6.984	7.291	7.572	7.828	8.062	8.276	8.471	8.650	8.812
9.75	6.570	6.898	7.196	7.468	7.716	7.942	8.147	8.335	8.505	8.661
10.00	6.495	6.814	7.103	7.367	7.606	7.824	8.022	8.201	8.365	8.514
10.25	6.421	6.731	7.012	7.267	7.499	7.709	7.899	8.072	8.228	8.370
10.50	6.348	6.650	6.923	7.170	7.394	7.596	7.779	7.945	8.095	8.231
10.75	6.277	6.570	6.836	7.075	7.291	7.486	7.663	7.822	7.966	8.095
11.00	6.207	6.492	6.750	6.982	7.191	7.379	7.549	7.702	7.839	7.963
11.25	6.138	6.416	6.666	6.891	7.093	7.274	7.438	7.584	7.716	7.835
11.50	6.070	6.341	6.583	6.801	6.997	7.172	7.329	7.470	7.596	7.710
11.75	6.003	6.267	6.503	6.714	6.903	7.072	7.223	7.358	7.480	7.588

VTXCR6A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

=====										
EXPECTED USEFUL LIFE IN YEARS										
% R.O.I.	21	22	23	24	25	26	27	28	29	30
6.00	11.764	12.042	12.303	12.550	12.783	13.003	13.211	13.406	13.591	13.765
6.25	11.521	11.784	12.032	12.266	12.485	12.692	12.887	13.070	13.242	13.404
6.50	11.285	11.535	11.770	11.991	12.198	12.392	12.575	12.746	12.907	13.059
6.75	11.057	11.294	11.517	11.725	11.921	12.104	12.275	12.436	12.586	12.727
7.00	10.836	11.061	11.272	11.469	11.654	11.826	11.987	12.137	12.278	12.409
7.25	10.621	10.836	11.036	11.222	11.396	11.558	11.709	11.850	11.981	12.104
7.50	10.413	10.617	10.807	10.983	11.147	11.299	11.441	11.573	11.696	11.810
7.75	10.212	10.406	10.585	10.752	10.907	11.050	11.184	11.307	11.422	11.529
8.00	10.017	10.201	10.371	10.529	10.675	10.810	10.935	11.051	11.158	11.258
8.25	9.827	10.002	10.164	10.313	10.451	10.578	10.696	10.804	10.905	10.997
8.50	9.644	9.810	9.963	10.104	10.234	10.354	10.465	10.566	10.660	10.747
8.75	9.465	9.623	9.769	9.902	10.025	10.138	10.242	10.337	10.425	10.506
9.00	9.292	9.442	9.580	9.707	9.823	9.929	10.027	10.116	10.198	10.274
9.25	9.124	9.267	9.398	9.517	9.627	9.727	9.819	9.903	9.980	10.050
9.50	8.961	9.097	9.221	9.334	9.438	9.532	9.618	9.697	9.769	9.835
9.75	8.803	8.932	9.049	9.157	9.254	9.343	9.425	9.498	9.566	9.627
10.00	8.649	8.772	8.883	8.985	9.077	9.161	9.237	9.307	9.370	9.427
10.25	8.499	8.616	8.722	8.818	8.905	8.984	9.056	9.121	9.180	9.234
10.50	8.354	8.465	8.566	8.657	8.739	8.814	8.881	8.942	8.997	9.047
10.75	8.212	8.318	8.414	8.500	8.578	8.648	8.712	8.769	8.821	8.868
11.00	8.075	8.176	8.266	8.348	8.422	8.488	8.548	8.602	8.650	8.694
11.25	7.941	8.037	8.123	8.201	8.270	8.333	8.389	8.440	8.485	8.526
11.50	7.811	7.903	7.984	8.058	8.124	8.183	8.236	8.283	8.326	8.364
11.75	7.685	7.772	7.850	7.919	7.981	8.037	8.087	8.131	8.171	8.207
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16-24(F)

VTXCR7A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L60

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	1	2	3	4	5	6	7	8	9	10
12.00	0.893	1.690	2.402	3.037	3.605	4.111	4.564	4.968	5.328	5.650
12.25	0.891	1.685	2.392	3.021	3.583	4.082	4.528	4.925	5.278	5.593
12.50	0.889	1.679	2.381	3.006	3.561	4.054	4.492	4.882	5.228	5.536
12.75	0.887	1.674	2.371	2.990	3.539	4.026	4.457	4.840	5.180	5.481
13.00	0.885	1.668	2.361	2.974	3.517	3.998	4.423	4.799	5.132	5.426
13.25	0.883	1.663	2.351	2.959	3.496	3.970	4.388	4.758	5.084	5.372
13.50	0.881	1.657	2.341	2.944	3.475	3.943	4.355	4.718	5.038	5.320
13.75	0.879	1.652	2.331	2.929	3.454	3.915	4.321	4.678	4.992	5.267
14.00	0.877	1.647	2.322	2.914	3.433	3.889	4.288	4.639	4.946	5.216
14.25	0.875	1.641	2.312	2.899	3.413	3.862	4.256	4.600	4.902	5.166
14.50	0.873	1.636	2.302	2.884	3.392	3.836	4.224	4.562	4.858	5.116
14.75	0.871	1.631	2.293	2.869	3.372	3.810	4.192	4.524	4.814	5.067
15.00	0.870	1.626	2.283	2.855	3.352	3.784	4.160	4.487	4.772	5.019
15.25	0.868	1.621	2.274	2.841	3.332	3.759	4.129	4.451	4.729	4.971
15.50	0.866	1.615	2.264	2.826	3.313	3.734	4.099	4.415	4.688	4.925
15.75	0.864	1.610	2.255	2.812	3.293	3.709	4.068	4.379	4.647	4.879
16.00	0.862	1.605	2.246	2.798	3.274	3.685	4.039	4.344	4.607	4.833
16.25	0.860	1.600	2.237	2.784	3.255	3.660	4.009	4.309	4.567	4.789
16.50	0.858	1.595	2.228	2.770	3.236	3.636	3.980	4.274	4.527	4.745
16.75	0.857	1.590	2.219	2.757	3.218	3.613	3.951	4.241	4.489	4.701
17.00	0.855	1.585	2.210	2.743	3.199	3.589	3.922	4.207	4.451	4.659
17.25	0.853	1.580	2.201	2.730	3.181	3.566	3.894	4.174	4.413	4.617
17.50	0.851	1.575	2.192	2.716	3.163	3.543	3.866	4.142	4.376	4.575
17.75	0.849	1.570	2.183	2.703	3.145	3.520	3.839	4.109	4.339	4.534

16-24(8)

VTXCR8A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

%	EXPECTED USEFUL LIFE IN YEARS									
	R.O.I.	11	12	13	14	15	16	17	18	19	20
12.00	5.938	6.194	6.424	6.628	6.811	6.974	7.120	7.250	7.366	7.469
12.25	5.873	6.123	6.346	6.544	6.721	6.878	7.019	7.143	7.255	7.354
12.50	5.810	6.053	6.270	6.462	6.633	6.785	6.920	7.040	7.147	7.241
12.75	5.748	5.985	6.195	6.381	6.547	6.693	6.823	6.939	7.041	7.132
13.00	5.687	5.918	6.122	6.302	6.462	6.604	6.729	6.840	6.938	7.025
13.25	5.627	5.852	6.050	6.225	6.380	6.516	6.637	6.743	6.837	6.921
13.50	5.568	5.787	5.979	6.149	6.299	6.431	6.547	6.649	6.739	6.819
13.75	5.510	5.723	5.910	6.075	6.220	6.347	6.459	6.557	6.644	6.720
14.00	5.453	5.660	5.842	6.002	6.142	6.265	6.373	6.467	6.550	6.623
14.25	5.397	5.599	5.776	5.931	6.066	6.185	6.289	6.380	6.459	6.529
14.50	5.341	5.538	5.710	5.861	5.992	6.106	6.206	6.294	6.370	6.437
14.75	5.287	5.479	5.646	5.792	5.919	6.029	6.126	6.210	6.283	6.347
15.00	5.234	5.421	5.583	5.724	5.847	5.954	6.047	6.128	6.198	6.259
15.25	5.181	5.363	5.521	5.658	5.777	5.881	5.970	6.048	6.115	6.174
15.50	5.130	5.307	5.461	5.594	5.709	5.803	5.895	5.969	6.034	6.090
15.75	5.079	5.252	5.401	5.530	5.641	5.738	5.821	5.893	5.955	6.009
16.00	5.029	5.197	5.342	5.468	5.575	5.668	5.749	5.818	5.877	5.929
16.25	4.979	5.144	5.285	5.406	5.511	5.601	5.678	5.745	5.802	5.851
16.50	4.931	5.091	5.228	5.346	5.447	5.534	5.609	5.673	5.728	5.775
16.75	4.883	5.039	5.173	5.287	5.385	5.469	5.541	5.603	5.655	5.700
17.00	4.836	4.988	5.118	5.229	5.324	5.405	5.475	5.534	5.584	5.628
17.25	4.790	4.938	5.065	5.172	5.264	5.343	5.410	5.467	5.515	5.557
17.50	4.745	4.889	5.012	5.117	5.206	5.281	5.346	5.401	5.447	5.487
17.75	4.700	4.841	4.960	5.062	5.148	5.221	5.283	5.336	5.381	5.419

16-24(h)

VTXCR9A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

=====

EXPECTED USEFUL LIFE IN YEARS

%	EXPECTED USEFUL LIFE IN YEARS									
	R.O.I.	21	22	23	24	25	26	27	28	29	30
12.00	7.562	7.645	7.718	7.784	7.843	7.896	7.943	7.984	8.022	8.055
12.25	7.442	7.521	7.591	7.653	7.709	7.759	7.803	7.842	7.877	7.908
12.50	7.326	7.401	7.467	7.526	7.579	7.626	7.667	7.704	7.737	7.766
12.75	7.212	7.283	7.347	7.403	7.453	7.497	7.536	7.571	7.602	7.629
13.00	7.102	7.170	7.230	7.283	7.330	7.372	7.409	7.441	7.470	7.496
13.25	6.994	7.059	7.116	7.166	7.211	7.250	7.285	7.316	7.343	7.367
13.50	6.889	6.951	7.005	7.053	7.095	7.132	7.165	7.194	7.219	7.242
13.75	6.787	6.845	6.897	6.942	6.982	7.017	7.048	7.075	7.099	7.120
14.00	6.687	6.743	6.792	6.835	6.873	6.906	6.935	6.961	6.983	7.003
14.25	6.590	6.643	6.690	6.731	6.766	6.798	6.825	6.849	6.870	6.889
14.50	6.495	6.546	6.590	6.629	6.663	6.693	6.718	6.741	6.761	6.778
14.75	6.403	6.451	6.493	6.530	6.562	6.590	6.615	6.636	6.654	6.670
15.00	6.312	6.359	6.399	6.434	6.464	6.491	6.514	6.534	6.551	6.566
15.25	6.225	6.269	6.307	6.340	6.369	6.394	6.415	6.434	6.450	6.465
15.50	6.139	6.181	6.217	6.249	6.276	6.299	6.320	6.337	6.353	6.366
15.75	6.055	6.095	6.130	6.159	6.185	6.208	6.227	6.243	6.258	6.270
16.00	5.973	6.011	6.044	6.073	6.097	6.118	6.136	6.152	6.166	6.177
16.25	5.893	5.930	5.961	5.988	6.011	6.031	6.048	6.063	6.076	6.087
16.50	5.815	5.850	5.880	5.905	5.927	5.946	5.962	5.976	5.988	5.999
16.75	5.739	5.772	5.801	5.825	5.846	5.864	5.879	5.892	5.903	5.913
17.00	5.665	5.696	5.723	5.746	5.766	5.783	5.798	5.810	5.820	5.829
17.25	5.592	5.622	5.648	5.670	5.689	5.705	5.718	5.730	5.740	5.748
17.50	5.521	5.550	5.574	5.595	5.613	5.628	5.641	5.652	5.661	5.669
17.75	5.452	5.479	5.502	5.522	5.539	5.553	5.565	5.576	5.584	5.592

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16-24(1)

VTXCR10A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L60

TABLE 1

RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	1	2	3	4	5	6	7	8	9	10
18.00	0.847	1.566	2.174	2.690	3.127	3.498	3.812	4.078	4.303	4.494
18.25	0.846	1.561	2.166	2.677	3.110	3.475	3.785	4.046	4.267	4.454
18.50	0.844	1.556	2.157	2.664	3.092	3.453	3.758	4.015	4.232	4.415
18.75	0.842	1.551	2.148	2.651	3.075	3.431	3.732	3.985	4.198	4.377
19.00	0.840	1.547	2.140	2.639	3.058	3.410	3.706	3.954	4.163	4.339
19.25	0.839	1.542	2.131	2.626	3.041	3.388	3.680	3.925	4.130	4.302
19.50	0.837	1.537	2.123	2.613	3.024	3.367	3.655	3.895	4.096	4.265
19.75	0.835	1.532	2.115	2.601	3.007	3.346	3.629	3.866	4.063	4.228
20.00	0.833	1.528	2.106	2.589	2.991	3.326	3.605	3.837	4.031	4.192
20.25	0.832	1.523	2.098	2.577	2.974	3.305	3.580	3.809	3.999	4.157
20.50	0.830	1.519	2.090	2.564	2.958	3.285	3.556	3.781	3.967	4.122
20.75	0.828	1.514	2.082	2.552	2.942	3.265	3.532	3.753	3.936	4.088
21.00	0.826	1.509	2.074	2.540	2.926	3.245	3.508	3.726	3.905	4.054
21.25	0.825	1.505	2.066	2.529	2.910	3.225	3.484	3.699	3.875	4.021
21.50	0.823	1.500	2.058	2.517	2.895	3.205	3.461	3.672	3.845	3.988
21.75	0.821	1.496	2.050	2.505	2.879	3.186	3.438	3.645	3.815	3.955
22.00	0.820	1.492	2.042	2.494	2.864	3.167	3.416	3.619	3.786	3.923
22.25	0.818	1.487	2.034	2.482	2.848	3.148	3.393	3.593	3.757	3.892
22.50	0.816	1.483	2.027	2.471	2.833	3.129	3.371	3.568	3.729	3.860
22.75	0.815	1.478	2.019	2.459	2.818	3.111	3.349	3.543	3.701	3.830
23.00	0.813	1.474	2.011	2.448	2.803	3.092	3.327	3.518	3.673	3.799
23.25	0.811	1.470	2.004	2.437	2.789	3.074	3.306	3.493	3.646	3.769
23.50	0.810	1.465	1.996	2.426	2.774	3.056	3.284	3.469	3.619	3.740
23.75	0.808	1.461	1.989	2.415	2.760	3.038	3.263	3.445	3.592	3.711

16-24(J)

VTXCR11A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

%	EXPECTED USEFUL LIFE IN YEARS									
	R.O.I.	11	12	13	14	15	16	17	18	19	20
18.00	4.656	4.793	4.910	5.008	5.092	5.162	5.222	5.273	5.316	5.353
18.25	4.613	4.746	4.860	4.955	5.036	5.105	5.162	5.211	5.253	5.288
18.50	4.570	4.700	4.810	4.903	4.982	5.048	5.104	5.151	5.191	5.224
18.75	4.528	4.655	4.762	4.852	4.928	4.992	5.046	5.091	5.130	5.162
19.00	4.486	4.611	4.715	4.802	4.876	4.938	4.990	5.033	5.070	5.101
19.25	4.446	4.567	4.668	4.753	4.824	4.884	4.934	4.976	5.012	5.041
19.50	4.406	4.523	4.622	4.705	4.774	4.832	4.880	4.921	4.954	4.983
19.75	4.366	4.481	4.577	4.657	4.724	4.780	4.827	4.866	4.898	4.926
20.00	4.327	4.439	4.533	4.611	4.675	4.730	4.775	4.812	4.843	4.870
20.25	4.289	4.398	4.489	4.565	4.628	4.680	4.723	4.760	4.790	4.815
20.50	4.251	4.358	4.446	4.520	4.581	4.631	4.673	4.708	4.737	4.761
20.75	4.214	4.318	4.404	4.475	4.534	4.583	4.624	4.657	4.685	4.708
21.00	4.177	4.278	4.362	4.432	4.489	4.536	4.576	4.608	4.635	4.657
21.25	4.141	4.240	4.321	4.389	4.444	4.490	4.528	4.559	4.585	4.606
21.50	4.105	4.202	4.281	4.347	4.401	4.445	4.481	4.511	4.536	4.557
21.75	4.070	4.164	4.242	4.305	4.358	4.400	4.436	4.465	4.488	4.508
22.00	4.035	4.127	4.203	4.265	4.315	4.357	4.391	4.419	4.442	4.460
22.25	4.001	4.091	4.164	4.224	4.274	4.314	4.347	4.374	4.396	4.414
22.50	3.968	4.055	4.127	4.185	4.233	4.272	4.303	4.329	4.350	4.368
22.75	3.935	4.020	4.090	4.146	4.193	4.230	4.261	4.286	4.306	4.323
23.00	3.902	3.985	4.053	4.108	4.153	4.189	4.219	4.243	4.263	4.279
23.25	3.870	3.951	4.017	4.071	4.114	4.149	4.178	4.201	4.220	4.235
23.50	3.838	3.917	3.982	4.034	4.076	4.110	4.138	4.160	4.178	4.193
23.75	3.807	3.884	3.947	3.997	4.038	4.071	4.098	4.120	4.137	4.151

16-24(k)

VTXCR12A
 01/06/84
 PRINT B1-L45
 FILE SIZE B1-L126

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

%	EXPECTED USEFUL LIFE IN YEARS									
	R.O.I.	21	22	23	24	25	26	27	28	29	30
18.00	5.384	5.410	5.432	5.451	5.467	5.480	5.492	5.502	5.510	5.517
18.25	5.317	5.342	5.363	5.381	5.397	5.409	5.420	5.429	5.437	5.444
18.50	5.252	5.276	5.296	5.313	5.328	5.340	5.350	5.359	5.366	5.372
18.75	5.189	5.212	5.231	5.247	5.261	5.272	5.282	5.290	5.297	5.303
19.00	5.127	5.149	5.167	5.182	5.195	5.206	5.215	5.223	5.229	5.235
19.25	5.066	5.087	5.104	5.119	5.131	5.141	5.150	5.157	5.163	5.168
19.50	5.007	5.026	5.043	5.057	5.069	5.078	5.086	5.093	5.099	5.104
19.75	4.948	4.967	4.983	4.996	5.007	5.017	5.024	5.031	5.036	5.041
20.00	4.891	4.909	4.925	4.937	4.948	4.956	4.964	4.970	4.975	4.979
20.25	4.836	4.853	4.867	4.879	4.889	4.897	4.904	4.910	4.915	4.919
20.50	4.781	4.797	4.811	4.823	4.832	4.840	4.846	4.852	4.856	4.860
20.75	4.727	4.743	4.756	4.767	4.776	4.783	4.790	4.795	4.799	4.802
21.00	4.675	4.690	4.703	4.713	4.721	4.728	4.734	4.739	4.743	4.746
21.25	4.624	4.638	4.650	4.660	4.668	4.674	4.680	4.685	4.688	4.691
21.50	4.573	4.587	4.598	4.608	4.615	4.622	4.627	4.631	4.635	4.638
21.75	4.524	4.537	4.548	4.557	4.564	4.570	4.575	4.579	4.582	4.585
22.00	4.476	4.488	4.499	4.507	4.514	4.520	4.524	4.528	4.531	4.534
22.25	4.428	4.440	4.450	4.458	4.465	4.470	4.475	4.478	4.481	4.484
22.50	4.382	4.393	4.403	4.410	4.417	4.422	4.426	4.429	4.432	4.434
22.75	4.336	4.347	4.356	4.364	4.369	4.374	4.378	4.381	4.384	4.386
23.00	4.292	4.302	4.311	4.318	4.323	4.328	4.332	4.335	4.337	4.339
23.25	4.248	4.258	4.266	4.273	4.278	4.282	4.286	4.289	4.291	4.293
23.50	4.205	4.214	4.222	4.228	4.234	4.238	4.241	4.244	4.246	4.248
23.75	4.163	4.172	4.179	4.185	4.190	4.194	4.197	4.200	4.202	4.203

16-24(1)

VTXCR13A
 01/06/84
 PRINT B1-L25
 FILE SIZE B1-L60

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

```

=====
                                EXPECTED USEFUL LIFE IN YEARS
=====
%
R.O.I.    1      2      3      4      5      6      7      8      9      10
-----
24.00    0.806  1.457  1.981  2.404  2.745  3.020  3.242  3.421  3.566  3.682
24.25    0.805  1.453  1.974  2.393  2.731  3.003  3.222  3.398  3.539  3.653
24.50    0.803  1.448  1.967  2.383  2.717  2.986  3.201  3.375  3.514  3.625
24.75    0.802  1.444  1.959  2.372  2.703  2.968  3.181  3.352  3.488  3.598
25.00    0.800  1.440  1.952  2.362  2.689  2.951  3.161  3.329  3.463  3.571
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16-24(m)
 EOF..

VTXCR14A
 01/06/84
 PRINT B1-L25
 FILE SIZE B1-L60

TABLE 1

 RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

% R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	11	12	13	14	15	16	17	18	19	20
24.00	3.776	3.851	3.912	3.962	4.001	4.033	4.059	4.080	4.097	4.110
24.25	3.745	3.819	3.879	3.926	3.965	3.996	4.021	4.041	4.057	4.070
24.50	3.715	3.787	3.845	3.892	3.929	3.959	3.983	4.003	4.018	4.031
24.75	3.686	3.756	3.812	3.858	3.894	3.923	3.946	3.965	3.980	3.992
25.00	3.656	3.725	3.780	3.824	3.859	3.887	3.910	3.928	3.942	3.954

16-24(n)

EOF..

VTXC15A
 01/06/84
 PRINT B1-L25
 FILE SIZE B1-L60

TABLE 1

RETURN ON INVESTMENT PERCENTAGE
 BASED ON R.O.I. FACTOR (FACILITY COST/AVRG. ANNUAL CASH FLOW)
 AND THE EXPECTED USEFUL LIFE OF THE NEW FACILITY
 01/06/84

% R.O.I.	EXPECTED USEFUL LIFE IN YEARS									
	21	22	23	24	25	26	27	28	29	30
24.00	4.121	4.130	4.137	4.143	4.147	4.151	4.154	4.157	4.159	4.160
24.25	4.081	4.089	4.096	4.101	4.106	4.109	4.112	4.114	4.116	4.118
24.50	4.041	4.049	4.055	4.060	4.065	4.068	4.071	4.073	4.075	4.076
24.75	4.002	4.009	4.015	4.020	4.024	4.028	4.030	4.032	4.034	4.035
25.00	3.963	3.970	3.976	3.981	3.985	3.988	3.990	3.992	3.994	3.995

16-24(0)

FOF..

Table 2

Reference Annual Percent Return on Investment

<u>Year Construction Completed</u>	<u>Reference Percent Return</u>
1970	15.7
1971	16.5
1972	18.4
1973	21.7
1974	23.4
1975	18.8
1976	22.7
1977	23.2
1978	24.5
1979	25.8
1980	21.9
1981	21.4
1982	14.1

340-16-035 PROCEDURE TO REVOKE CERTIFICATION

- (1) Pursuant to the procedures for a contested case under ORS 183.310 to 183.550, the Commission may order the revocation of the final tax credit certification if it finds that:
 - (a) The certification was obtained by fraud or misrepresentation or
 - (b) The holder of the certificate has failed substantially to operate the facility for the purpose of, and to the extent necessary for, preventing, controlling or reducing air, water or noise pollution or solid waste, hazardous wastes or recycling or disposing of used oil as specified in such certificate, or has failed to operate the facility in compliance with Department or Commission statutes, rules, orders or permit conditions where applicable.
- (2) As soon as the order of revocation under this section has become final, the Commission shall notify the Department of Revenue and the county assessor of the county in which the facility is located of such order.
- (3) If the certification of a pollution control or solid waste, hazardous wastes or used oil facility is ordered revoked pursuant to paragraph (a) of subsection (1) of this section, all prior tax relief provided

DEPARTMENT OF ENVIRONMENTAL QUALITY

to the holder of such certificate by virtue of such certificate shall be forfeited and the Department of Revenue or the proper county officers shall proceed to collect those taxes not paid by the certificate holder as a result of the tax relief provided to the holder under any provision of ORS 307.405, 316.097 and 317.072.

- (4) If the certification of a pollution control or solid waste, hazardous wastes or used oil facility is ordered revoked pursuant to paragraph (b) of subsection (1) of this section, the certificate holder shall be denied any further relief provided under ORS 307.405, 316.097 or 317.072 in connection with such facility, as the case may be, from and after the date that the order of revocation becomes final.

340-16-040 PROCEDURES FOR TRANSFER OF A TAX CREDIT CERTIFICATE

To transfer a tax credit certificate from one holder to another, the Commission shall revoke the certificate and grant a new one to the new holder for the balance of the available tax credit following the procedure set forth in ORS 307.405, 316.097, and 317.072.

340- 16-045 [340-11-200] FEES FOR FINAL TAX CREDIT [FEES] CERTIFICATION

- (1) [Beginning November 1, 1981 all persons applying for Pollution Control Facilities Tax Credit pursuant to ORS 468.170 shall be subject to a two-part fee consisting of a non-refundable filing fee of \$50 per application, and] An application processing fee of one-half of one percent of the cost claimed in the application of the pollution control facility to a maximum of \$5,000 [except that] shall be paid with each application. However, if the application processing fee is less than \$50, no application processing fee shall be charged. A non-refundable filing fee of \$50 shall be paid with each application. No application is complete until the filing fee and processing fee are submitted. An amount equal to the filing fee and processing fee shall be submitted as a required part of any application for a pollution control facility tax credit.
- (2) Upon the Department's acceptance of an application as complete, the filing fee becomes non-refundable.
- (3) The application processing fee shall be refunded in whole [when submitted with an application] if:
 - (a) The Department determines the application is incomplete for processing and applicant fails to submit requested information within

NOTE: Underlined _____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

180 days of date when the Department requested the information; or

(b) [The Commission finds that the facility is ineligible for tax credit;]

The application is rejected; or

[(c) The Commission issues an order denying the pollution control facility tax credit; or]

(c)[(d)] The applicant withdraws the application before final certification or denial by the Commission.

(4) The application processing fee shall be refunded in part if the final certified cost is less than the facility cost claimed in the original application. The refund [amount] shall be calculated by subtracting one-half of one percent of the actual certified cost of the facility from the amount of the application processing fee submitted with the application. If that calculation yields zero or a negative number, no refund shall be made.

(5) The fees shall not be considered by the Environmental Quality Commission as part of the cost of the facility to be certified.

(6) All fees shall be made payable to the Department of Environmental Quality.

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

340-16-050 TAXPAYERS RECEIVING TAX CREDIT

- (1) A person receiving a certificate under this section may take tax relief only under ORS 316.097 or 317.072, depending upon the tax status of the person's trade or business except if the taxpayer is a corporation organized under ORS chapter 61 or 62, or any predecessor to ORS chapter 62 relating to incorporation of cooperative associations, or is a subsequent transferee of such a corporation, the tax relief may be taken only under ORS 307.405.
- (2) If the person receiving the certificate is an electing small business corporation as defined in section 1371 of the Internal Revenue Code, each shareholder shall be entitled to take tax credit relief as provided in ORS 316.097, based on that shareholder's pro rata share of the certified cost of the facility.
- (3) If the person receiving the certificate is a partnership, each partner shall be entitled to take tax credit relief as provided in ORS 316.097, based on that partner's pro rata share of the certified cost of the facility.
- (4) Upon any sale, exchange or other disposition of a facility written notice must be provided to the Department of Environmental Quality by the company, corporation or individual for whom the tax credit certificate has been issued. Upon request, the taxpayer shall provide

a copy of the contract or other evidence of disposition of the property to the Department of Environmental Quality.

- (5) The company, corporation or individual claiming the tax credit for a leased facility must provide a copy of a written agreement between the lessor and lessee designating the party to receive the tax credit and a copy of the complete and current lease agreement for the facility.

- (6) The taxpayer claiming the tax credit for a facility with more than one owner shall provide a copy of a written agreement between the owners designating the party or parties to receive the tax credit certificate.

Amend OAR 340, Division 26 as follows:

Introduction

340-26-001(1) These rules apply to the open burning of all perennial and annual grass seed and cereal grain crops or associated residue within the Willamette Valley, hereinafter referred to as "open field burning." The open burning of all other agricultural waste material (referred to as "fourth priority agricultural burning") is governed by Oregon Administrative Rules (OAR) Chapter 340, Division 23, Rules for Open Burning.

(2) Organization of rules.

- (a) OAR 340-26-003 is the policy statement of the Environmental Quality Commission setting forth the goals of these rules.
- (b) OAR 340-26-005 contains definitions of terms which have specialized meanings within the context of these rules.
- (c) OAR 340-26-010 lists general provisions and requirements pertaining to all open field burning with particular emphasis on the duties and responsibilities of the grower registrant.

DEPARTMENT OF ENVIRONMENTAL QUALITY

(d) OAR 340-26-012 lists procedures and requirements for registration of acreage, issuance of permits, collection of fees, and keeping of records, with particular emphasis on the duties and responsibilities of the local permit issuing agencies.

(e) OAR 340-26-013 establishes acreage limits and methods of determining acreage allocations.

(f) OAR 340-26-015 establishes criteria for authorization of open field burning pursuant to the administration of a daily smoke management control program.

(g) OAR 340-26-025 establishes civil penalties for violations of these field burning rules.

[(h) OAR 340-26-030 establishes provisions and procedures pertaining to tax credits for approved alternative field sanitation facilities.]

(h) [(i)] OAR 340-26-031 establishes special provisions pertaining to field burning by public agencies for official purposes, such as "training fires."

(i) [(j)] OAR 340-26-035 establishes special provisions pertaining to open field burning for experimental purposes.

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

(j) [(k)] OAR 340-26-040 establishes special provisions and procedures pertaining to emergency open field burning and emergency cessation of burning.

(k) [(1)] OAR 340-26-045 establishes provisions pertaining to approved alternative methods of burning, such as "propane flaming."

[OAR 340-26-030 TAX CREDITS FOR APPROVED ALTERNATIVE METHODS AND APPROVED ALTERNATIVE FACILITIES

As provided in ORS 468.150, approved alternative methods or approved alternative facilities are eligible for tax credit as pollution control facilities as described in ORS 468.155 through 468.190.

(2) Approved alternative facilities eligible for pollution control facility tax credits shall include:

(a) Mobile equipment including, but not limited to:

(A) Straw gathering, densifying, and handling equipment;

(B) Tractors and other sources of motive power;

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

- (C) Trucks, trailers, and other transportation equipment;
 - (D) Mobile field sanitizers and associated fire control equipment;
 - (E) Equipment for handling all forms of processed straw;
 - (F) Special straw incorporation equipment.
- (b) Stationary equipment and structures including, but not limited to:
- (A) Straw loading and unloading facilities;
 - (B) Straw storage structures;
 - (C) Straw processing and in-plant transport equipment;
 - (D) Land associated with stationary straw processing facilities;
 - (E) Drainage tile installations which will result in a reduction of acreage burned.
- (3) Equipment and facilities included in an application for certification for tax credit under this rule will be considered at their current

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

depreciated value and in proportion to their actual use to reduce open field burning as compared to their total farm or other use.

(4)(a) Procedures for application and certification of approved alternative facilities for pollution control facility tax credit:

(A) A written application for preliminary certification shall be made to the Department prior to installation or use of approved alternative facilities in the first harvest season for which an application for tax credit certification is to be made. Such application shall be made on a form provided by the Department and shall include, but not be limited to:

- (i) Name, address, and nature of business of the applicant;
- (ii) Name of person authorized to receive Department requests for additional information;
- (iii) Description of alternative method to be used;
- (iv) A complete listing of mobile equipment and stationary facilities to be used in carrying out the alternative methods, and for each item listed include:

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

- (I) Date or estimated future date of purchase;

- (II) Percentage of use allocated to approved alternative methods and approved interim alternative methods as compared to their total farm or other use;

- (v) Such other information as the Department may require to determine compliance with state air, water, solid waste, and noise laws and regulations and to determine eligibility for tax credit.

- (B) If, upon receipt of a properly completed application for preliminary certification for tax credit for approved alternative facilities the Department finds the proposed use of the approved alternative facilities are in accordance with the provisions of ORS 468.175, it shall, within 60 days, issue a preliminary certification of approval. If the proposed use of the approved alternative facilities are not in accordance with provisions of ORS 468.175, the Commission shall, within 60 days, issue an order denying certification.

- (b) Certification for pollution control facility tax credit.

- (A) A written application for certification shall be made to the Department on a form provided by the Department and shall include, but not be limited to, the following:

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

- (i) Name, address, and nature of business of the applicant;
- (ii) Name of person authorized to receive Department requests for additional information;
- (iii) Description of the alternative method to be used;
- (iv) For each piece of mobile equipment and/or for each stationary facility, a complete description including the following information as applicable:
 - (I) Type and general description of each piece of mobile equipment;
 - (II) Complete description and copy of proposed plans or drawings of stationary facilities including buildings and contents used for straw storage, handling, or processing of straw and straw products or used for storage of mobile field sanitizers and legal description of real property involved;
 - (III) Date of purchase or initial operation;
 - (IV) Cost when purchased or constructed and current value;

NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

- (V) General use as applied to approved alternative methods and approved interim alternative methods;
- (VI) Percentage of use allocated to approved alternative methods and approved interim alternative methods as compared to their farm or other use.
- (B) Upon receipt of a properly completed application for certification for tax credit for approved alternative facilities or any subsequently requested additions to the application, the Department shall return within 120 days the decision of the Commission and certification as necessary indicating the portion of the cost of each facility allocable to pollution control.
- (5) Certification for tax credits of equipment or facilities not covered in sections (1) through (4) of this rule shall be processed pursuant to the provisions of ORS 468.165 through 468.185.
- (6) Election of type of tax credit pursuant to ORS 468.170(5):
- (a) As provided in ORS 468.170(5), a person receiving the certification provided for in subsection (4)(b) of this rule shall make an irrevocable election to take the tax credit relief under ORS 316.097,

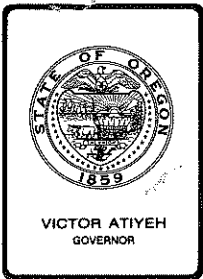
NOTE: Underlined ____ material is new. Bracketed [] material is deleted.

DEPARTMENT OF ENVIRONMENTAL QUALITY

317.072, or the ad valorem tax relief under ORS 307.405 and shall inform the Department of his election within 60 days of receipt of certification documents on the form supplied by the Department with the certification documents;

- (b) As provided in ORS 468.170(5) failure to notify the Department of the election of the type of tax credit relief within 60 days shall render the certification ineffective for any tax relief under ORS 307.405, 316.097, and 317.072.]

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 No. E, April 6, 1984, EQC Meeting

Request for Authorization to Hold a Public Hearing
on the Construction Grants Management System and
Priority List for FY85.

Background and Problem Statement

Annually the Department compiles a priority list for allocating federal grants for construction of municipal sewage treatment works, based on the next planned allotment of funds. The list identifies potential projects for which funding may be available during the period October 1, 1984, through September 30, 1985 (FY85), and also identifies the relative priorities of projects for future years if continued funding is available. Although Congress has authorized the construction grants program to extend only through fiscal year 1985, the Environmental Protection Agency has encouraged that the priority list also include projects planned for future years, in anticipation of continuing authorized allotments.

This year, the Commission will also consider whether a limited amount of the state's grant allotment should remain available to fund several projects that are on the priority list but would have become ineligible for funding during FY85, should the state not elect to exercise this discretion. The proposed administrative rule is OAR 340-53-025(g).

For federal fiscal year 1985, \$2.4 billion is nationally authorized for the construction grants program and is requested in the President's budget. Exact appropriation levels await federal budgetary decisions. However, if \$2.4 billion is appropriated, Oregon will receive approximately \$27.6 million.

The Construction Grants Amendments of 1981, which were phased in during a two-year period, take full effect on October 1, 1984. This law greatly alters the character of the grants program that has been familiar to communities since 1973. The specific statutory changes that become effective on October 1, 1984, involve the calculation of the federal share of project costs, the eligibility of types of projects and reserve capacity, and the use of state discretionary funds. Beginning on October 1, 1984, the local share cost will greatly increase for new projects, as follows:

1. Grant assistance is not available for Step 1 facilities planning or Step 2 design even though no changes were made to reduce the

substantive planning or design requirements for projects. In 1981, planning requirements to assess the financial capability of grant applicants and other minor planning requirements were added.

Facility planning and design work is a local expense. If a grant for construction (Step 3) is awarded, an allowance will be made to offset a portion of the earlier planning and/or design expenditures.

2. The federal share of costs is 55 percent of "eligible costs". Local resources must provide 45 percent of the "eligible costs". (Construction for projects that are considered grandfathered under the 1981 law are continued to be funded on a 75% federal/25% local share basis.)
3. "Eligible costs" include only the system capacity needed to serve residential, commercial, and industrial flows that exist on the date of approval of the Step 3 grant award. The incremental increase in project cost for growth capacity will be a local share cost.
4. Eligible types of facilities for construction will include only treatment and disposal facilities, infiltration and inflow correction work, and interceptor sewers. For project types that are classified as major rehabilitation or replacement of sewers, combined sewer overflow corrections for non-marine waters and collection systems, 100% of the cost must be met by local resources.
5. After grant award for new projects, grant increases to continue the federal cost sharing in new or previously unidentified project costs cannot exceed 5% of the amount authorized after construction bids. Any costs incurred in excess of the strict limitation are part of the local share costs.
6. If, to achieve the project's objectives for water quality improvement, a combination of eligible and ineligible project types must be constructed concurrently or according to a specified schedule, the local resources for construction of the ineligible project costs must be demonstrated and a schedule for the work included in the grant award.

During fiscal year 1983 and 1984, the Environmental Quality Commission adopted several administrative rule changes to facilitate the transition to the FY85 grants program. Only one new administrative rule that affects eligibility for a limited number of projects is proposed for adoption in FY85. This year, no changes in the priority rating criteria are proposed but significant changes occur in the appearance of many projects on the priority list, as the new federal assistance levels and eligibility criteria are implemented.

Discussion and Evaluation

The FY85 proposed priority list reflects, to the extent possible, greater local share costs and new federal eligibility criteria. However, due to the character of the 1981 Construction Grant Amendments, the priority management system must accommodate very tentative project cost and scheduling information.

Although priority rating criteria are not proposed to be changed for FY85, the priority will appear to be different. This is due to the combination of federal requirements that necessitate that water quality needs be prioritized yet eligible costs be determined from project-specific data later developed by applicants. These characteristics of the FY85 priority list create new management problems.

For projects expected to be funded next year, the local and federal share cost estimates may remain uncertain until considerable work has been accomplished:

1. "Eligible costs" for existing needs are derived from calculations that can be estimated with a reasonable degree of accuracy only after the completion of facilities planning and predesign.
2. Eligible versus ineligible types of facilities may require that distinctions be made between closely related classifications of project work, such as between interceptors and collectors. These distinctions may require predesign information. Later data may determine that the project listed is actually ineligible for a grant.
3. The relationships between eligible project types and necessary, related ineligible project construction may not be clear until the facilities planning is completed.
4. The allowances for planning and design which are included within the Step 3 construction grant are not firm until construction bids are awarded.

Scheduling and careful management controls to identify and produce an approvable project must be undertaken early by the applicant. An orderly process formerly mandated by the Step 1 and 2 grant procedures has been replaced by a more flexible approach to scheduling work products. However, this flexibility should be used only where the applicant has a comprehensive understanding of the requirements needed to qualify for a grant and the time frames required for various activities.

Last year, the EQC emphasized this responsibility by deciding that no project will be scheduled for funding regardless of the project's priority order, unless a planning and design schedule is submitted prior to the close of public hearing testimony for the FY85 priority list. The schedule will demonstrate the applicant's ability to make orderly progress toward meeting all requirements to gain grant certification within the FY85 funding year.

While most of the preparatory rules have been adopted to transition into FY85, one area of state discretion has not been considered. The state may elect to utilize up to 20% of its annual allotment to fund projects that were eligible prior to FY85 but, as a consequence of the 1981 Construction Grant Amendments, are now ineligible. Such state discretion does not preempt the priority rating and management process but simply enables the state to maintain funding opportunities for a limited number of projects.

The share of the national appropriation of funds to Oregon is determined in part on the state's reported eligible needs; therefore, discretionary funding diverts funds from some projects intended to benefit. However, it is proposed that the state option be utilized in the limited circumstances where a project (1) is needed to meet the enforceable requirements of the Clean Water Act; (2) substantially satisfied the federal facilities planning requirements prior to the 1981 law and (3) would have met state and federal eligibility criteria in effect at the time of the Amendments.

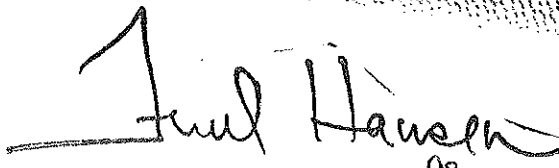
This request for authorization to hold the public hearing is not accompanied by the proposed FY85 priority system and list. The data is being assembled to produce the draft FY85 list, which will be available by May 15, 1984. Public distribution of the draft list is planned at that time. The proposed change to the priority list management system is provided. A public hearing is scheduled for June 20, 1984, at 10 a.m. at the DEQ Offices, Room 1400, 522 S.W. Fifth Avenue, Portland, Oregon.

Summation

1. The EQC must compile and adopt the state priority list for allocating federal construction grant funds for FY85.
2. The Construction Grant Amendments of 1981 take full effect October 1, 1984, significantly altering the local share of project costs and the eligibility of types of projects and reserve capacity for new projects.
3. The state priority list is an allocation plan for grant funds which is tentative until (1) project-specific data is established and (2) planning and design approvals are secured in a timely manner by listed applicants. Planning and scheduling to produce an application for consideration is the applicant's responsibility.
4. No changes in state priority rating criteria are proposed. A new administrative rule is proposed to exercise state discretion in maintaining the eligibility of a limited number of projects that were substantially planned prior to the 1981 Construction Grant Amendments.
5. The proposed change to the priority list management system is included at this time. The draft FY85 priority list is scheduled for public distribution on May 15, 1984.
6. Opportunity for public comment should be made available on the FY85 priority management system and list.

Directors Recommendation

Based on the Summation, the Director recommends that the Commission authorize a public hearing on the FY85 priority management system and priority list, to be held on June 20, 1984. All testimony entered into the record by 5 p.m. on June 27, 1984, will be considered by the Commission.


Fred Hansen

- Attachments:
1. Draft Priority System Rule
 2. Notice of Public Hearing
 3. Statement of Need for Rulemaking

B. J. Smith:g
WG3310
229-5415
March 15, 1984, Revised 3/23/84

340-53-025 (Proposed)

(g) The Director may, at the Director's discretion, utilize up to twenty (20) percent of the general allotment for major rehabilitation of existing sewer systems or elimination of combined sewer overflows providing:

(1) The project is on the fundable portion of the states current years priority list and;

(2) The project meets the enforceable requirements of the Clean Water Act and;

(3) Planning for the proposed project was complete or substantially complete on December 29, 1981.

BJs:g
WG3317
3-16-84

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...**FY85 CONSTRUCTION GRANTS PRIORITY SYSTEM AND PRIORITY LIST**

Notice Issued On:

Hearing Date: June 20, 1984, 10 a.m.

Comment Period Closes: June 27, 1984, 5 p.m.

- WHO IS AFFECTED:** Cities, counties, and special districts seeking U. S. Environmental Protection Agency grants for sewerage projects are directly affected.
- WHAT IS PROPOSED:** The adoption of the FY85 Priority List for Sewerage Works Construction Grants is proposed by the Environmental Quality Commission. One change is also proposed to the administrative rules governing the management of the Priority List, OAR 340, Division 53. No changes in the priority criteria used to establish priority ratings are proposed.
- WHAT ARE THE HIGHLIGHTS:** For FY85, the President's budget proposal contains a \$2.4 billion request for construction grants. Oregon's FY85 share of the national appropriation is expected to be about \$27 million.
- The list identifies the priority point scores and relative rankings of projects or project segments potentially eligible for federal construction grants. It contains an identification of the "fundable list," that is, those projects expected to receive funds during fiscal year 1985 and the "planning list," those projects which may expect assistance during future years. Both the "fundable list" and the "planning list" are based on assumed levels of federal appropriations, which may or may not actually become available.
- HOW TO COMMENT** Public Hearing -- Wednesday, June 20, 1984 - 10 a.m.
DEQ Offices, Room 1400
522 S.W. Fifth Ave.
Portland, Oregon
- The proposed Priority List and the draft rule will be mailed to all cities, counties, and sanitary or sewer districts, and interested parties about May 15, 1984. Written comments should be sent to Ms. B. J. Smith, DEQ Construction Grants Unit, P. O. Box 1760, Portland, OR 97207. The comment period will close at 5 p.m., June 27, 1984.
- FISCAL AND ECONOMIC IMPACT:** The Priority List and the management rules set forth a framework for distribution of a limited amount of federal funds to assist in financing sewerage system improvements for selected, high priority communities.
- LAND USE CONSISTENCY:** These rules do not directly affect development of local land use programs. Relative project priorities are established on the basis of existing needs for improvements to water quality. After priorities for funding are determined, site specific facilities plans which demonstrate consistency with local comprehensive plans and appropriate statewide goals are developed by applicants. Also, the Goal 6 (Air, Water, and Land Resources Quality) elements of these plans should take into account federal (EPA) funding as an implementation tool only where a realistic potential and high priority for funding is consistent with this rule. Alternative financing plans for timely implementation of sewerage system capital improvements should be defined in the local land use programs of communities who cannot be assured of receiving grant funds.



Box 1760
 3-Portland, OR 97207

8/10/82

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 1-800-452-7240 and ask for the Department of Environmental Quality.

1-800-452-4011



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 Recycled
 Materials

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the Environmental Quality Commission's intended actions to consider revisions to OAR Chapter 340, Division 53 rules.

(1) Legal Authority

ORS 468.020 authorizes the Environmental Quality Commission to adopt rules and standards in accordance with ORS Chapter 183.

(2) Need for the Rule

These modifications are necessary to bring existing administrative rules into conformance with the recently enacted federal Municipal Construction Grant Amendments of 1981, PL 97-117, and proposed rules of the U. S. Environmental Protection Agency which implement the law.

(3) Principal Documents Relied Upon in This Rulemaking

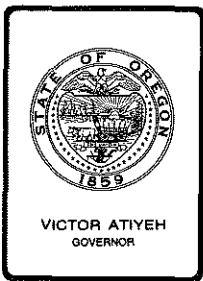
- (a) Public Law 97-117
- (b) 40 CFR Parts 25 and 35
- (c) OAR 340 Division 53
- (d) OAR 340 Division 41

(4) Fiscal and Economic Impact of Rulemaking

One fiscal impact of this rulemaking is upon municipalities and special districts seeking financial assistance for sewerage projects. The rules affect the distribution of these funds. In communities that receive federal grants, small businesses will benefit because they will pay less to improve or develop sewerage systems. However, since few federal grant dollars are expected to be available to assist communities seeking them, the majority of projects will not receive assistance and will presumably provide the cost of capital improvements by passing these costs on to actual users of the sewerage system. No direct adverse economic impact on small businesses is expected.

BJS:g
WG3314
3-15-84

46



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, April 6, 1984, EQC Meeting

Request for Authorization to Conduct a Public Hearing on a Proposed Rule Amendment Relating to the Exemption of Certain Classes of Disposal Sites from the Solid Waste Permit Requirements, OAR 340-61-020(2).

Background & Problem Statement

Operators of solid waste disposal sites are required to obtain permits from the Department. The term "disposal site" is defined by ORS 459.005 and OAR 340-61-010 to include "land and facilities used for the disposal, handling or transfer of or resource recovery from solid wastes . . ." The term "transfer station" is defined to include both "fixed or mobile" facilities and the term "resource recovery" is defined to include "recycling."

Traditionally, the Department has exercised discretion and has not strictly enforced the permit requirement for "disposal sites" that receive only source separated recyclable materials (i.e., salvage businesses and recycling depots). With an increase in the number of recycling facilities anticipated, as a result of the new Opportunity to Recycle Act (SB 405), and with permittees now being required to pay fees for permits, it is appropriate to clarify the status of such facilities and either formally exempt them or put them under permit.

In addition, a new form of transfer station that is used only by refuse collectors and is not open to the public has recently appeared. With several more of these facilities now being proposed, it is also appropriate to make a decision as to whether those operations should be permitted or exempted.

We have discussed this matter with legal counsel and have been advised that any proposed exemptions should be in the form of a rule amendment. Accordingly, the Department has drafted proposed amendments to OAR 340-61-020(2) which would formally exempt certain classes of disposal sites from the Department's permit requirements. The Department now requests authority to conduct a public hearing to receive testimony on this matter. ORS 459.215 provides that, by rule, the Commission may exclude classes of disposal sites from the permit requirement.



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Materials

Alternatives and Evaluation

Salvage/recycling operations have traditionally been excluded from routine regulation by the Department, because the potential environmental and public health impacts of such facilities are typically minimal. Normally, source separated recyclable wastes do not include putrescibles (i.e., rapidly decomposing materials) which may cause malodors, and which may serve to attract or sustain disease vectors such as flies and rodents. It is true that some recycling or salvage operations may be unsightly, but this is a subjective matter that is best dealt with by local agencies. Accordingly, the Department believes that its limited resources should more appropriately be restricted to the regulation of more significant sources. A few recycling operations do accept food scraps and the like for composting. Such facilities may pose a threat to public health, and we therefore do not propose to exempt them from permit requirements.

Another factor to consider is that the recently adopted schedule of fees for Solid Waste Disposal Permits may serve as a disincentive to the establishment of conveniently located recycling depots, unless an exemption is granted. The Department expects and encourages an increase in the number of such facilities as Oregon's new Opportunity to Recycle Act (SB 405) is implemented.

During January and March, 1982, the Commission discussed the issue of regulating recycling/salvage operations as the result of an Attorney General's opinion that the Department had received on this matter. At its March 5, 1982 meeting, the Commission directed the Department to, among other things, "regulate resource recovery as defined in ORS 459.005 only where there is a potential threat to public health or the environment and leave the regulation of vector control, aesthetic nuisances and land use to local agencies." The Department believes that the proposed exemption of recycling/salvage facilities merely confirms this existing policy. A copy of Agenda Item J, March 5, 1982, EQC Meeting is attached.

Transfer stations are facilities at which solid waste is "transferred" from one vehicle to another to provide more efficient and cost effective transport of wastes. For example, at a typical public-use transfer station, wastes from many small vehicles (i.e., cars, pickups, etc.) are transferred to large 45 or 50 cubic yard containers which, when full, are loaded onto trucks and taken to a disposal site. The greater the distance to the disposal site, the more cost effective such a system becomes. Transfer stations may be fixed or mobile and may or may not be open to public use.

For many years, refuse collectors have used a private, mobile transfer system which employs what they call a "mother truck." In this system, a large truck receives wastes from several smaller trucks at various locations along the collection route. While the large truck goes to the

disposal site or to a fixed transfer station, the smaller trucks are able to continue collecting refuse. These facilities, of course, are for the use of the refuse collector only and are not available for direct use by the public. Traditionally, the Department has not attempted to regulate these private, mobile transfer operations. They simply have not been a problem, except for some occasional leakage, spillage or noise. Also, as a practical matter, mobile facilities are inherently difficult to monitor and there may be large numbers of these systems in operation around the state. The Department now proposes to formally exempt mobile, private-use transfer vehicles from the permit requirement.

Recently, some collectors have proposed building fixed transfer stations, using 45-50 cubic yard containers, for their own use. One has been constructed (with DEQ oversight) in Marion County, two are proposed in Yamhill County, two are proposed in Washington County and three have been proposed in Columbia County. In each case, the existing local solid waste management plan does not address such facilities, which are known in the trade as "reload facilities." Potentially, refuse collectors could circumvent local solid waste management plans and thus interfere with the orderly implementation of those plans. DEQ regulation would pull these facilities back into the system by requiring that the permit applicant obtain local approval and demonstrate that the proposal is compatible with the local solid waste management plan.

In addition to these planning considerations, it is the Department's position that these fixed, private-use reload facilities pose some of the same potential impacts on public health and the environment as do public-use facilities. We believe that these potential problems are primarily a function of waste type and volume rather than ownership or public access. In both cases large amounts of putrescible wastes may be stored for up to seven days in a single location. This circumstance creates a significant potential for malodors, litter, the attraction and sustenance of disease vectors (i.e., insects and rodents) and related nuisance conditions for neighbors if improperly located or managed. Some of the proposed single company reload facilities are quite large. The proposed Hillsboro Garbage Disposal, Inc. facility, for example, would receive an estimated 150 cubic yards of refuse a day. In addition, a Washington County corporation, consisting of four refuse collection companies, has requested an exemption on the basis that it is essentially a single company, private-use operation. This proposed facility would receive an estimated 180 cubic yards of refuse per day. Such a broad interpretation could allow other large facilities to avoid regulation, if an exemption is granted to "single company" reload facilities. Accordingly, the Department is now proposing to not exempt fixed reload facilities from the permit requirement, design review and subsequent inspection.

The Department considered, but rejected, the idea of excluding reload facilities that receive less than some specific amount of waste per unit of time. Our reason for rejection is that this type of facility is new and, at this time, we have no experience upon which to establish a minimum level

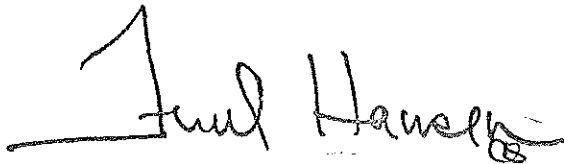
of waste flow for regulatory purposes. We would be willing to reconsider this matter based on future experience.

Summation

1. The Department proposes to formalize existing policy and exempt salvage and scrap material businesses, recycling depots and mobile, private-use transfer stations from the permit requirement.
2. The Department proposes to not exempt fixed, private-use transfer stations (reload facilities), including "single company" facilities, because of the potential for environmental, public health and nuisance problems.
3. The Department has drafted a proposed rule amendment and requests authorization to conduct a public hearing.
4. The Commission is authorized to exempt classes of disposal sites from the permit requirement by ORS 459.215.

Director's Recommendation

Based upon the Summation, it is recommended that the Commission authorize a public hearing to take testimony on the proposed exemption of certain classes of disposal sites from the Department's permit requirements, OAR 340-61-020(2).



Fred Hansen

- Attachments
- I. Agenda Item J, March 5, 1982, EQC Meeting
 - II. Draft Statement of Need and Fiscal Impact
 - III. Draft Hearing Notice
 - IV. Draft Land Use Consistency Statement
 - V. Draft Rule OAR 340-61-020(2)

William H. Dana:b
229-6266
March 8, 1984
SB3099



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. J, March 5, 1982, EQC Meeting

Information Report: Supplemental Material Concerning
Attorney General's Opinion on Resource Recovery from Solid
Waste.

Background

At the Commission's January 22, 1982 meeting, the staff reported on a recent Attorney General's opinion concerning resource recovery from solid waste.

The staff described the possible implications of this opinion and presented a proposed course of action for dealing with small scale resource recovery/recycling activities. Because of the wide range of activities and facilities that could fall within this broad definition, the staff proposed that the Department would normally regulate only those practices and facilities which clearly posed a potential threat to public health or the environment. In addition, several citizens testified to the Commission and requested that the Department take action against an individual who had constructed a fence from used automobile and truck tires.

The Commission accepted the staff's report and asked the staff to report back at this meeting with more detailed information on the implications of attempting to regulate resource recovery facilities.

Discussion

Under Oregon law (ORS 459.005), "Solid Waste Disposal Site" means "land and facilities used for the disposal, handling or transfer of, or resource recovery from solid wastes" Under the same statute, "Resource Recovery" is defined to include:

- (a) "Energy recovery," which means "recovery in which all or a part of the solid waste materials are processed to utilize the heat content, or other forms of energy, of or from the material."

- (b) "Material recovery," which means "any process of obtaining from solid waste, by presegregation or otherwise, materials which still have useful physical or chemical properties after serving a specific purpose and can, therefore, be reused or recycled for the same or other purpose."
- (c) "Recycling," which means "any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity;" and,
- (d) "Reuse," which means "the return of a commodity into the economic stream for use in the same kind of application as before without change in its identity."

ORS 459.205, requires that no person shall establish, operate or maintain a "Solid Waste Disposal Site" without first obtaining a permit from the Department. Accordingly, the Department could initiate enforcement action against a wide range of individuals and facilities who are using or dealing in used goods. In an attempt to quantify the potential impact of such action, the staff has made a brief survey of known low technology "Resource Recovery" facilities. The results of that survey are as follows:

1. There are currently 267 recycling depots and markets around the state registered with the Department's Recycling Information Office, including 157 in the Portland metropolitan area. In addition, there are innumerable newspaper drop-off boxes located around the state.
2. Statewide there are five firms, three in Portland, one in Eugene and one in the Coos Bay area that receive scrap tires and process them into fuel or other usable products.
3. The Oregon Gasoline Dealer's Association estimates that there are between 1,800 and 1,900 service stations statewide. Pacific Northwest Bell's Business to Business Yellow Pages lists 102 tire dealers in Oregon. It is the staff's experience that virtually all such facilities have accumulations of scrap tires that range in number from a few to several hundred. At least two of the larger tire centers, the Les Schwab facility in Prineville and the Steve Wilson facility in White City, have accumulations substantially greater than 10,000.
4. Tires are commonly used by farmers statewide as weights to hold down silage covers and as barriers around corrals and livestock holding areas. The number of tires used on a farm may vary from a few to several hundred. As reported to the Commission in January, one farmer in Yamhill County has constructed a livestock control fence involving 30,000 or more tires. Staff has also observed similar, but less extensive fences, on farms in Benton and Clatsop Counties. An article in the December 1981 issue of Solid Waste Management magazine reports that the Oklahoma Rubber Fence Company, Inc. has installed 350,000 feet of rubber fencing, consisting of strips cut from old tires, in six states since October 1980.

5. Staff has observed two auto wrecking yards, one near Hillsboro and one near Willamina, that have fences constructed from old automobile wheels and tires, respectively. Also, near Hermiston, a farmer has constructed a fence out of old appliances (stoves, refrigerators, etc.)
6. An article in the fall 1981, issue of Exxon USA magazine reports that Tire Playground, Inc., a New Jersey firm, has placed approximately 60,000 scrap tires in 200 playgrounds around the country. In Oregon, innumerable playgrounds, school yards and parks use tires as part of their recreational equipment.
7. Klamath County operates a large tire storage site in an isolated cinder pit. Many thousands of tires are involved. The county has been trying to find a productive use for the tires, but is prepared to bury them if necessary.
8. Tires are commonly used around the state at marinas, wharfs, loading docks, auto race tracks, etc. as bumpers and barriers.

Clearly, there are thousands of "Resource Recovery Facilities" in Oregon, if one wishes to strictly interpret the law. The staff, however, believes that DEQ regulation of more than a few such facilities is not practicable. Facilities which receive mixed municipal refuse (containing food wastes, hospital wastes, small quantities of chemicals, etc.) obviously should be regulated. These wastes clearly constitute a potential threat to public health and the environment if improperly managed.

Other wastes, such as wood, glass, metals, rubber, plastics, etc. are essentially inert, except that bark and some metals may leach in a saturated environment. Accordingly, the staff believes that accumulations or reuse of such materials should not be a matter of DEQ concern, except where there may be a threat to water quality. It is a fact that these relatively inert materials may, because of their shape or form, trap rain water and, therefore, serve as a medium for mosquito breeding or may provide incidental harborage (not a food source) for rodents. There are innumerable structures, man-made and natural, which also serve as breeding places for mosquitoes or harborage for rodents. In the staff's opinion, however, vector control should be a priority concern of this Department only where putrescible wastes (rapidly decomposing organic matter, such as food scraps, animal waste, sewage sludge, etc.) are involved.

This discussion of the Department's appropriate regulatory role in the area of resource recovery was precipitated largely because of the persistent complaints we have received concerning one tire fence in Yamhill County. In this regard, it is important to note that the Department has received virtually no complaints about any of the other Resource Recovery Facilities described above, including the other tire fences which were observed.

As the Commission is well aware, the Department's budget has been substantially reduced and we are now facing further reductions. As a result, we have had to eliminate many worthwhile activities which we were doing or would like to do. In view of all these facts, we do not believe that there is sufficient justification for taking on the additional burden of routinely regulating small scale Resource Recovery Facilities at this time.

Conclusion

At the Commission's request, the staff has further evaluated and reconsidered the proposed policy which was presented at the Commission's January 22, 1982 meeting. As a result of this additional study, the staff continues to believe that the regulation of Resource Recovery Facilities should be on a case-by-case basis only, due to the large number of facilities which potentially could be involved, the apparent lack of public concern about all but a few such facilities and the recent reductions in the Department's staff and budget. Therefore, the Department again proposes the following course of action:

1. Continue to regulate solid waste disposal in its traditional sense, including but not limited to landfilling, open burning, incineration and composting.
2. Continue to regulate "Resource Recovery" as defined in ORS 459.005 only where there is a potential threat to public health or the environment and leave the regulation of vector control, aesthetic nuisances and land use to local agencies.
3. Continue to regulate the storage of solid waste in cases where waste is stored for more than six months and there is no clear evidence that the waste will be used productively or where the nature, amount or location of the stored waste is such that, in the Department's opinion, it constitutes a potential environmental problem.

Bill

William H. Young

William H. Dana:o
229-6266
February 11, 1982
SO202 (2)

Before the Environmental Quality Commission
of the State of Oregon

In the Matter of Amendments to	)	Statutory Authority,
the Rule Relating to the	)	Statement of Need,
Exemption of Certain Classes	)	Principal Documents
of Disposal Sites from the Solid	)	Relied Upon, and
Waste Permit Requirements, OAR	)	Statement of Fiscal
Chapter 340, Section 61-020(2)	)	Impact

1. Citation of Statutory Authority

ORS 459.215 provides that by rule and after public hearing, the Environmental Quality Commission may prescribe criteria and conditions for excluding classes of disposal sites from the permit requirements of ORS 459.205.

2. Statement of Need

Due to limited resources, the Department of Environmental Quality needs to restrict its permitting activities to only those solid waste management facilities which actually pose a significant threat to public health or the environment. There is also a concern that recently approved fees for solid waste permits would tend to act as a deterrent to the growth of recycling activities and the establishment of conveniently located recycling depots.

3. Principal Documents Relied Upon in This Rulemaking

- a. Oregon Revised Statutes, Chapter 459.
- b. Oregon Administrative Rules, Chapter 340, Division 61.

4. Statement of Fiscal Impact

This action will have a beneficial fiscal impact upon owners and operators of recycling depots and salvage or scrap material businesses, in that they will be exempt from the fees required for solid waste permits. Refuse collectors who use mobile, solid waste transfer facilities (commonly called "mother trucks") will receive a similar benefit. Compliance determination fees for holders of solid waste permits range from \$50 to \$62,000 annually, depending upon the type and amount of waste received. This loss in potential revenue will not affect the Department's programs, since fees from these facilities were not anticipated in the Department's budget.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON . . .

Proposed Amendment of Rules Relating to the Exemption of Certain Classes of Disposal Sites from the Solid Waste Permit Requirements, OAR 340-61-020(2)

Date Prepared: March 14, 1984
Hearing Date: May 17, 1984
Comments Due: May 25, 1984

WHO IS AFFECTED: Owners and operators of recycling depots, salvage or scrap material businesses and refuse collectors.

WHAT IS PROPOSED: The Department proposes to exempt facilities which receive only source separated recyclable wastes, excluding putrescible wastes, from its permit requirements. The Department also proposes to exempt mobile, private-use solid waste transfer facilities from the permit requirements. Facilities which are exempted from the permit requirements must nevertheless comply with the Department's rules for proper operation.

WHAT ARE THE HIGHLIGHTS: Recycling depots and salvage or scrap material businesses would be formally exempted from the Department's permit requirements, unless putrescible wastes (rapidly decomposing materials such as food scraps and grass cuttings) are received. Currently, such facilities are informally exempted as a matter of policy. Mobile, private-use transfer stations (i.e., large garbage collection trucks which receive wastes from several smaller trucks) would also be exempted. These facilities are used only by garbage collection companies and are not considered to be a significant threat to public health or the environment.

HOW TO COMMENT: Public Hearing:
10:00 a.m.
Thursday, May 17, 1984
Department of Environmental Quality
Room 1400 (14th Floor)
522 S.W. Fifth Avenue
Portland, Oregon

A Department of Environmental Quality staff member or an Environmental Quality Commission Hearing Officer will be named to preside over and conduct the hearing.

Written comments should be sent to the Department of Environmental Quality, Solid Waste Division, Box 1760, Portland, OR 97207, by May 25, 1984.

(over)

FOR FURTHER INFORMATION:

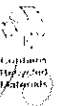
Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-7813, and ask for the Department of Environmental Quality.

1-800-452-4011



P.O. Box 1760
Portland, OR 97207

8/10/82



WHAT IS THE
NEXT STEP:

The Environmental Quality Commission may adopt rule amendments identical to the ones proposed, adopt modified amendments as a result of testimony received, or may decline to amend the rule.

Statements of Need, Fiscal Impact, Land Use Consistency, Statutory Authority, and Principal Documents Relied Upon are filed with the Secretary of State.

SB3099.3

Before the Environmental Quality Commission
of the State of Oregon

In the Matter of the Amendments) Land Use Consistency
to the Rule Relating to the Exemption)
of Certain Classes of Disposal Sites)
from the Solid Waste Permit)
Requirements, OAR Chapter 340,)
Section 61-020(2))

The proposals described herein appear to be consistent with statewide planning goals. These proposals appear to conform with Goal No. 6 (Air, Water and Land Resources Quality) and Goal No. 11 (Public Facilities and Services). There is no apparent conflict with the other goals.

With regard to Goal No. 6, the proposal would exempt certain classes of disposal sites from the Department's solid waste permit requirements. Only those classes of disposal sites which have been determined to pose no significant threat to public health or the environment may be exempted. This appears to be consistent with the requirements of Goal No. 6.

With regard to Goal No. 11, the proposal would apply to solid waste disposal sites. Disposal sites are "public facilities" that "serve as a framework for urban and rural development." Goal No. 11 specifically requires that local comprehensive plans include a provision for solid waste disposal sites.

Public comment on these proposals is invited and may be submitted in the manner described in the accompanying NOTICE OF PUBLIC HEARING.

It is requested that local, state and federal agencies review the proposed action and comment on possible conflicts with their programs affecting land use and with Statewide Planning Goals within their expertise and jurisdiction.

The Department of Environmental Quality intends to ask the Department of Land Conservation and Development to mediate any apparent conflicts brought to our attention by local, state or federal authorities.

After public hearing, the Commission may adopt rule amendments identical to the ones proposed, adopt modified amendments as a result of testimony received, or may decline to amend the rule.

WHD:b
SB3099.4
3/15/84

OAR 340-61-020(2) is proposed to be amended as follows:

340-61-020(2) Persons owning or controlling the following classes of disposal sites are specifically exempted from the above requirements to obtain a permit under these rules, but shall comply with all other provisions of these rules and other applicable laws, rules, and regulations regarding solid waste disposal:

(a) Disposal sites, facilities or disposal operations operated pursuant to a permit issued under ORS 459.505, 459.510 or 468.740.

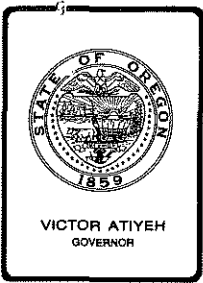
(b) A landfill site used exclusively for the disposal of soil, rock concrete, brick, building block, tile or asphalt paving.

Note: Such a landfill may require a permit from the Oregon Division of State Lands.

(c) Composting operations used only by the owner or person in control of a dwelling unit to dispose of food scraps, garden wastes, weeds, lawn cuttings, leaves, and prunings generated at that residence and operated in a manner approved by the Department.

(d) Facilities which receive only source separated, recyclable wastes, excluding putrescible wastes.

(e) Solid waste collection vehicles, operated by commercial solid waste collection companies or government agencies, which serve as mobile and roving transfer stations that are not available for direct use by the general public and do not stay in one location for a period to exceed 24 hours.



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 *Jaul*
Subject: Agenda Item No. G, April 6, 1984, EQC Meeting

Request for Authorization to Conduct a Public Hearing on
Proposed Hazardous Waste Management Facility Permit Fees,
OAR 340-105-070

Background and Problem Statement

(EDITORIAL NOTE: Oregon Revised Statutes Chapter 459 refers to hazardous waste collection facilities and hazardous waste licenses. For purposes of consistency with the federal RCRA hazardous waste program, collection facility and storage facility have been defined to mean the same thing and will be referred to as storage facility. License and permit have also been defined to mean the same thing and will be referred to as permit.)

The Department is currently collecting annual fees from persons who hold hazardous waste storage, treatment or disposal facility (management facilities) permits. The amount of the fee is determined by the Department to cover some or all site-related administrative, monitoring and surveillance costs. No past effort was made to separate the fees into administrative, monitoring and surveillance categories.

The most recent fee assessed to the Arlington disposal facility was \$103,654. The most recent annual fees for storage and treatment facilities were based on the following schedule:

Storage*

<u>Facility Size</u>	<u>Fee</u>
5-55 gal./drums or 250 gallons bulk	\$ 250
5 to 250 - 55 gal./drums or 250 to 10,000 gallons bulk	1,000
>250 - 55 gal./drums or >10,000 gallons bulk	2,500



Contains
Recycled
Materials

Treatment*

<u>Facility Size</u>	<u>Fee</u>
<25 gal./hr. still capacity or 50,000 gal./day other capacity	\$ 250
25-200 gal./hr. still capacity or 50,000 to 500,000 gal./day other capacity	1,000
>200 gal./hr. still capacity or >500,000 gal./day other capacity	2,500

As part of its 1983-1985 budget package, and in anticipation of a possible reduction of federal funds, the Department introduced Chapter 90 - Oregon Law 1983 Regular Session (House Bill 2237) to obtain authority to also assess annual compliance determination fees for generators and air or water transporters. Chapter 90 also provided that the Commission would establish all fees, including storage, treatment and disposal permit fees, rather than the Department as in the past. Chapter 90 was amended by the legislature to limit the use of the expanded fee authority (generator and air or water transporters) to loss of federal funds rather than to be used to expand the hazardous waste program.

The Department also introduced Chapter 703 - Oregon Law 1983 Regular Session (House Bill 2238), one provision of which created a new class of permits. For disposal sites only, the period of post-closure monitoring and maintenance must also be covered by a permit. The Commission was given authority to assess application and annual permit fees for these post-closure activities.

Because EPA was able to provide adequate federal funds for fiscal year 1984, the Department assessed only management facility fees based on its existing authority at the time. Current EPA projection suggests that adequate federal funds will also be available for fiscal year 1985, therefore, its only necessary at this time to maintain a management facility permit fee schedule. It may be necessary to consider generator and air and water transporter fees beginning July 1, 1985.

Authorization to conduct a public hearing on these proposed fees is requested. The Commission is authorized to adopt such rules by ORS Chapter 468, including 468.020; 459, including 459.440 and 459.610 and 183.

*Where more than one activity occurs on the same site, the fee shall be the highest single fee from the storage, treatment or disposal schedule plus a flat fee of \$250 for each additional permitted activity.

Alternatives and Evaluation

The proposed schedule of fees, with the exception of filing fees for all management facilities, application processing fees for storage and treatment facilities, and fees relating to post-closure permits, is a continuation of a fee schedule previously assessed by the Department prior to 1983 amendments to ORS Chapter 459. Application processing fees for disposal sites are statutorily set at \$5,000. The main purpose of incorporating filing fees and processing fees is to more clearly relate Department revenue to Department activities, not to raise more revenue. The filing fees and processing fees will only be assessed when a new permit is applied for, an existing permit expires (typically once every 5 years) or an existing permit is modified to change technical standards. On an annual basis, most fee revenue will continue to be generated by the compliance determination fee.

We currently expect to issue less than 25 hazardous waste, storage, treatment or disposal facility permits. The Commission could consider modifying the proposed fee schedule, however, any reductions in the level of proposed fees would necessitate a corresponding reduction in service and potential loss in federal funds. (In order to receive federal funds, a state must provide at least a 25% match of total program costs and the Department just meets this requirement in the hazardous waste program.)

The proposed fee schedule (Attachment 4) would consist of a fixed filing fee, a variable application processing fee, and a variable compliance determination fee. Variable fees are based on the complexity of the facility and amount of waste stored, treated or disposed of. The disposal site fee represents anticipated costs to permit, inspect, and monitor commercial disposal facilities including a prior approval program for use of disposal sites by generators. The proposed filing fee would be \$50. The application processing fee would range from \$25 to \$5,000. The annual compliance determination fee would range from \$250 to \$150,000. If more than one management facility (i.e., storage, treatment or disposal) occurs at a single site, duplicate fees will not be charged. However, a flat fee of \$250 for each additional management activity will be added to the highest fee from the schedule that otherwise applies.

Summation

1. The Department is currently collecting annual permit fees from facilities that store, treat and dispose of hazardous waste.
2. The Department, as part of its budget presentation to the 1983 Legislature, proposed expanding its hazardous waste fee authority to include generator and air or water transporter compliance determination fees. The Department also proposed that the Commission establish all hazardous waste fees, including permit fees previously determined by the Department.

3. The Legislature limited the use of the new fee authority to loss of federal funds rather than for program expansion.
4. Adequate federal funds were available for fiscal year 1984 and are anticipated for fiscal year 1985, therefore, generator and air or water transporter fees are not proposed at this time.
5. The Department is currently assessing compliance determination fees on a site-by-site basis similar in amount to the fees proposed.
6. Filing fees and application processing fees are proposed to recognize the additional effort that is being required in the area of permit processing, and for the next several years, may offset increases in compliance determination fees that would otherwise be required.
7. Management facility permit fees are necessary to maintain the hazardous waste regulatory program and provide sufficient match to receive federal funds.
8. The Department has drafted a proposed fee schedule and requests authorization to conduct a public hearing.
9. The Commission is authorized to adopt such rules by ORS Chapter 468, including 468.020; 459, including 459.440 and 459.610 and 183.

Director's Recommendation

Based upon the Summation, it is recommended that the Commission authorize a public hearing to take testimony on the proposed hazardous waste management facility permit fee schedule OAR 340-105-070.

Fred Hansen

Attachments I. Draft Statement of Need and Fiscal Impact
II. Draft Hearing Notice
III. Draft Land Use Consistency Statement
IV. Draft Rule OAR 340-105-070

Richard P. Reiter:b

229-6434

March 15, 1984

ZB3130

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

In the Matter of the Adoption	)	Statutory Authority Statement
of Hazardous Waste Management	)	of Need, Principal Documents
Facility Permit Fees	)	Relied Upon, and Statement of
OAR Chapter 340-105-070	)	Fiscal Impact

1. Citation of Statutory Authority

ORS Chapter 468, including 468.020; 459, including 459.440; and 183 which allows the Environmental Quality Commission to adopt rules pertaining to hazardous waste management. Chapter 90 - Oregon Law 1983 Regular Session which authorizes the assessment of fees to carry on a hazardous waste monitoring, inspection and surveillance program and related administration costs.

2. Statement of Need

The Department of Environmental Quality needs to continue to assess hazardous waste management facility permit fees in order to maintain its existing hazardous waste regulatory program. Chapter 90 - Oregon Law 1983 Regular Session requires the Commission to determine the fees rather than the Department.

3. Principal Documents Relied Upon in this Rulemaking

- (a) Chapter 90 - Oregon Law 1983 Regular Session.
- (b) Department of Environmental Quality, Solid Waste Division, permit fee schedule, OAR 340-61-115.
- (c) Resolution on hazardous waste fees by the DEQ Task Force on Rules on Program Direction - August 16, 1982.

4. Statement of Fiscal Impact

This action will have fiscal or economic impact upon persons applying for and holding hazardous waste management facility permits. Such persons will be assessed a fee to cover the Department's cost for monitoring, inspecting and surveillance of management facilities, including related administrative costs (i.e., permit processing). Small business will be inspected if they apply for or hold a permit, however, the amount of fee will vary depending on amount of waste managed and complexity of the management facility. It is anticipated that this increased cost of doing business will be passed on to the public in the form of somewhat higher hazardous waste management rates.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

Proposed Hazardous Waste Management Facility Permit Fees

Date Prepared: March 16, 1984

Hearing Date: April 17, 1984

Comments Due: April 17, 1984

**WHO IS
AFFECTED:**

Persons applying for or holding hazardous waste storage, treatment or disposal permits issued by the Department will be directly affected. Also, it is anticipated that this increased cost of doing business for hazardous waste management facilities will be passed on to other businesses and the public in the form of somewhat higher service fees.

**WHAT IS
PROPOSED:**

The Department is proposing to adopt by rule hazardous waste management facility permit fees that it previously assessed directly. The Department is also proposing to adopt permit filing and processing fees that it didn't previously assess. Rules are necessary due to a change in the law during the 1983 Regular Session of the Legislature that requires the Environmental Quality Commission to establish the fees rather than the Department.

**WHAT ARE THE
HIGHLIGHTS:**

The fees would consist of a fixed filing fee (\$50), a variable application processing fee (\$25 to \$5,000) and a variable compliance determination fee (\$250 - \$150,000). The amount of the fees would be dependent upon the amount of hazardous waste managed and the complexity of the management facility.

**HOW TO
COMMENT:**

A public hearing is scheduled to begin at 9:00 a.m. on Tuesday, April 17, 1984 at the following location:

Department of Environmental Quality
Room 1400
522 S.W. Fifth Avenue
Portland, Oregon

A Department of Environmental Quality staff member or an Environmental Quality Commission Hearing Officer will be named to preside over and conduct the hearing.

Written comments should be sent to the Department of Environmental Quality, Solid Waste Division, Box 1760, Portland, OR 97207 by April 17, 1984.

**WHAT IS THE
NEXT STEP:**

The Environmental Quality Commission may adopt a fee schedule identical to the one proposed, adopt a modified schedule as a result of the hearing testimony, or decline to adopt a fee schedule.

Statement of Need, Fiscal Impact, Land Use Consistency, Statutory Authority, and Principal Documents Relied Upon are filed with the Secretary of State.

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 1-800-452-7013, and ask for the Department of Environmental Quality. 1-800-452-4011



ZB3130.2
P.O. Box 1760
Portland, OR 97207

8/10/82



Before the Environmental Quality Commission
of the State of Oregon

In the Matter of the Adoption of) Land Use Consistency
Hazardous Waste Management Facility)
Permit Fees, OAR Chapter 340,)
Section 105-070)

The proposals described herein appear to be consistent with statewide planning goals. These proposals appear to conform with Goal No. 6 (Air, Water and Land Resources Quality) and Goal No. 11 (Public Facilities and Services). There is no apparent conflict with the other goals.

With regard to Goal No. 6, the proposal would establish a schedule of permit fees for hazardous waste storage, treatment and disposal facilities (management facilities). The fees will help support the Department's existing regulatory program. The proposed fees are necessary to assure continued protection of public health and safety, and the air, water and land resources of the state. This action by definition complies with Goal No. 6.

With regard to Goal No. 11, the proposed fees would apply to hazardous waste disposal sites which by law must be owned by the state. Disposal sites are "public facilities" that "serve as a framework for urban and rural development" by providing a secure facility capable of permanently storing, under controlled conditions, hazardous waste.

Public comment on these proposals is invited and may be submitted in the manner described in the accompanying NOTICE OF PUBLIC HEARING.

It is requested that local, state and federal agencies review the proposed action and comment on possible conflicts with their programs affecting land use and with Statewide Planning Goals within their expertise and jurisdiction.

The Department of Environmental Quality intends to ask the Department of Land Conservation and Development to mediate any apparent conflicts brought to our attention by local, state or federal authorities.

After public hearing the Commission may adopt a fee schedule identical to the one proposed, adopt a modified schedule as a result of hearing testimony, or decline to adopt a fee schedule. The Commission's deliberation should come in May 1984 as part of the agenda of a regularly scheduled Commission meeting.

RPR:b
ZB3130.3
3/15/84

A new rule, OAR 340-105-070, is proposed as follows:

Permit Fees:

340-105-070

1. Beginning July 1, 1984, each person required to have a hazardous waste storage, treatment or disposal permit (management facility permit) shall be subject to a three-part fee consisting of a filing fee, an application processing fee and an annual compliance determination fee as listed in Table 1 of this Division. The amount equal to the filing fee, application processing fee and the first year's annual compliance determination fee shall be submitted as a required part of any application for a new permit. The amount equal to the filing fee and application processing fee shall be submitted as a required part of any application for renewal or modification of an existing permit.
2. As used in this rule, the following definitions shall apply:
 - a. the term management facility includes, but is not limited to:
 - (a) hazardous waste storage facility,
 - (b) hazardous waste treatment facility, and
 - (c) hazardous waste disposal facility.
 - b. The term hazardous wastes includes any solid waste or hazardous wastes as defined in Division 101 handled under the authority of a management facility permit.
 - c. The term license and permit shall mean the same thing and will be referred to in this rule as permit.
3. The annual compliance determination fee shall be paid for each year a management facility is in operation and, in the case of a disposal facility, for each year that post-closure care is required. The fee period shall be the state's fiscal year (July 1 through June 30) and shall be paid annually by July 1. Any annual compliance determination fee submitted as part of an application for a new permit shall apply to the fiscal year the permitted management facility is put into operation. For the first year's operation, the full fee shall apply if the management facility is placed into operation on or before April 1. Any new management facility placed into operation after April 1 shall not owe a compliance determination fee until July 1 of the following year. The Director may alter the due date for the annual compliance determination fee upon receipt of a justifiable request from a permittee.

4. For the purpose of determining appropriate fees, each management facility shall be assigned to a category in Table 1 of this Division based upon the amount of hazardous waste received and upon the complexity of each management facility. Each management facility which falls into more than one category shall pay whichever fee is higher. The Department shall assign a storage and treatment facility to a category on the basis of design capacity of the facility. The Department shall assign a disposal facility to a category on the basis of estimated annual cubic feet of hazardous waste to be received or average annual cubic feet of hazardous waste received during the previous three years.
5. Where more than one management facility exists on a single site, in addition to the compliance determination fee required by rules 340-105-070(3) and (4), a flat fee of \$250 shall be assessed for each additional management facility.
6. Modifications of existing, unexpired permits which are instituted by the Department due to changing conditions or standards, receipt of additional information or any other reason pursuant to applicable statutes and do not require re-filing or review of an application or plans and specifications shall not require submission of the filing fee or the application processing fee.
7. Upon the Department accepting an application for filing, the filing fee shall be nonrefundable.
8. The application processing fee, except for disposal permits, may be refunded in whole or in part when submitted with an application if either of the following conditions exist:
 - a. The Department determines that no permit will be required.
 - b. The applicant withdraws the application before the Department has approved or denied the application.
9. The annual compliance determination fee may be refunded in whole or in part when submitted with a new permit application if either of the following conditions exist:
 - a. The Department denies the application,
 - b. The permittee does not proceed to construct and operate the permitted facility.
10. All fees shall be made payable to the Department of Environmental Quality.

Table 1

1. Filing Fee. A filing fee of \$50 shall accompany each application for issuance, renewal or modification of a hazardous waste management facility permit. This fee is nonrefundable and is in addition to any application processing fee or annual compliance determination fee which might be imposed.

2. Application Processing Fee. An application processing fee varying between \$25 and \$5,000 shall be submitted with each application. The amount of the fee shall depend on the type of facility and the required action as follows:
 - (a) A new facility (including substantial expansion of an existing facility):

(A) Storage facility	\$ 150
(B) Treatment facility - Recycling	150
(C) Treatment facility - other than incineration	250
(D) Treatment facility - incineration	500
(E) Disposal facility	5,000
(F) Disposal facility - post closure	2,500

 - (b) Permit Renewal:

(A) Storage facility	50
(B) Treatment facility - recycling	50
(C) Treatment facility - other than incineration	75
(D) Treatment facility - incineration	175
(E) Disposal facility	5,000
(F) Disposal facility - post closure	800

 - (c) Permit Modification - Changes to Performance/Technical Standards:

(A) Storage facility	50
(B) Treatment facility - recycling	50
(C) Treatment facility - other than incineration	75
(D) Treatment facility - incineration	175
(E) Disposal facility	1,750
(F) Disposal facility - post closure	800

 - (d) Permit Modification - All Other Changes not Covered by (2)(c):

All categories	25
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 - (e) Permit Modifications - Department Initiated no fee

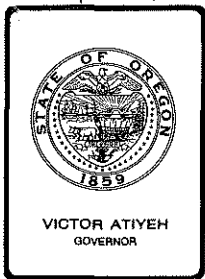
3. Annual Compliance Determination Fee. (In any case where a facility fits into more than one category, the permittee shall pay only the highest fee):

//

- (a) Storage facility:
 - (A) 5-55 gallon drums or 250 gallons
total or 2,000 pounds 250
 - (B) 5 to 250 - 55 gallon drums or 250
to 10,000 gallons total or 2,000
to 80,000 pounds 1,000
 - (C) >250 - 55 gallon drums or >10,000
gallons total or >80,000 pounds 2,500
- (b) Treatment Facility:
 - (A) <25 gallons/hour or 50,000 gallon/day
or 6,000 pounds/day 250
 - (B) 25-200 gallons/hour or 50,000 to
500,000 gallons/day or 6,000 to
60,000 pounds/day 1,000
 - (C) >200 gallons/hour or >500,000
gallons/day or >60,000 pounds/day . . . 2,500
- (c) Disposal Facility:
 - (A) <750,000 cubic feet/year or
<37,500 tons/year \$ 50,000
 - (B) 750,000 to 2,500,000 cubic feet/year
or 37,500 to 125,000 tons/year 100,000
 - (C) >2,500,000 cubic feet/year or
>125,000 tons/year 150,000
- (d) Disposal Facility - Post Closure:
 - All categories 5,000

ZB3130.T

10



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 *Juel*
Subject: Agenda Item No. H, April 6, 1984, EQC Meeting

Proposed Adoption of Hazardous Waste Management Rules,
OAR Chapter 340, Divisions 100-110

Background

Due to a high potential for human health and environmental damage, hazardous waste requires special management controls. This need has been recognized since 1971 when the Legislature initially adopted hazardous waste legislation so that today Oregon has a comprehensive hazardous waste management program that controls hazardous waste from the time of generation through transportation, storage, treatment and disposal.

Concurrently, the U.S. Environmental Protection Agency, under Subtitle "C" of the Resource Conservation and Recovery Act (1976), has developed a national program for the management of hazardous waste. The act places hazardous waste management in the federal province but includes provisions for EPA to authorize a state program to operate in lieu of a federally operated program.

The two-step authorization process consists of a period of Interim Authorization during which a state program is to be "substantially" equivalent to the federal program, and Final Authorization for which full equivalence is required.

The Interim Authorization period is designed to give a state time to bring its program into full compliance with the federal program and is scheduled to end nationwide in January 1985. It consists of two phases, Phase I, the regulation of generators, transporters, and hazardous waste management facilities (treatment, storage or disposal) under federal interim status standards, and Phase II, the authority to permit such facilities under state standards. The DEQ was granted Phase I on July 16, 1981, and initially planned to obtain Phase II during summer 1983. However, after a careful evaluation of the Department's existing program, it was felt that time and manpower could be used more profitably by bypassing Phase II Interim Authorization and applying directly for Final Authorization. EPA concurred in this decision and an accord was reached whereby the Department agreed to apply for Final Authorization by May 1984. Until that time, EPA and DEQ are issuing joint permits to hazardous waste management facilities using the authorities under both RCRA and ORS Chapter 459.



Contains
Recycled
Materials

The attached rules are the culmination of a two-year rulemaking process designed to make the state program fully equivalent to and consistent with the federal program. Divisions 100 to 106 and 110 are basically a recodification of the rules promulgated by EPA but have been modified in several places (highlighted in bold type) to more closely serve the needs of the Oregon community. Division 107 is reserved and Divisions 108 and 109 bring together existing rules, statutes and Department policy.

The main difference between the proposed and the present rules, Divisions 62 and 63, is that the proposed rules spell out detailed construction, operating and monitoring standards whereas the present rules generally permit the Department to specify those standards on an individual basis. Advantages of the proposed rules are that they: (1) more clearly express the hazardous waste management standards to the regulated community and the public alike; and (2) thus tend to promote a more consistent application of those rules. A disadvantage is the surrender of much of the Department's flexibility to tailor its standards to individual situations.

Several parts of the rules package (highlighted) deserve special mention. There is a ban on the land disposal of certain liquid organic hazardous wastes (rule 340-104-317). The ban is proposed to become effective January 1, 1985, and encompasses wastes which are persistent and toxic and cannot be safely contained in the ground. Many of the wastes are solvents which hasten the deterioration of landfill liners designed to contain them, exacerbating their threat to groundwater and nearby surface waters.

The immediate impact of the ban will be to divert wastes to out-of-state landfills, such as the one in Idaho, and to incinerators, such as those in Arkansas and Texas. There will also be an increase in disposal costs, lesser for the use of an alternate landfill but by a factor of two or three for generators who choose the incineration option. It is estimated that this will result in a 5% increase in cost to the regulated community as a whole.

A similar ban on land disposal is being promulgated by California, New York, Illinois and Maryland and is part of the RCRA reauthorization bill now in Congress. Further comments on this issue are discussed on page 6 of the Response to Comments from the January 5, 1984 public hearing (Attachment V).

There are several other areas in which the Department is proposing standards which are more stringent than those required by EPA:

- o Rule 340-101-025, in effect as ORS 459.410(6) since 1971, identifies virtually all pesticide and pesticide manufacturing residues as hazardous whereas EPA identifies only those mentioned in rules 340-101-024, -032 and -033.
- o Rule 340-101-032 lists spent potliner from primary aluminum reduction and rule 340-101-033(6) lists nerve agents as hazardous wastes.
- o Rule 340-101-033(3) regulates wastes and mixtures of wastes down to concentrations of 3% (P-list) and 10% (U-list), whereas EPA identifies only discarded commercial products or manufacturing intermediates.

- o The amount that may be disposed in a solid waste landfill for other than rule 340-101-033(6) (P-list) wastes (which are 2 lb/mo. in both the EPA and state program) ranges between 10 and 200 lb/mo., whereas EPA permits the disposal of 2200 lb/mo.
- o Rule 340-102-034(1)(f) requires that, after January 1, 1985, generators storing more than 100 drums of waste provide a secondary containment storage area whereas EPA does not.
- o Rules 340-104-143 and -145, currently in effect, requires cash or a cash equivalent for closure and post-closure care of a disposal site whereas EPA also accepts several other types of financial guarantee devices.
- o Rule 340-104-191(2) requires tanks installed after January 1, 1985, to provide secondary containment whereas EPA does not.
- o The reportable spill quantities, rule 340-108-020(2)(c), are generally lower than those required by EPA.
- o Division 109 sets operational standards for field users of pesticide which is an area not specifically addressed by EPA.

Because of the more comprehensive nature of the proposed rules, and at the suggestion of the Secretary of State's office, it was decided to repeal the existing hazardous waste management rules, Divisions 62 and 63, and adopt the proposed rules as Divisions 100 to 110, even though many of the present rules are retained in the proposed rules. The Statement of Need for Rulemaking is attached.

Alternatives and Evaluation

Adoption of the proposed rules will enable DEQ to apply for RCRA Final Authorization in accordance with the wishes of the regulated community and the public, as expressed at the November 17, 1980 Interim Authorization hearing, and those of the 1983 Legislature as expressed in HB 2238 (Section 2):

"The Commission and the Department are authorized to perform or cause to be performed any act necessary to gain Interim and Final Authorization of a hazardous waste regulatory program under the provisions of the federal Resource Conservation and Recovery Act, PL 94-580 as amended, and federal regulations and interpretative and guidance documents issued pursuant to PL 94-580. The Commission may adopt, amend, or repeal any rule or license, and the Commission or Department may enter into any agreement necessary to implement this section."

Not adopting the rules will preclude our obtaining Final Authorization and require EPA to operate a hazardous waste management program in Oregon. Without federal financial support for a state program, at this time, the Department could not implement an effective program.

The rulemaking process has included seven public meetings and two formal public hearings. The rulemaking was initially announced by distributing several hundred notices to hazardous waste generators, management facility operators, environmental groups, the media, and other interested parties. In addition, there were press releases before each meeting. For some public meetings, as many as 200-300 rules drafts were distributed with meeting attendance generally averaging 15-30 persons.

The first public hearing was held on January 5, 1984. Thirty-five persons were in attendance. Comments on that hearing are in the Hearing Officer's Report which is summarized and considered in the Department's Response to Comments.

Perhaps most significant were comments from EPA which were discussed with the Commission in a work session on January 6, 1984 (Attachment VI). Further meetings between the Department and the Regional Administrator of EPA indicated that the Department had no choice but to adopt a program identical to EPA's. This was communicated to the Commission on February 24, 1984, and the Department proceeded to redraft the hazardous waste rules in federal language.

The substantive changes in this redraft consisted of only those changes mandated by federal requirements; viz:

- o Included as permit conditions are such items as the waste analysis plan, training program, contingency plan, and authorized waste types that were formerly proposed to be handled outside the permitting process (see Divisions 104 and 105).
- o It is not possible to adopt proposed federal rules if such rules are less stringent than existing federal rules. This necessitates changes in the areas of beneficial use (Division 101), the management of lead-acid batteries (Division 101) and satellite accumulation (Division 102).
- o The Department is afforded less discretion in disposing of spill cleanup debris and must closely follow the procedures indicated for hazardous waste disposal.
- o The Department is foregoing the identification of PCB as a hazardous waste and adopting rules identical to the federal PCB rules (as Division 110). The Department has petitioned EPA for authority to manage PCB as a hazardous waste and, if approved, would propose this action at a future date.

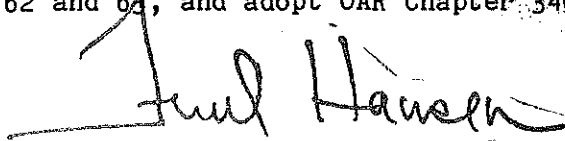
A public hearing on the redraft is scheduled for March 30, 1984. The Hearing Officer's Report, the Department's Response to Comments and any proposed rule changes will be forwarded to the Commission at its April 6 meeting.

Summation

1. The DEQ currently operates a comprehensive management program that controls hazardous waste from the time of generation through transportation, storage, treatment and disposal.
2. The current rules are not equivalent to federal rules in that they rely too much on best engineering judgment rather than spell out detailed construction, operating, and monitoring standards.
3. The DEQ obtained Phase I Interim Authorization on July 16, 1981. Since then, it has been engaged in a public rulemaking process, including seven public meetings and two public hearings, to revise its rules in anticipation of applying for Final Authorization to manage the hazardous waste program in Oregon.
4. The attached rules are believed to be fully equivalent to and consistent with the federal rules as necessary to receive Final Authorization.
5. The rules exceed EPA requirements in areas concerning the land disposal of certain organic liquids, the identification of hazardous wastes, the management of small quantities of hazardous waste, drum and tank storage, the reporting of spills, and the financial assurance requirements for hazardous waste disposal sites.

Director's Recommendation

Based upon the Summation, it is recommended that the Commission repeal OAR Chapter 340, Divisions 62 and 63, and adopt OAR Chapter 340, Divisions 100 to 110.


Fred Hansen

- Attachments:
- I. Statement of Need for Rulemaking
 - II. Statement of Land Use Consistency
 - III. Public Notices of Rules Adoption (2)
 - IV. Hearing Officer's Report
 - V. Response to Comment
 - VI. EQC Memo: Hazardous Waste Program Delegation
 - VII. Proposed OAR Chapter 340, Divisions 100 to 110

Fred S. Bromfeld:c
229-6210
March 15, 1984
ZC1434

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

IN THE MATTER OF ADOPTING) STATEMENT OF NEED FOR RULES
OAR CHAPTER 340,)
DIVISIONS 100 to 110)

STATUTORY AUTHORITY:

OAR 459.440 requires the Commission to:

- (1) Adopt rules to establish minimum requirements for the treatment storage, and disposal of hazardous wastes, minimum requirements for operation, maintenance, monitoring, reporting and supervision of treatment, storage and disposal sites, and requirements and procedures for selection of such sites.
- (2) Classify as hazardous wastes those residues resulting from any process of industry, manufacturing, trade, business or government or from the development or recovery of any natural resources, which may, because of their quantity, concentration, or physical chemical or infectious characteristics:
 - (a) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
 - (b) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.
- (3) Adopt rules pertaining to hearings, filing of reports, submission of plans and the issuance of licenses.
- (4) Adopt rules pertaining to generators, and to the transportation of hazardous waste by air and water.

A more recent statute (HB 2238, Section 2, 1983 Legislature) authorizes the Commission and the Department to perform any act necessary to gain Final Authorization of a hazardous waste regulatory program under the provisions of the federal Resource Conservation and Recovery Act.

NEED FOR THE RULES:

The management of hazardous waste is currently under both state and federal control but, by being authorized, a state may manage its own hazardous waste in lieu of a federally operated program. The proposed rules, which essentially just elaborate rather than expand the existing State program, are needed to obtain Final Authorization from EPA.

PRINCIPAL DOCUMENTS RELIED UPON:

Existing federal hazardous waste management rules, 40 CFR Parts 260 to 266 and 270, and existing State rules, OAR Chapter 340, Divisions 62 and 63.

FISCAL AND ECONOMIC IMPACT:

Adoption of these rules will increase the present estimated \$4 million Oregon hazardous waste disposal bill by about 5%. This is due primarily to rule 340-104-317 which bans the land disposal of certain organic liquids which pose an inordinate threat of contamination to groundwater. Affected generators will experience a two- to threefold disposal cost increase. However, the small business impact is not expected to be overwhelming as small business generates small quantities of waste.

Rules 340-102-034(1)(f) and 340-104-191(2) specifying drum and tank storage secondary containment standards, and 340-104-301(1)(a) requiring synthetic landfill liners will also raise costs, although to an overall lesser extent than the ban. Their small business impact is not expected to be significant; the first two because they deal with the storage of larger quantities of waste and the latter because costs will be incremental and in proportion to the amount of waste a generator disposes.

FSB:c
ZC1434.A

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

IN THE MATTER OF ADOPTING) LAND USE CONSISTENCY
OAR CHAPTER 340,)
DIVISIONS 100 to 110)

The proposal described appears to be consistent with all statewide planning goals. Specifically, the rules comply with Goal 6 because they would insure the safe management of hazardous waste transportation, storage, treatment, and disposal, and thereby provide protection for air, water, and land resource quality.

The rules comply with Goal 11 by promoting hazardous waste reduction at the point of generation, beneficial use, recycling, treatment, and by controlling disposal site operations. They also intend to assure that current and long-range waste disposal needs will be accommodated.

Public comment on this proposal is invited and may be submitted in the manner described in the accompanying Public Notice of Rules Adoption.

It is requested that local, state and federal agencies review the proposal and comment on possible conflicts with their programs affecting land use and with statewide planning goals within their jurisdiction. The Department of Environmental Quality intends to ask the Department of Land Conservation and Development to mediate any apparent conflicts thereby brought to its attention.

After public hearing, the Commission may adopt permanent rules identical to the proposal, adopt modified rules on the same subject matter, or decline to act. The Commission's deliberation should come on February 17, 1984 as part of the agenda of a regularly scheduled Commission meeting.

FSB:c
ZC1434.B

A CHANCE TO COMMENT ON...

Hazardous Waste Management Rules

Date Prepared: November 18, 1983
Hearing Date: January 5, 1984
Comments Due: January 5, 1984

**WHO IS
AFFECTED:**

Adoption of the rules will affect all persons who manage hazardous waste, including generators, transporters, and owners and operators of treatment, storage, and disposal facilities. However, for the most part, the rules are based upon federal rules which, if not adopted by DEQ, will be implemented by EPA.

**WHAT IS
PROPOSED:**

The DEQ proposes to adopt as OAR Chapter 340, Divisions 100 to 125, a substantially more detailed set of rules for hazardous waste management than now exists. This is primarily to fulfill an EPA prerequisite for receiving RCRA Final Authorization, but the detailing of regulations for managing hazardous waste should also be of benefit both to the regulated community and the public.

**WHAT ARE THE
HIGHLIGHTS:**

- o Adoption of the rules, and subsequently obtaining Final Authorization, will enable the DEQ to be solely responsible for managing hazardous waste in Oregon. The need to keep this responsibility in local hands has been expressed by the Legislature, the regulated community, and the public.
- o The rules include a ban on the landfilling of certain liquid hazardous wastes which have the greatest tendency to migrate out of a landfill to groundwater. The wastes selected are persistent and toxic and cannot be safely contained in the ground. The Department believes that only by eliminating burial of these wastes and directing industry to rely on safer disposal methods such as beneficial use, recycling, treatment and incineration can we avert their threat to groundwater and nearby surface waters.
- o The rules propose to regulate PCBs as a hazardous waste. Although this is not done at the federal level because PCB is regulated under another Act, it is believed that the hazards associated with PCB management make imperative that it be regulated no less stringently than are other hazardous wastes.



P.O. Box 1760
Portland, OR 97207

8/10/82

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 ~~1-800-452-7673~~ and ask for the Department of Environmental Quality. 1-800-452-4011



- o The rules exceed EPA requirements in areas such as the number of wastes identified as hazardous, the management of small quantities of hazardous waste, standards for drum and tank storage secondary containment, and the imposition of more rigid financial assurance requirements for hazardous waste disposal sites.

**HOW TO
COMMENT:**

Copies of the proposed rules can be obtained from:

Fred Bromfeld
Hazardous Waste Operations
Department of Environmental Quality
P.O. Box 1760
Portland, OR 97207
Telephone: 229-6210

Written comments should be sent to the same address by January 5, 1984. Verbal comments may be given during the public hearing scheduled as follows:

9:00 a.m.
Thursday, January 5, 1984
Room 1400
522 S.W. 5th Avenue
Portland, OR 97204

**WHAT IS THE
NEXT STEP:**

After the public hearing, the Environmental Quality Commission may adopt rules identical to those proposed, modify the rules, or decline to act. The Commission's deliberations should come on February 17, 1984, as part of the agenda of a regularly scheduled Commission meeting.

ATTACHMENTS:

Statement of Need for Rules (including Fiscal Impact)
Statement of Land Use Consistency

ZB2583.3

A CHANCE TO COMMENT ON...

Revised Hazardous Waste Management Rules

Date Prepared: March 1, 1984
Hearing Date: March 30, 1984
Comments Due: March 30, 1984

**WHO IS
AFFECTED:**

Adoption of the rules will affect all persons who manage hazardous waste, including generators, air and water transporters, and owners and operators of treatment, storage and disposal facilities.

**WHAT IS
PROPOSED:**

The Department of Environmental Quality proposes to adopt federal RCRA rules plus selected more stringent state rules as OAR Chapter 340 Divisions 100 to 110. The proposed rules will enable Oregon to apply to the U.S. Environmental Protection Agency (EPA) for Final Authorization to operate the state hazardous waste program.

**WHAT ARE THE
HIGHLIGHTS:**

- o A public hearing on the proposed rules was held on January 5, 1984. In written testimony, the EPA commented that the rules did not meet federal standards and would have to be extensively modified in the areas of permit content, proposed vs. adopted federal rules, spill cleanup and PCB regulation. As these modifications were so basic, it was decided to redraft the rules into essentially the federal format and language. The primary reason for the March 30 hearing is to review the redraft, specifically, the rule modifications made in response to the EPA comments (see below).
- o It is proposed to include as permit conditions such items as the waste analysis plan, training program, contingency plan, and authorized waste types that were formerly proposed to be handled outside the permitting process (see Divisions 104 and 105).
- o It is not possible to adopt proposed federal rules if such rules are less stringent than existing federal rules. This necessitates changes in the areas of beneficial use (Division 101), the management of lead-acid batteries (Division 101) and satellite accumulation (Division 102).
- o The Department is afforded less discretion in disposing of spill cleanup debris and must closely follow the procedures indicated for hazardous waste disposal.
- o The Department is foregoing the identification of PCB as a hazardous waste and adopting rules identical to the federal PCB rules. (NOTE: The Department has petitioned EPA for authority to manage PCB as a hazardous waste. If approved, DEQ would propose those rules at a future date.)



P.O. Box 1760
Portland, OR 97207

8/10/82

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 ~~1-800-452-7010~~ and ask for the Department of Environmental Quality.

1-800-452-4011



o The Department proposes to identify waste military nerve gas as hazardous.

**HOW TO
COMMENT:**

The proposed rules can be reviewed at DEQ Headquarters and Regional Offices from 8:00 a.m. to 5:00 p.m., Monday through Friday (many offices are closed during the noon hour). Refer to the following addresses and phone numbers below (or toll-free 1-800-452-4011):

Headquarters Office
Hazardous Waste Operations
5th Floor
522 SW Fifth Ave.
Portland
229-5913

Willamette Valley Regional Office
895 Summer St. NE
Salem
378-8240

Southwest Regional Office
201 W. Main St., Suite 2-D
Medford
776-6010

Central Regional Office
2150 NE Studio Rd.
Bend
388-6146

Eastern Regional Office
700 SE Emigrant St., Suite 330
Pendleton
276-4063

Written comments should be sent to the Department of Environmental Quality, PO Box 1760, Portland, OR 97207, by 5:00 p.m., March 30, 1984. Verbal comments may be given during the public hearing on:

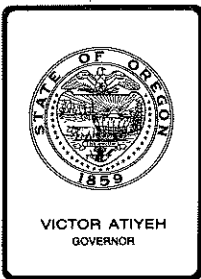
Friday, March 30, 1984
9:00 a.m.
DEQ Headquarters
Room 1400
522 SW Fifth Ave.
Portland

**WHAT IS THE
NEXT STEP:**

After the public hearing, the Environmental Quality Commission may adopt rules identical to those proposed, modify the rules or decline to act at their April 6 meeting.

**OTHER AVAILABLE
INFORMATION:**

The Statement of Need for Rules (including Fiscal Impact) and the Statement of Land Use Consistency are available from DEQ Hazardous Waste Operations, PO Box 1760, Portland, OR 97207, 229-5913 or toll-free 1-800-452-4011.



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: Linda K. Zucker, ^{LKZ}Hearings Officer
Subject: Agenda Item No. H, April 6, 1984, EQC Meeting

SUMMARY OF PUBLIC TESTIMONY ON PROPOSED ADOPTION OF
HAZARDOUS WASTE MANAGEMENT RULES, OAR CHAPTER 340,
DIVISIONS 100-125.

Background

Pursuant to notice a hearing was conducted on January 5, 1984 in the offices of DEQ in Portland, Oregon, to receive testimony on rules proposed by the Department for hazardous waste management.

Witnesses

JACK JOHNSTON of VanWaters & Rogers, a distributor of industrial chemicals in Oregon, Washington, and Idaho, objected to the provisions of proposed OAR 340-124-100, stating that the rule inhibits easy compliance because of its use of the classifications "ignitable" and "reactive." These terms, also used by EPA, are outside the traditional classification system for products of this type. For example, the Department of Transportation and OSHA use the classifications "combustible" and "flammable." Moreover, while national labeling laws require labeling of most flammable products, they do not require labeling of combustibles. OSHA, the Department of Transportation, the National Fire Protection Code, and the Bureau of Explosives use the term "oxidizer." Mr. Johnston suggested the proposed rules be changed to separate ignitables into the categories of "combustible" and "flammable."

Mr. Johnston's second concern was about the labeling burden created by the proposed regulations. The proposed regulations require lower reportable quantities than does federal law, and require different quantities than the states of Idaho, Washington, and California. Because bills of lading must demonstrate this information, inconsistency may create confusion. Mr. Johnston suggested that compliance would be more easily obtained under a simplified, consistent classification system.



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BOB WESTCOTT of Wesco Parts Cleaners in Canby, Oregon, proposed an amendment to proposed hazardous waste rule OAR 340-106-040. Wesco Parts Cleaners is in the business of renting cleaning machines. The company provides cleaning solvent as an adjunct to its machine rental. The rental price anticipates that spent solvent will be reused. Mr. Westcott points out that while their recycling system is small, it does solve an environmental concern: how to encourage recycling of small quantities (seven gallons) of waste solvent by unregulated generators. Because the spent solvents make good boiler fuel it would be an asset rather than a liability on any decommission of the Wesco facility. He believes the currently proposed rule does not anticipate a service such as theirs where the solvent is owned by the recycler and rented to the generator. His proposed rule is as follows:

Proposed Amendment to Division 106 Proposed Rules:

340-106-040

- (10) Persons who treat a hazardous waste where:
- (a) The solid waste is a solvent, which in its virgin state is hazardous by the characteristic of ignitability only;
 - (b) The solvent is recycled for its original use;
 - (c) The solvent is supplied and ownership retained by the recycler;
 - (d) The solvent is supplied and returned to the recycler in the same or similar container;
 - (e) Within a period of ninety (90) days after the date on which the quantity of waste solvent exceeds 200 pounds, possession of the waste solvent is transferred to the recycler.

In written testimony submitted after the hearing, Mr. Westcott objected to an oral proposal by staff to modify OAR 340-106-040(2) as follows:

- (2) Persons who treat, store or dispose of less than 2,000 lbs/mo. of hazardous waste produced by small generators (those subject to the reduced requirements of rule 340-102-040(2)) provided that such persons, excluding generators who treat or store on-site, obtain a letter of authorization pursuant to rule 340-120-500(2) if the amount treated, stored or disposed is greater than 200 lb/mo. of any one or combination of hazardous wastes;

The proposed change would unnecessarily extend full licensing requirements to otherwise excluded generators who are already adequately regulated by the "letter of authorization" requirement.

Written testimony available.

TOM DONACA, General Counsel of Associated Oregon Industries, Inc. (AOI), raised seven concerns:

1. AOI urges further study of issues relating to the definition of "volatile hazardous waste" with particular attention to the method of determination and measurement, noting the number of affected facilities and the potentially restrictive effect of water content in the waste.
2. AOI is concerned that the January 1, 1985 cut-off date for landfill disposition of liquids containing certain hazardous wastes will cause Oregon generators to send wastes out of state despite the existence of a safe in-state disposal site. AOI believes there should be a showing that alternate technology is available before implementation is required. In any case, extending the compliance date to January 1, 1986 would be consistent with California requirements and would allow time for installation of alternative technology.
3. AOI recommends changing from two pounds to ten pounds the maximum amount triggering regulation of generators or possessors of certain wastes. See OAR 340-101-350 and 340-102-040.
4. AOI prefers the proposed manifest system to that of EPA which is less complete and less informative.
5. AOI suggests separating the rule which addresses personnel training, preparedness and prevention, and contingency (OAR 340-102-160(1)) from the rest of its section and renumbering the remainder.
6. AOI disputes the benefit of the proposed annual operating reporting requirement in OAR 340-122-200. According to AOI, there is no way to "accurately report in a meaningful manner" the amount of hazardous waste treated. During most of the process, there is no hazardous waste present. Because water quality permit and POTW requirements limit the amount of hazardous materials which can be discharged, control is still maintained. The preferred way to maintain control over the amount of these materials which can be discharged is by limitations incorporated in the water quality permits or through POTW requirements on the amount of such materials which can be discharged.

7. On behalf of small businesses, AOI requests relief from the OAR 340-111-210(4)(b) requirement that hazardous waste containers not be stored within 50 feet of the storage site property line. The rule would preclude storage of containers on a 100' x 100' site. Other sufficient protections are available, but if some setback requirement is thought necessary, AOI recommends 10 feet, while urging 20 feet as a maximum requirement.

AOI has carefully studied the rules as they have evolved over the past year and is generally supportive of DEQ effort. AOI believes that in a number of instances the proposed rules are more practical than the current federal rules. AOI supports DEQ's attempt to avoid the adoption of impractical rules simply because they are current federal rules. Oregon has a great deal of experience in the operation and administration of effective environmental programs of benefit to the citizens of Oregon. Unless there is a clear showing that the proposed rules are a significant lessening of the federal requirement, they should be adopted as proposed with minimal changes such as those suggested by AOI.

Written testimony available.

W.A. KUCHARSKI, a Senior Environmental Engineer at Pacific Power & Light Company, urged elimination of PCB regulation from the rule proposal. According to Mr. Kucharski PCB's are already adequately identified under federal law (TSCA), and addressed under federal PCB regulations (40 CFR 761). State regulation would be redundant, offering no more environmental protection than is presently available.

More specific concerns include:

1. OAR 340-102-150 requires licensing for hazardous waste storage over 90 days, while federal PCB regulation allows a year. According to Mr. Kucharski, shorter storage periods will encourage more frequent waste transport, producing increased risk of PCB spills. The federal time limit is thus preferable.
2. The rule requiring licensing for recyclers who store over 2,000 pounds of hazardous waste should be deleted because it discourages recycling. In any case, products stored for a "beneficial use" should not be regulated as waste.
3. The regulation requiring generators to have prior written assurance that a receiving facility will accept hazardous waste shipments is unnecessarily burdensome. The rule would affect cleanup action or transport from one "internal Pacific facility" to another. Mr. Kucharski objects to requiring a manifest prior to shipment of a hazardous waste. He recommends requiring a manifest for PCB from point of storage to disposal only.

EQC Agenda Item No. H

April 6, 1984

Page 5

In the four respects noted, the proposed state regulations concerning PCB handling differ from existing federal regulatory requirements. The benefits do not justify the costs. PCB wastes are already rigorously regulated. If the changes proposed by Pacific are accommodated, the proposed Oregon rules will comport more closely with federal requirements, lightening the burden to the regulated community.

Written testimony available.

LKZ:d

HD407

January 20, 1984



PARTS CLEANERS

P.O. BOX 426
CANBY, OREGON 97013
(503) 266-2028

January 12, 1984

Linda Zucker, Hearings Officer
Environmental Quality Commission
522 S.W. 5th
Portland, OR 97207

Subject: Testimony regarding the new proposed Hazardous Waste
Rules, Division 106

Dear Ms. Zucker:

We would like to respond to the oral testimony given by Fred Bromfeld at the January 5th hearing. He proposed that 340-106-040 (2) be modified with the insertion of the words "less than 2000 lbs per month". We feel that the addition of these words for practical purposes negates the purpose of the paragraph. The reason is rule 340-102-040 (2) defines a small generator as one who generates less than 2000 lbs per month of unlisted hazardous wastes. Hence with Mr. Bromfeld's proposal, persons who treat, store, or dispose of hazardous wastes under the exception of 340-106-040 (2) would be forced into full licensing requirements while treating wastes for as few as two small generators.

While we feel that the paragraph is adequate as written because of the requirement of a "letter of authorization" provision, if the commission feels that the paragraph need be further restricted we would propose that Mr. Bromfeld's wording be changed to "less than 15,000 lbs per month".

We would appreciate your consideration of our testimony.

Sincerely yours,

Robert D. Westcott
Wesco Parts Cleaners

RDW/sw

cc: Fred Bromfeld
cc: Tom Donaca

January 4, 1984

To: Environmental Quality Commission, Hearings Officer

From: Wesco Parts Cleaners, Canby, Oregon

Subject: Amendment to Proposed Hazardous Waste Rules,
Division 106

Our business is the rental of parts cleaning machines (see enclosed brochure) where we provide not only the machines but the cleaning solvent as well. Our rental pricing is predicated on the concept of our recycling the spent solvent for reuse.

While our recycling system is small it solves an environmental concern i.e. how to encourage recycling of small quantities (7 gallons) of waste solvent by unregulated generators.

The rules as written don't anticipate (in my opinion) a service such as ours, where the solvent is owned by the recycler and rented to the generator.

I have attached a proposed amendment (exhibit A) that is designed to adjust the proposed rules (Division 106) to better fit a company such as ours.

I would offer the following as an explanation of our proposed amendment:

- (a) designates the exception to be a waste hazardous by the characteristic of ignitability and precludes listed wastes from the exception.
- (b) is designed to keep the solvent in an easily identified loop.
- (c) is intended to clearly designate the ownership of the solvent so as to keep the exception limited in scope.
- (d) further limits the exception.
- (e) limits by time the storage of a hazardous waste by our customers.

I would like to note in closing that our spent solvents make good boiler fuel. If something were to happen to me or my company this spent solvent would be an asset rather than a liability upon the decommission of our facility.

EXHIBIT A

PROPOSED AMENDMENT TO DIVISION 106 PROPOSED RULES:

340-106-040

- (10) Persons who treat a hazardous waste where:
- (a) The solid waste is a solvent, which in its virgin state is hazardous by the characteristic of ignitability only;
 - (b) The solvent is recycled for its original use;
 - (c) The solvent is supplied and ownership retained by the recycler;
 - (d) The solvent is supplied and returned to the recycler in the same or similar container;
 - (e) Within a period of ninety (90) days after the date on which the quantity of waste solvent exceeds 200 lbs, possession of the waste solvent is transferred to the recycler.

Testimony of
ASSOCIATED OREGON INDUSTRIES

on

PROPOSED HAZARDOUS WASTE MANAGEMENT RULES

My name is Thomas C. Donaca, General Counsel, of Associated Oregon Industries, Inc. Our comments today are not extensive but do indicate our concern regarding those issues which we are here to discuss today. The following are our specific comments:

1. The definition of "volatile hazardous waste". We are concerned that the method of determination and measurement is not in the rules because the potential tests are difficult, expensive and testing facilities are not readily available. We are also concerned about the number of facilities that may be affected. Further, if the waste has a water content it could be included in the 3% limit making the definition even more restrictive. We do not have a specific recommendation to correct this definition but we suggest it needs further study. We understand your purpose and agree with it as used in 340-112-200(5) and 340-113-200(3), but you should avoid creating unnecessary difficulties in the administration of these rules.

2. We believe that by utilizing the date of January 1, 1985 as the cut off date for the wastes described in 340-116-210 and elsewhere in the rules will cause Oregon generators to export such wastes out of state, due to their inability to dispose of the waste in Oregon. We think this is the wrong approach and that Oregon, which has a safe disposal site, should take care of its own hazardous waste. We recommend that the date be extended to January 1, 1986, which would be consistent with the State of California approach, and would allow adequate time for the installation of alternative technology to deal with the waste. In addition, there should be a showing that alternative technology is available before the rule is implemented.

3. The requirement of 340-101-350 and 102-040 relating to small quantity generators appear overly stringent with regard to the two pound limitation. It will undoubtedly create a greater number of generators and a much heavier administrative burden than is required by the amount of waste involved. We suggest that a somewhat higher limitation would be more practical, at least 10 lbs., without engendering greater risk of public harm.

4. We support the present manifest system stated in 340-102-250, and submit that the adoption of the national manifest at this time would not be in the best interest of the state. We feel strongly that the national manifest in its present form is incomplete and provides less information than the current manifest required by current Oregon rules. If EPA updates their manifest rules so that they are workable and practical and provide the needed information, then we will support amending the proposed rules to incorporate them.

continued...

5. We suggest that 340-102-160(1) be separated from the rest of the rules and that subsections (2), (3) and (4) be given a new number properly reflecting their relationship to each other but not to subsection (1).

6. Regarding 340-122-200, in most elementary neutralization and process wastewater treatment facilities there is no way of accurately reporting in a meaningful manner the amount of hazardous waste treated and therefore the report will not provide best estimates. It must be understood that in most instances the process is simply going on and much of the time no hazardous waste is present. Additionally there are limitations by water quality permit or POTW requirements on the amount of such materials that can be discharged which is the better way to maintain control over such discharges.

7. Regarding 340-111-210(4)(b) we request relief on behalf of our smaller members and other small businesses of the 50 foot set back from the property line. As written this rule will exclude storage of containers on a 100' X 100' site. We suggest that (4)(a) and (c) are adequate for control. If a footage number is required we recommend 10 feet but it should not exceed a 20 foot set back.

We have studied these rules carefully as they have evolved over the past year and are generally supportive of the efforts of the DEQ in the rules that they have proposed. In addition, we believe that in a number of instances they are more practical than the current federal rules, and we support your attempts to avoid the adoption of impractical rules simply because they are current federal rules. Oregon has a great deal of experience in the operation and administration of effective environmental programs of benefit for the citizens of this state and, unless there is a clear showing that these proposed rules are a significant lessening of the federal requirements, should be adopted as proposed, with some minimal changes such as those we have suggested today.

5 January 1984

PACIFIC POWER & LIGHT COMPANY

920 S.W. SIXTH AVENUE • PORTLAND, OREGON 97204 • (503) 243-1122

Fred Ruck

January 9, 1984

Mr. Fred Bromfeld
Hazardous Waste Operations
Department of Environmental Quality
P.O. Box 1760
Portland, Or 97207

Dear Mr. Bromfeld:

Enclosed are the comments of Pacific Power & Light Company presented at the public hearing held on January 5, 1984 on proposed regulations, OAR chapter 340, Divisions 100 to 125.

The comments provided Pacific are meant to be helpful to the Department and to the Environmental Quality Commission in deciding on the appropriate make-up of the final rules. Pacific trusts that you will receive these comments in the spirit with which they are offered.

Sincerely,

W. A. Kucharski

W. A. Kucharski
Sr. Environmental Engineer

WAK/bak

Enclosures

*To Linda Z.
1/12*

BEFORE THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Pacific Power & Light Company is pleased to have this opportunity to present these comments on the proposed Hazardous Waste Management Regulations, Chapter 34, Divisions 100 to 125. Pacific has specific comments concerning these rules; first however, Pacific would like to provide some generic comments on the inclusion of PCB wastes, [currently administered under the Toxic Substance Control Act (TSCA)] under Resource Conservation and Recovery Act (RCRA) regulations. RCRA (PL94-580, as amended) Section 1003 (1) contains specific objectives of the Act, one of these objectives is to encourage state and local governments to take over the management of solid wastes within their legislative boundaries. TSCA (PL94-469 as amended) on the other hand, states in Section 2 (c), that the intent of Congress is that "the Administrator (EPA) shall carry out this Act."

It is clear to Pacific that the requirements of RCRA were intended for delegation to the states, while TSCA is required to be administered by the federal EPA alone. PCBs are clearly identified under TSCA [Section 6 (e)] and federal PCB regulations, 40 CFR Part 761, derive their authority from TSCA alone. It is significant to note that regardless of any Oregon regulations concerning PCBs, the requirements of 40 CFR Part 761 must still be complied with. It is also noteworthy that PCBs are the only TSCA regulated chemicals that have a complete and specific set of regulations (40 CFR 761) just for their use, storage and disposal.

With these generic observations, it is difficult for Pacific to understand the necessity of adding a redundant set of

regulations on an already highly regulated chemical specie. It would be difficult, Pacific believes, for the Oregon DEQ to provide any documentation on how the proposed rules would prevent, minimize the environmental impact, or provide in any way, the people of Oregon with more protection than is already provided by 40 CFR Part 761. In short, Pacific feels that PCBs are adequately controlled by the TSCA regulations and that the inclusion of these wastes by Oregon into RCRA regulations is inappropriate.

Specific comments on several aspects of the rules follow.

1. Waste storage (340-102-150) does not allow storage of PCB waste for more than 90 days without obtaining a license to store the hazardous waste. The federal PCB regulations allow up to one (1) year between designation of the PCB as a waste and when final disposal must occur. The shorter storage time will encourage PCB storage of less than 90 days. This in turn will require more frequent transportation of PCBs for disposal than under the federal rules. It is well understood that highway accidents are not a function of loads, but rather are based on total miles traveled. Pacific believes that the 90 day storage requirement will increase the risk of PCB spills in Oregon and, therefore, Pacific recommends that the federal requirement of a maximum one year storage be maintained.
2. Pacific is concerned with section 340-102-150 (1)(a) of the proposed regulations. This section deals with generators who

store hazardous wastes for off-site beneficial use or recycle. Such a generator may only store 2,000 pounds or the exemption from the storage license requirements does not apply. Four, 55 gallon drums is approximately equivalent to this 2,000 pounds. This discourages recycle. The wording of this section is disturbing as well. If a product is to be put to beneficial use, how can this product be considered a waste? It is recommended that the 2,000 lb. restriction of 340-102-150 be deleted and that reference to "off-site beneficial use of recycle" in 340-102-150 (1) be deleted as well.

3. Section 340-102-200 (5) requires a generator to have prior written assurance that the facility to which it is being shipped will accept the shipment. This is a notably ponderous requirement in the case of a PCB spill, or of a PCB shipment from one internal Pacific facility to another. This would mean that whenever there is a PCB spill (e.g. from a capacitor rupture at a pole) the field crew could not bring the cleanup waste to a shipping or storage point within Pacific or from one storage area within the Pacific system to another without prior written authorization. This requirement does not fit PCB management practices and it is recommended that this requirement be deleted for PCBs.
4. Section 340-102-250 requires a manifest prior to shipment of a hazardous waste. When PCBs are included in this definition, a logistical problem is created for Pacific. The only requirement, at present, is that a PCB be accounted for after it has been designated a waste. A manifest is required

when the waste leaves the storage area for ultimate disposal. It is difficult, and counter productive for a field crew to have to complete a full manifest document at the point of a spill. It is recommended, therefore, that the proposed rules require a manifest for PCB from point of storage to disposal only, as is now-required by the TSCA rules.

In summary, Pacific has pointed out 4 specific areas where the proposed state regulations concerning PCB handling differs from the existing federal regulatory requirements. The benefits to be derived from these changes will not be significant, the costs to Pacific are difficult to justify.

PCB wastes are already rigorously controlled under 40 CFR Part 761. Whatever the Oregon hazardous waste rules require, the federal requirements remain. The changes that Pacific have recommended to the proposed Oregon rules would bring these rules closer to commonality with the federal requirements. Pacific cannot understand the necessity to include PCBs under the Oregon Hazardous Waste rules and strongly urges the DEQ to remove reference to PCB's from Proposed OAR Chapter 340, Divisions 100 to 125 and to regulate PCB's under the already stringent requirements of 40 CFR Part 761.

**NORTHWEST
PULP&PAPER**

January 4, 1984

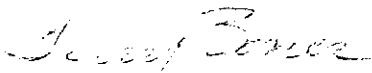
Fred Bromfield
Department of Environmental Quality
522 SW 5th, PO Box 1760
Portland, OR 97207

Dear Fred:

Enclosed are comments prepared by NWPPA on the DEQ proposed hazardous waste regulations. NWPPA appreciates DEQ's consideration of our concerns with the regulations and it appears that the majority of these concerns have been addressed in the final draft. The intent of the enclosed comments is to clarify and reiterate verbal comments of December 22 and to assist with the final drafting of the regulations.

Thank you for the opportunity to comment on the proposed regulations.

Sincerely,



Terry Boner
Energy/Environmental Analyst

TB:sd

Enclosure

NORTHWEST PULP AND PAPER ASSOCIATION COMMENTS
DEPARTMENT OF ENVIRONMENTAL QUALITY PROPOSED
HAZARDOUS WASTE REGULATIONS
CHAPTER 340, DIVISIONS 100 - 125

DIVISION 101 - IDENTIFICATION OF HAZARDOUS WASTE

Specific Comments

340-101-050 Beneficial Use and Recycle: NWPPA endorses DEQ's proposed requirements for beneficial users and recyclers of hazardous wastes. The proposed standards accurately reflect the intent of EPA's April 4, 1983 rulemaking.

340-101-210, - 220: These sections should contain references to inner liners or container residues which have been used to hold any commercial chemical product, or manufacturing chemical intermediates including quantity exemption levels and disposition of containers or inner liners.

340-101-300(2)(D): The phrase "managing the liner as hazardous waste" needs clarification.

340-101-350 Small Quantity Management: -- There is an overlap between this section and Division 102-040(2) as both contain requirements for the management and disposal of small quantities of hazardous waste. Section 101-350 should reference the small quantity generator requirements of Section 102-040(2) to ensure that these additional requirements will be brought to the readers attention.

DIVISION 102 - GENERATORS

340-102-400 Beneficial Use: This section could include a provision regarding unavoidable situations where a 30-day advance notice is not possible.

DIVISION 122 - LICENSE BY RULE

General Comments

DEQ proposes to regulate wastewater treatment and elementary neutralization facilities through a license by rule. These facilities currently are excluded from federal regulation in RCRA Sections 122.21, 264.1, 265.1, and 122.26. Although EPA did issue proposed permit by rule regulations for these facilities November 17, 1980, the Agency now is developing a concept, "Class Permits," to replace their previously proposed permit by rule regulations. "Class permits" are an EPA priority regulation and a proposed rulemaking is scheduled in February 1984. It is advisable for the DEQ to wait to propose regulations for these facilities until EPA's intentions are clear.

The state currently regulates wastewater treatment facilities through the NPDES program and many of the proposed License by Rule requirements are present in NPDES. NPDES contains provisions that apply not only to discharges, but also to the proper operation and maintenance of the wastewater treatment system. The DEQ will not gain any further degree of environmental protection by regulating these facilities through a License by Rule and it is unnecessary for the state to regulate these facilities by including them within the hazardous waste program.

Specific Comments

Given the above considerations it is more appropriate for the DEQ to exclude wastewater treatment and neutralization facilities from regulation at this time. If the state still feels that some additional regulation of these facilities is necessary, a more limited set of criteria, such as that proposed in the November 17 Federal Regulations should be applied.

The Specific Facility Requirements 340-122-200 for elementary neutralization or wastewater treatment facilities appear redundant with the requirements for General Facilities.

RESPONSE TO COMMENTS

Comments submitted pursuant to January 5, 1984 public hearing on proposed adoption of hazardous waste management rules, OAR Chapter 340, Divisions 100 to 125. These rules have been subsequently condensed to Divisions 100 to 110 as a result of the EPA comments received in connection with this hearing.

Division 101

Comment on 340-101-210 and -220: These rules should contain references to inner liners or container residues which have been used to hold any commercial chemical product, or manufacturing chemical intermediates including quantity exemption levels and disposition of containers or inner liners.

Department Response: Agreed. See revised rule 340-101-033(4).

Comment on 340-101-300(2)(a)(D): The phrase "managing the liner as hazardous waste" needs clarification.

Department Response: Agreed. See revised rule 340-101-007.

Comment on 340-101-350 and 340-102-040: These rules relating to small quantity generators appear overly stringent with regard to the two pound limitation. It will undoubtedly create a greater number of generators and a much heavier administrative burden than is required by the amount of waste involved. We suggest that a somewhat higher limitation would be more practical, at least 10 lb., without engendering greater risk of public harm.

Department Response: The 2 lb/mo. limitation with regard to "P-list" wastes is an EPA requirement which we are not at liberty to modify. See revised rule 340-101-005 for small quantity generator requirements.

Comment on 340-101-350: There is an overlap between this rule and 340-102-040(2) as both contain requirements for the management and disposal of small quantities of hazardous waste. Rule 340-101-350 should reference the small quantity generator requirements of 340-102-040(2) to ensure that these additional requirements will be brought to the readers' attention.

Department Response: Agreed. See revised rule 340-101-005.

Division 102

The following three comments pertain to PCBs:

Comment on 340-102-150: Waste storage does not allow storage of PCB waste for more than 90 days without obtaining a license to store the hazardous waste. The federal PCB regulations allow up to one year between designation of the PCB as a waste and when final disposal must occur. The shorter storage time will encourage PCB storage of less than 90 days. This in turn will require more frequent transportation of PCBs for disposal than under the federal rules. It is well understood that highway accidents are not a function of loads, but rather are based on total miles traveled. We believe that the 90 day storage requirement will increase the risk of PCB spills in Oregon and, therefore, recommend that the federal requirement of a maximum one year storage be maintained.

Comment on 340-102-200(5): Rule 340-102-200(5) requires a generator to have prior written assurance that the facility to which it is being shipped will accept the shipment. This is a notably ponderous requirement in the case of a PCB spill, or of a PCB shipment from one of our internal facilities to another. This would mean that whenever there is a PCB spill (e.g., from a capacitor rupture at a pole), the field crew could not bring the cleanup waste to a shipping or storage point within our company or from one storage area within our system to another without prior written authorization. This requirement does not fit PCB management practices and it is recommended that this requirement be deleted for PCBs.

Comment on 340-102-250: Rule 340-102-250 requires a manifest prior to shipment of a hazardous waste. When PCBs are included in this definition, a logistical problem is created for us. The only requirement, at present, is that a PCB be accounted for after it has been designated a waste. A manifest is required when the waste leaves the storage area for ultimate disposal. It is difficult and counterproductive for a field crew to have to complete a full manifest document at the point of a spill. It is recommended, therefore, that the proposed rules require a manifest for PCB from point of storage to disposal only, as is now required by the TSCA rules.

Department Response to PCB Comments: A specific response to the comments will not be given at the present time since the Department has not yet received EPA authorization to manage PCBs any more stringently than they are managed by EPA. However, we have petitioned EPA for this authority and, if granted, will respond to these comments in a separate rulemaking procedure.

The Department is proposing in Division 110 to adopt rules for PCB management (pertaining to storage and disposal) identical to the federal rules.

Comment on 340-102-150(1)(a): This section deals with generators who store hazardous wastes for off-site beneficial use or recycle. Such a generator may only store 2,000 pounds or the exemption from the storage license requirements does not apply. Four 55-gallon drums are approximately equivalent to this 2,000 pounds. This discourages recycle. The wording of

this section is disturbing as well. If a product is to be put to beneficial use, how can this product be considered a waste? It is recommended that the 2,000 lb. restriction of 340-102-150 be deleted and that reference to "off-site beneficial use or recycle" in 340-102-150(1) be deleted as well.

Department Response: ORS 459.410(6) defines as hazardous any "residues resulting from any process of industry, manufacturing, trade or business . . . classified as hazardous by order of the Commission . . ." regardless of the channel through which the waste subsequently flows. The Department believes that it is a very unwise from a public health and environmental perspective to permit the unregulated beneficial use or recycle of hazardous waste and is exercising its authority under law to regulate it. We have, however, removed the 2,000 pound limit, provided the generator adheres to certain storage regulations; see revised rule 340-101-006.

Comment on 340-102-160: We suggest that 340-102-160(1) be separated from the rest of the rules and that subsections (2), (3) and (4) be given a new number properly reflecting their relationship to each other but not to subsection (1).

Department Response: Agreed. See revised rule 340-102-034.

Comment on 340-102-250: We support the present manifest system and submit that the adoption of the national manifest at this time would not be in the best interest of the state. We feel strongly that the national manifest in its present form is incomplete and provides less information than the current manifest required by current Oregon rules. If EPA updates their manifest rules so that they are workable and practical and provide the needed information, then we will support amending the proposed rules to incorporate them.

Department Response: Agreed and consistent with editorial note to rule. See revised rule 340-102-021.

Comment on 340-102-400: This rule could include a provision regarding unavoidable situations where a 30-day advance notice is not possible.

Department Response: Thirty days is the maximum time felt needed to review a complex request. In most cases, we would be able to reply in a shorter time, especially upon request of urgency by the generator or beneficial user. We believe that a 30-day notice is reasonable and can see no basis for setting a shorter time limit which might force us into a situation of incomplete review or response. Rule recodified as 340-102-052 but not modified.

Division 106

Comment on 340-106-040: Our business is the rental of parts cleaning machines where we provide not only the machines but the cleaning solvent as well. Our rental pricing is predicated on the concept of our recycling the spent solvent for reuse.

While our recycling system is small, it solves an environmental concern, i.e., how to encourage recycling of small quantities (7 gallons) of waste solvent by unregulated generators.

The rules as written don't anticipate a service such as ours, where the solvent is owned by the recycler and rented to the generator.

I have attached a proposed amendment that is designed to adjust the proposed rules to better fit a company such as ours.

I would offer the following as an explanation of our proposed amendment:

- (a) Designates the exception to be a hazardous waste by the characteristic of ignitability and precludes listed wastes from the exception.
- (b) Is designed to keep the solvent in an easily identified loop.
- (c) Is intended to clearly designate the ownership of the solvent so as to keep the exception limited in scope.
- (d) Further limits the exception.
- (e) Limits by time the storage of a hazardous waste by our customers.

I would also like to note that our spent solvents make good boiler fuel. If something were to happen to me or my company, this spent solvent would be an asset rather than a liability upon the decommission of our facility.

The proposed amendment is:

340-106-040(10) (Pertaining to exemptions from hazardous waste management program) Persons who treat a hazardous waste where:

- (a) The solid waste is a solvent, which in its virgin state is hazardous by the characteristic of ignitability only;
- (b) The solvent is recycled for its original use;
- (c) The solvent is supplied and ownership retained by the recycler;
- (d) The solvent is supplied and returned to the recycler in the same or similar container;
- (e) Within a period of ninety (90) days after the date on which the quantity of waste solvent exceeds 200 lbs., possession of the waste solvent is transferred to the recycler.

Department Response: While we sympathize with commentor's point of view, we feel that it is critical for the public to have assurance that the recycle site is properly operated and that there is bonding and insurance to provide relief in the event that the business cannot continue to operate. A permit requiring compliance with hazardous waste management standards is our only way of assuring this. The fact that the solvent on site may have value as boiler fuel should reduce the cost of closure, and hence, the amount of bonding required. Rule recodified as 340-104-006 but not modified.

Comment on 340-106-040(2): We would like to respond to the oral testimony given by a Department representative at the January 5th hearing. He proposed that 340-106-040(2) be modified with the insertion of the words "less than 2,000 lb. per month." We feel that the addition of these words for practical purposes negates the purpose of the paragraph. The reason is rule 340-102-040(2) defines a small generator as one who generates less than 2,000 lb. per month of unlisted hazardous wastes. Hence with that proposal, persons who treat, store or dispose of hazardous wastes under the exception of 340-106-040(2) would be forced into full permitting requirements while treating waste for as few as two small generators.

While we feel that the paragraph is adequate as written because of the requirement of a "letter of authorization" provision, if the Commission feels that the paragraph need be further restricted, we would propose that the wording be changed to "less than 15,000 lb. per month."

Department Response: The Department believes that any accumulation of over 2,000 lb/mo. of hazardous waste, regardless of source, is a potential threat to public health and the environment and should be subject to the permitting requirement. This is analogous to the generator who produces 1 lb/mo. of hazardous waste in each of 2,000 reactions being subject to the same rules as a generator who produces 2,000 lb/mo. in one reaction. Rule recodified as 340-101-005(10) but 2,000 lb/mo. permitting threshold not modified.

Division 111

Comment on 340-111-210(4)(b): We request relief on behalf of our smaller members and other small businesses of the 50-foot setback from the property line. As written, this rule will exclude storage of containers on a 100' x 100' site. We suggest that (4)(a) and (c) are adequate for control. If a footage number is required, we recommend 10 feet but it should not exceed a 20-foot setback.

Department Response: The 50-foot setback is an EPA requirement which we are not at liberty to modify. However, we note EPA is reviewing this requirement (No. 159 in FR of Oct. 17, 1983) and we will adopt any federal rule that may be promulgated in the direction of your recommendation. Rule recodified as 340-104-176.

Divisions 112 and 113

Comment on 340-112-200(5) and 113-200(3): The definition of "volatile hazardous waste." We are concerned that the method of determination and measurement is not in the rules because the potential tests are difficult and expensive, and testing facilities are not readily available. We are also concerned about the number of facilities that may be affected. Further, if the waste has a water content, it could be included in the 3% limit making the definition even more restrictive. We do not have a specific recommendation to correct this definition but we suggest it needs further study.

Department Response: The test is quite simple and consists of purging the sample with nitrogen and weighing any organics driven off. Water in the sample is disregarded. The test was outlined in the June 3, 1983 draft rules. However, as the Department has the authority to designate what wastes may be managed in a facility when the license is granted, it agrees that at this time an outright ban on the management of volatile hazardous wastes in licensed facilities may be too restrictive and is withdrawing the proposal.

Division 116

Comment on 340-116-210: We believe that utilizing the date of January 1, 1985, as the cutoff date for the wastes described in 340-116-210 and elsewhere in the rules will cause Oregon generators to export such wastes out of state, due to their inability to dispose of the waste in Oregon. We think this is the wrong approach and that Oregon, which has a safe disposal site, should take care of its own hazardous waste. We recommend that the date be extended to January 1, 1986, which would be consistent with the State of California approach, and would allow adequate time for the installation of alternative technology to deal with the waste. In addition, there should be a showing that alternative technology is available before the rule is implemented.

Department Response: We believe there is agreement that landfilling is not the proper disposal method for the wastes listed in the subject rule. At present, it appears that incineration is the most developed technology to properly do the job. A letter from Rollins (attached to this Response) indicates that they can incinerate the listed wastes in the quantities estimated to be received by Arlington in the near future. ENSCO and Chem Waste Management can also provide similar incineration services.

On that basis, we can see no compelling reason to delay the ban for a year. In fact, the quicker we can provide assurances that there will be a ban, the quicker the regulated community would be likely to move ahead with alternative destructive technologies. Rule recodified as 340-104-317.

Division 122

Comments:

- (1) The state currently regulates wastewater treatment facilities through the NPDES program and many of the proposed License by Rule requirements are present in NPDES. NPDES contains provisions that apply not only to discharges, but also to the proper operation and maintenance of the wastewater treatment system. The DEQ will not gain any further degree of environmental protection by regulating these facilities through a License-by-Rule and it is unnecessary for the state to regulate these facilities by including them within the hazardous waste program.

As such, it is more appropriate for the DEQ to exclude wastewater treatment and neutralization facilities from regulation at this time. If the state still feels that some additional regulation of these facilities is necessary, a more limited set of criteria, such as that proposed in the November 17, 1980 Federal Register, should be applied.

The Specific Facility Requirements 340-122-200 for elementary neutralization or wastewater treatment facilities appear redundant with the requirements for General Facilities.

- (2) Regarding 340-122-200, in most elementary neutralization and process wastewater treatment facilities there is no way of accurately reporting in a meaningful manner the amount of hazardous waste treated and therefore the report will not provide best estimates. It must be understood that in most instances the process is simply going on and much of the time no hazardous waste is present. Additionally, there are limitations by water quality permit or POTW requirements on the amount of such materials that can be discharged which is the better way to maintain control over such discharges.

Department Comment: In considering these comments, the Department at this time will concur with the federal exemption from regulation of elementary neutralization and wastewater treatment facilities. However, we will review this exemption in the light of our program aims and may propose regulations in the future.

Comment on 340-124-100: We submit that the provisions of proposed OAR 340-124-100, stating that the rule inhibits easy compliance because of its use of the classifications "ignitable" and "reactive." These terms, also used by EPA, are outside the traditional classification system for products of this type. For example, the Department of Transportation and OSHA use the classifications "combustible" and "flammable." Moreover, they do not require labeling of combustibles. OSHA, the Department of Transportation, the National Fire Protection Code, and the Bureau of Explosives use the term "oxidizer." It is suggested that the proposed rules be changed to separate ignitables into the categories of "combustible" and "flammable."

Department Response: We agree that clarification is needed but at the same time feel it necessary that coverage be retained for all hazardous wastes or substances identified as ignitable or reactive. We have added a "Comment" regarding the inclusion of "combustible," "flammable" and "oxidizer" in the "ignitable" category to provide clarification as requested by commenter. Rule recodified as 340-108-020.

Comment on 340-124-100: We are concerned about the labeling burden created by the proposed regulations. The proposed regulations require lower reportable quantities than does federal law, and require different quantities than the states of Idaho, Washington and California. Because bills of lading must demonstrate this information, inconsistency may create confusion. It is suggested that compliance would be more easily obtained under a simplified, consistent classification system.

Department Response: We agree that a simplified, consistent classification system would be preferred, but such a system has not yet been proposed. The federal 40 CFR Part 117, while providing a basis for such a system, is incomplete with regard to the number of wastes it covers and too permissive in the amounts allowed to go unreported. The state, with its greater local resources, needs to get involved in spills of all hazardous materials, not just a select group, and for quantities that it believes may endanger public health or the environment, regardless of what the federal view on the amount may be. The fact that other states have their own programs underscores these deficiencies in the federal program. Rule recodified as 340-108-020 but not modified.

Attachment



Rollins

October 27, 1983

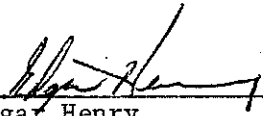
Mr. Fred Bromfeld
Senior Environmental Engineer
Hazardous Waste Operations
Department of Environmental Quality
Box 1760
Portland Oregon 97207

Dear Sir:

Rollins Environmental Services (TX) Inc. incinerator can accomodate 0.5 million gallons annually of liquid waste described in your letter of October 21, 1983. If you need additional information, please contact me.

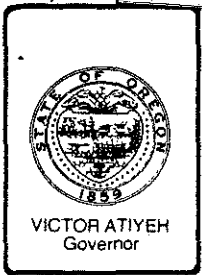
Sincerely,

ROLLINS ENVIRONMENTAL SERVICES (TX) INC.


Edgar Henry
National PCB Sales Manager

EH/ha

Solid Waste Division
Dept. of Environmental Quality
RECEIVED
OCT 31 1983



Eric Fred
Department of Environmental Quality *for your info*

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

October 21, 1983

- Rollins Environmental Services
Box 609
Deer Park, TX 77536

Dear Sir:

The State of Oregon is proposing to ban the landfilling of certain liquid organics (see enclosed rule 340-116-210(1)) totaling about 0.5 million gallons annually. These wastes are received in Oregon from a watershed consisting of the northwestern United States and western Canada. Although we know a portion of it will be diverted to landfills in other states, we feel the environmentally sound disposal method to be incineration and are planning to recommend same to the affected industry.

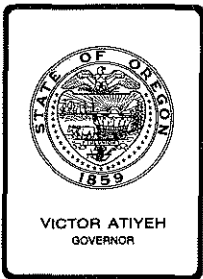
The question is, therefore, can your incinerator accommodate this increased burden or any portion of it? Your considered response is important to us, both in determining whether the ban is reasonable and what its implementation date should be.

Could you please also quote prices for incinerating the wastes on the ban list.

Sincerely,

Fred Bromfeld
Senior Environmental Engineer
Hazardous Waste Operations
Solid Waste Division

FSB:b
ZE2657
Enclosure



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: Acting Director

Subject: Hazardous Waste Program Delegation (Final Authorization)
January 6, 1984 EQC Meeting
Work Session

The Department has been working the last three years to upgrade the hazardous waste program so that EPA can grant DEQ full program delegation under the Resource Conservation and Recovery Act of 1976. On November 18, 1983, the Commission authorized a public hearing on proposed rule changes necessary to seek program delegation. Just prior to the meeting, the Department sent a draft Final Authorization application to EPA which included a copy of the proposed rules.

On December 13, 1983, the Department met with EPA Region X to discuss a set of draft comments that EPA's regional office had prepared. On December 30, 1983, the Department received a set of draft comments from EPA headquarters that reiterated many of the same issues previously raised.

EPA has raised five issues that may significantly affect the content of the proposed rules authorized for hearing. Furthermore, to resolve several of the issues would significantly alter the way we deal with our regulated community and the public. Lastly, the issues serve to further highlight the continuing discussions the Department has had with EPA on an "identical" program vs. an "equivalent in effect" program. Clearly, EPA is only interested in an identical program.

Issue 1: PERMIT AS A SHIELD

In 1980, EPA adopted an untried permitting approach whereby an issued permit would serve in lieu of adopted rules ("permit as a shield"). The alleged advantage of this approach is that for the term of the permit, the permittee would not be impacted by any new rules. In addition to typical permit conditions, EPA also decided to make the permit application, operational plans (i.e., contingency plan, emergency preparedness plan, waste analysis plan, personnel training program), authorized waste types (i.e., acetone, toluene, sulfuric acid, trichloroethylene, etc.) and management units (i.e., surface impoundment, disposal trench, biofarm) permit conditions. Furthermore, EPA decided that any changes to any permit conditions would be considered a major modification involving a draft permit, 45-day public notice and public hearing (if requested by any person).



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What's ironic about EPA's approach is that the permit can't be modified to include regulatory changes (using a compliance schedule if necessary to lessen the immediate impact on existing industries), but will be constantly on public notice for operational changes. Or, the permittee will avoid making operational changes, including improvements, to avoid triggering a major modification. Lastly, each permit modification is a drain on agency resources (to process the paperwork) that could otherwise be used to make compliance inspections.

While EPA does not require a state to adopt the permit-as-a-shield concept, they do expect states to write a permit that would have identical conditions to a federal permit and to agree in a memorandum of understanding to modify a permit under the same circumstances that EPA would. In other words, EPA expects an identical program, but we can call it what we want.

The Department's historic approach in water, air, solid waste and hazardous waste is to have a program where administrative rules and permit conditions complement each other. Rules identify minimum standards that all facilities must comply with, while permit conditions tailor those standards to a specific site and facility. Furthermore, by not having to repeat every rule as a permit condition, the permit is kept to a reasonable number of conditions that are understandable to the source and the public.

At the same time the Department is being advised that the existing program is not equivalent, EPA has spent the last year working with a task force to "improve" its permit program. One likely change is to expand the number of circumstances when a permit modification would be considered minor (requiring action only by the Administrator) to include changes to permit applications, operational plans, waste types and management units. The second change is to develop "class permits" or a set of rules that would apply in lieu of a site-specific permit. Nonetheless, since these are only proposed changes that would make EPA's program operate more like Oregon's, they would find our current program not equivalent.

Issue 2: CLEANUP OF SPILLS

Under the federal program, once the emergency aspects of a spill are over, the remaining cleanup must comply with all the hazardous waste rules. Applied to two recent spills in Oregon, that would have required shipping to Arlington (1) two acres of trees, brush and surface soil from a herbicide spill site near Astoria and (2) the entire seven-day flow of Willow Creek (contaminated with an insecticide). This legalistic interpretation results from a mixing rule that says if you mix a hazardous waste (spilled product) with a nonhazardous waste, the entire mixture is considered a hazardous waste. The rule was adopted to prevent companies from intentionally mixing wastes to escape regulation.

Under the Department's approach, spill cleanup is a case-by-case evaluation as to what's acceptable and feasible. The current environmental rules (air, water, solid waste and hazardous waste) are used as guidelines as to what's acceptable cleanup.

If the Department is forced to adopt the federal approach, there will simply be times when we will knowingly violate our own rules.

Issue 3: ADOPTION OF PROPOSED FEDERAL RULES

As EPA has tried to implement their ambitious regulatory program, they have come across several rules that just don't work in practice, i.e., regulation of wastes that are used as direct substitutes for virgin materials, regulation of waste accumulating inside a manufacturer's area and regulation of used batteries. Their solution has been to propose rule modifications that bring common sense back into the program. Unfortunately, in the above three cases, the proposed rules have never been finalized.

In anticipation of EPA adoption and because we have always interpreted our existing rules in a manner consistent with the proposed EPA rules, the language of their proposed rules has been included into our rule revisions.

The Department has been advised that if it proceeds forward EPA would have to find our program nonequivalent. While we can't legally argue with such an interpretation, it is truly frustrating to know that EPA field staff will privately admit that they are implementing their existing program as if the proposed rules have been adopted. In other words, we are being indirectly advised to adopt their current program but to selectively enforce it in a common sense manner.

Issue 4: PUBLIC PARTICIPATION

Even though it is excessive, the Department has agreed to provide a minimum of a 45-day public notice and comment period on draft permits (vs. a 20-day period previously used). Public notice of draft permits will go to all media statewide, a general mailing list of interested parties and a specific mailing list of parties interested in hazardous waste permits.

EPA says this is not adequate. To have an equivalent program, the Department must buy paid advertising in a newspaper of general circulation and from local radio stations (but not television stations).

Not only could paid advertising be extremely costly, particularly if we agree to their concepts of major permit modifications, but, as the Air Quality Division found in 1979, it is one of the least effective ways to provide public notice. Rather than evaluating whether the program is "equal in effect," EPA insists on an identical program even if it doesn't achieve the intended results.

Issue 5: REGULATION OF PCBs AS A HAZARDOUS WASTE

At the federal level, polychlorinated biphenyls (PCBs) are regulated under the Toxic Substances Control Act (TSCA) rather than the Resource Conservation and Recovery Act (RCRA). Further, TSCA pre-empts more stringent state programs unless a special exemption is received from

the Administrator. While the Department has applied for an exemption to regulate PCBs in a more stringent manner (as a hazardous waste), there is no assurance that the Administrator will act in time or in our favor. We could be in the unfortunate position on February 17, 1984, of adopting rules that would not be legally enforceable when filed with the Secretary of State.

On the other hand, PCBs have very similar persistence and toxicological properties to other substances we're proposing to regulate. Further, PCBs are perceived by the public to be a highly toxic substance, yet EPA could prevent the state from regulating it in a manner consistent with other waste chlorinated hydrocarbons and phenols.

Summary

EPA recently raised five major issues relative to the authorization of the state's hazardous waste program. To resolve some of the issues in the manner currently recommended by EPA would require major wording changes to the proposed rules that were the subject of a public hearing on January 5, 1984. Furthermore, to adopt some of EPA's changes would fundamentally change a program that has worked to acceptably manage hazardous waste in Oregon since 1971. There's no guarantee that EPA's approach would improve the program and, quite frankly, it could set it back.

With the raising of these issues, EPA is causing a major reassessment of the Department's desire to seek program delegation and on what terms to do so. There are at least four distinct choices which could be made at this time:

1. Proceed ahead as proposed and hope the necessary changes are made in the federal rules or interpretations before January 26, 1985.
2. Adopt the federal rules verbatim.
3. Adopt the federal rules verbatim but include the Department's more stringent provisions.
4. Notify EPA that the state has no interest at this time in running an identical program. Allow EPA to implement the federal program.

While the Department's opinion at this time is to proceed with option 1 in the hope that EPA can see that there is a distinction between identical and equal in effect, it clearly is the option with the highest degree of uncertainty right up to January 25, 1985. In the meantime, before February 17, 1984, the Department will be discussing this matter with the Governor's Office, our congressional delegation, environmentalists, the regulated community and EPA to review the Department's opinions and develop recommendations.

Michael J. Downs

DIVISION 100
HAZARDOUS WASTE MANAGEMENT

Hazardous Waste Management System: General

Subdivision A: General

- 340-100-001 Purpose and scope.
- 340-100-002 Confidentiality.
- 340-100-003 Table of contents, Divisions 100 to 110.

Subdivision B: Definitions

- 340-100-010 Definitions.
- 340-100-011 References.

Subdivision C: Rulemaking Petitions

- 340-100-020 General.
- 340-100-021 Petitions for equivalent testing or analytical methods.
- 340-100-022 Petitions to amend Division 101 to exclude a waste produced at a particular facility.

Authority: ORS Chapter 468, including 468.020; 459, including 459.440;
and 183.

Subdivision A: General

Purpose and scope.

340-100-001 The Department finds that increasing quantities of hazardous waste are being generated in Oregon which, without adequate safeguards, can create conditions that threaten public health and the environment. It is therefore in the public interest to establish a comprehensive program to provide for the safe management of such waste.

The purpose of the management program contained in Divisions 100 to 110 of this Chapter is to control hazardous waste from the time of generation through transportation, storage, treatment and disposal. Waste reduction at the point of generation, beneficial use, recycling and treatment are given preference to land disposal. To this end, the Department intends to minimize the number of disposal sites and to tightly control their operation.

A secondary purpose is to obtain EPA Final Authorization to manage hazardous waste in Oregon in lieu of the federal program.

(Comment: Divisions 101 to 106 are essentially a recodification of federal regulations. State rules that exceed federal requirements are highlighted in bold type.)

Confidentiality

340-100-002 (1) Records, reports, and information submitted pursuant to these rules may be claimed as confidential by the submitter. Such claim must be asserted at the time of submission by stamping the words "confidential business information" or the equivalent on each page

containing such information. If no claim is made at the time of submission, the Department may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with ORS 192-500 and 459.460.

(2) Records, reports, and information submitted pursuant to these rules shall be made available to EPA upon request. If the records, reports, or information has been submitted under a claim of confidentiality, the state shall make that claim of confidentiality to EPA for the requested records, reports or information. The federal agency shall treat the records, reports or information that is subject to the confidentiality claim as confidential in accordance with applicable federal law.

(3) Claims of confidentiality for the name and address of any license applicant or licensee will be denied.

(Comment: It is suggested that claims of confidentiality be restricted to that information considered absolutely necessary and that such information be clearly separated from the remainder of the submission.)

Table of contents, Divisions 100 to 110.

340-100-003 The following Divisions comprise the Oregon hazardous waste management program:

<u>Division</u>	<u>Subject</u>
100	Hazardous Waste Management System: General
101	Identification and Listing of Hazardous Waste
102	Standards Applicable to Generators of Hazardous Waste
103	Standards Applicable to Transporters of Hazardous Waste by Air or Water
104	Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
105	Management Facility Permits
106	Permitting Procedures
107	(Reserved)
108	Spills and Other Incidents
109	Management of Pesticide Wastes
110	Polychlorinated Biphenyls (PCBs)

Subdivision B: Definitions

340-100-010 When used in Divisions 100 to 110 of this Chapter, the following terms have the meanings given below:

"Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after November 19, 1980, which is not a closed portion. (See also "closed portion" and "inactive portion".)

"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

"Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person or equivalent responsibility.

"Beneficiation" means the upgrading of ores and minerals by purely physical processes (e.g., crushing, screening, settling, flotation, dewatering and drying) with the addition of other chemical products only to the extent that they are a non-hazardous aid to the physical process (such as flocculants and deflocculants added to a froth-flotation process).

"Beneficial use" means the return of hazardous waste without processing to the economic mainstream as a substitute for raw materials in an industrial process or as a commercial product.

"Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

"Collection." See "Storage."

"Commission" means the Environmental Quality Commission.

"Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

"Constituent" or "hazardous waste constituent" means a constituent which caused the Commission to list the hazardous waste in Subdivision D of Division 101, or a constituent listed in Table 1 of rule 340-101-024.

"Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

"Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

"Department" means the Department of Environmental Quality.

"Dermal LD₅₀" (median dermal lethal dose) means a measure of dermal penetration toxicity of a substance for which a calculated dermal dose is expected, in a specified time, to kill 50 percent of a population of experimental laboratory animals. Dermal LD₅₀ is expressed in milligrams of the substance per kilogram of body weight.

"Designated facility" means a hazardous waste treatment, storage, or disposal facility which has been permitted by the Department in accordance with Divisions 104 to 106, has received an EPA permit (or a facility with interim status) in accordance with the requirements of 40 CFR Parts 270 and 124, or a permit from a state authorized in accordance with 40 CFR Part 271, that has been designated on the manifest by the generator pursuant to rule 340-102-020.

"Dike" means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

"Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

"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 as defined in ORS 468.700.

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

"Elementary neutralization unit" means a device which:

(1) Is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in rule 340-101-022, or are listed in Subdivision D of Division 101 only for this reason; and

(2) Meets the definition of tank, container, transport vehicle, or vessel in this rule.

"EPA" means the U.S. Environmental Protection Agency.

"EPA hazardous waste number" means the number assigned to each hazardous waste listed in Subdivision D of Division 101 and to each characteristic identified in Subdivision C of Division 101.

"Equivalent method" means any testing or analytical method approved by the Department under rules 340-100-020 and -021.

"Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(1) The owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction; and either

(2)(a) A continuous on-site, physical construction program has begun,
or

(b) The owner or operator has entered into contractual obligations-- which cannot be cancelled or modified without substantial loss--for physical construction of the facility to be completed within a reasonable time.

"Facility" means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

"Federal, state and local approvals or permits necessary to begin physical construction" means permits and approvals required under federal, state or local hazardous waste control statutes, regulations or ordinances.

"Federal agency" means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

"Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

"Free liquid" means that liquid which readily separates from the solid portion of a waste under ambient temperature and pressure. Free liquid is determined by placing a 100 ml. representative sample of the waste in a 400 micron, conical paint filter for five minutes. This filter is a standard paint filter which is commonly available at hardware and paint stores. The

filter is to be supported by a funnel on a ring stand with a beaker below to capture any free liquid that passes through the filter. If any free liquid falls into the beaker, the waste is considered to hold free liquid.

"Generator" means the person who, by virtue of ownership, management or control, is responsible for causing or allowing to be caused the creation of a hazardous waste.

"Groundwater" means water below the land surface in a zone of saturation.

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

(Comments: (1) For purposes of compliance with these rules, quantity calculations involving hazardous substances shall be made in a manner analogous to that in the comment following rule 340-101-003(1).

(2) These substances may include but are not necessarily the same as those identified by DOT in 49 CFR 172.101.)

"Hazardous waste" means a hazardous waste as defined in rule 340-101-003.

"Identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage and disposal facility.

"Inactive portion" means that portion of a facility which is not operated after November 19, 1980. (See also "active portion" and "closed portion".)

"Incinerator" means an enclosed device using controlled flame combustion, the primary purpose of which is to thermally break down hazardous waste. Examples of incinerators are rotary kiln, fluidized bed, and liquid injection incinerators.

"Incompatible waste" means a hazardous waste which is unsuitable for:

(1) Placement in a particular device or facility because it may cause

corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

"Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

"Inhalation LC₅₀" (median inhalation lethal concentration) means the inhalation concentration of a substance that is expected in a specified time to kill 50 percent of a population of experimental laboratory animals. Inhalation LC₅₀ is expressed in milligrams per liter of air.

"In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

"Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

"International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

"Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

"Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

"Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

"Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

"License." See "Permit."

"Liner" means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

"Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

"Management facility" means a hazardous waste treatment, storage or disposal facility.

"Manifest" means the form used for identifying the quantity, composition, and the origin, routing and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment or storage.

"Manifest document number" means the serially increasing number assigned to the manifest by the generator for recording and reporting purposes.

"Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

"Movement" means that hazardous waste transported to a facility in an individual vehicle.

"New hazardous waste management facility" or "new facility" means a facility which began operation, or for which construction commenced after October 21, 1976. (See also "Existing hazardous waste management facility.")

"Off-site" means any site which is not on-site.

"On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

"Open burning" means the combustion of any material without the following characteristics:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion,
- (2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
- (3) Control of emission of the gaseous combustion products.

"Operator" means the person responsible for the overall operation of a facility.

"Oral LD₅₀" (median oral lethal dose) means the oral dose of a substance that is expected to kill 50 percent of a population of experimental laboratory animals within a specified time. Oral LD₅₀ is expressed in milligrams of the substance per kilogram of body weight.

"Owner" means the person who owns a facility or part of a facility.

"Oxidizer" means any substance such as a chlorate, permanganate, peroxide, or nitrate, that yields oxygen readily or otherwise acts to

stimulate the combustion of organic matter (see 40 CFR 173.151).

"Partial closure" means the closure of a discrete part of a facility in accordance with the applicable closure requirements of Division 104. For example, partial closure may include the closure of a trench, a unit operation, a landfill cell, or a pit, while other parts of the same facility continue in operation or will be placed in operation in the future.

"Permit" or "license" means the control document issued to implement the requirements of ORS Chapter 459 and Divisions 104 to 106. Permit includes permit-by-rule (rule 340-105-060) and emergency permit (rule 340-105-061). Permit does not include any permit which has not yet been the subject of final Department action, such as a draft permit or a proposed permit.

"Person" means an individual, trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body.

"Personnel" or "facility personnel" means all persons who work, at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of Division 104.

"Pile" means any noncontainerized accumulation of a solid hazardous waste that is used for treatment or storage.

"Point source" means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return

flows from irrigated agriculture.

"Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by Section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

"Reclamation" or "resource recovery" means the process of obtaining useful material or energy resources from a waste and includes:

(1) "Energy recovery," which means recovery in which all or a part of the waste materials is processed to utilize the heat content, or other forms of energy, of or from the waste; and

(2) "Material recovery," which means any process of obtaining from a waste, by presegregation or otherwise, materials which still have useful physical or chemical properties after serving a specific purpose and can, therefore, be reused or recycled for the same or other purpose.

"Recycle" means any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity.

"Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon, groundwater) which can be expected to exhibit the average properties of the universe or whole.

"Reuse" means the return of a commodity to the economic mainstream for use in the same kind of application as before without change in its identity.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains

over land onto any part of a facility.

"Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

"Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a waste water treatment plant.

"Solid waste" means a solid waste as defined in rule 340-101-002.

"Spill" means the accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or hazardous substances which, when spilled, become hazardous wastes into or on any land or water.

"State" means any of the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Storage" or "collection" means the containment of hazardous waste either on a temporary basis or for a period of years, in a manner that does not constitute disposal of the hazardous waste.

"Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Tank" means a stationary device, designed to contain an accumulation

of hazardous waste which is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

"Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

"Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

"Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

"Transportation" means the movement of hazardous waste by air, rail, highway, or water.

"Transporter" means a person engaged in the off-site transportation of hazardous waste by any means.

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize the waste or so as to render the waste non-hazardous, safer for transport,

amenable for recovery, amenable for storage, or reduced in volume.

"Unsaturated zone" or "zone of aeration" means the zone between the land surface and the saturated zone.

"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

"Waste management unit" means a contiguous area of land on or in which waste is placed. A waste management unit is the largest area in which there is a significant likelihood of mixing of waste constituents in the same area. Usually this is due to the fact that each waste management unit is subject to a uniform set of management practices (e.g., one liner and leachate collection and removal system). The provisions in the Division 104 regulations (principally the technical standards in Subdivisions K-N) establish requirements that are to be implemented on a unit-by-unit basis.

"Wastewater treatment unit" means a device which:

(1) Is part of a wastewater treatment facility which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act; and

(2) Receives and treats or stores an influent wastewater which is a hazardous waste as defined in rule 340-101-003, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in rule 340-101-003, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in rule 340-101-003; and

(3) Meets the definition of tank in this rule.

"Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

"Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent

the earth from caving in.

References.

340-101-011 (1) When used in Divisions 100 to 110, the following publications are incorporated by reference:

"ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester," ASTM Standard D-3278-78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"Flammable and Combustible Liquids Code" (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

"Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," Second Ed., 7/82, EPA publication number SW-846, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Tel. (202) 783-3238.

Code of Federal Regulations, Title 40, U.S. Environmental Protection Agency.

Code of Federal Regulations, Title 49, U.S. Department of Transportation.

(2) The references listed in section (1) of this rule are also available for inspection at the Department of Environmental Quality, 522 SW Fifth Ave., Portland, Oregon, 97204. These materials are incorporated as they exist on July 1, 1983.

Subdivision C: Rulemaking Petitions

General.

340-100-020 (1) Any person may petition the Department to modify or revoke any provision in Divisions 100 to 110. This rule sets forth general requirements which apply to all such petitions. Rule 340-100-021 sets forth additional requirements for petitions to add a testing or analytical method to Divisions 100 or 104. Rule 340-100-022 sets forth additional requirements for petitions to exclude a waste at a particular facility from rule 340-101-003 or the lists of hazardous wastes in Subdivision D of Division 101.

(2) Each petition must be submitted to the Department by certified mail and must include:

- (a) The petitioner's name and address;
- (b) A statement of the petitioner's interest in the proposed action;
- (c) A description of the proposed action, including (where appropriate) suggested regulatory language; and
- (d) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(3) The Department will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision for written public comment.

(4) Upon the written request of any interested person, the Department may, at its discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Department may in any case

decide on its own motion to hold an informal public hearing.

(Comment: Any rulemaking petition approved by the Department will be brought to the Commission with a recommendation for adoption.)

(5) After evaluating all public comments the Department will make a decision to grant or deny the petition. Persons commenting on the petition will be notified and the decision placed in the public record.

Petitions for equivalent testing or analytical methods.

340-100-021 (1) Any person seeking to add a testing or analytical method to Divisions 100 or 104 may petition for a regulatory amendment under this rule and rule 340-100-020. To be successful, the person must demonstrate to the satisfaction of the Department that the proposed method is equal to or superior to the corresponding method prescribed in Divisions 100 or 104, in terms of its sensitivity, accuracy, and precision (i.e., reproducibility).

(2) Each petition must include, in addition to the information required by rule 340-100-020(2):

(a) A full description of the proposed method, including all procedural steps and equipment used in the method;

(b) A description of the types of wastes or waste matrices for which the proposed method may be used;

(c) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in Divisions 100 or 104;

(d) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(e) A description of the quality control procedures necessary to

ensure the sensitivity, accuracy and precision of the proposed method.

(3) After receiving a petition for an equivalent method, the Department may request any additional information on the proposed method which it may reasonably require to evaluate the method.

(4) If the Department amends the regulations to permit use of a new testing method, the method will be made available for public inspection in the manner indicated in rule 340-100-011(2).

Petitions to amend Division 101 to exclude a waste produced at a particular facility.

340-100-022 (1) Any person seeking to exclude a waste at a particular generating facility from the lists in Subdivision D of Division 101 may petition for a regulatory amendment under this rule and rule 340-100-020. To be successful, the petitioner must demonstrate to the satisfaction of the Department that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous waste and, in the case of an acutely hazardous waste listed under rule 340-101-011(1)(b), that it does not meet the criterion of rule 340-101-011(1)(c). A waste which is so excluded may still, however, be a hazardous waste by operation of Subdivision C of Division 101.

(2) The procedures in this rule and rule 340-100-020 may also be used to petition the Department for a regulatory amendment to exclude from rule 340-101-003(1)(b)(B) or (3), a waste which is described in those rules and is either a waste listed in Subdivision D of Division 101, contains a waste listed in Subdivision D, or is derived from a waste listed in Subdivision D. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same

demonstration as required by section (1) of this rule, except that where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, his demonstration may be made with respect to each constituent listed waste or the waste mixture as a whole. A waste which is so excluded may still be a hazardous waste by operation of Subdivision C or Division 101.

(3) If the waste is listed with codes "I", "C", "R", or "E" (see rule 340-101-030(2)) in Subdivision D of Division 101, the petitioner must show that demonstration samples of the waste do not exhibit the relevant characteristic defined in rules 340-101-021, -022, -023 or -024 using any applicable test methods prescribed therein.

(4) If the waste is listed with code "T" in Subdivision D, the petitioner must demonstrate that:

(a) Demonstration samples of the waste do not contain the constituent (as defined in Appendix VII of Division 101) that caused the Department to list the waste, using the appropriate test methods prescribed in Appendix III of Division 101;

(b) The waste does not meet the criterion of rule 340-101-011(1)(c) when considering the factors in rule 340-101-011(1)(c)(A) through (K).

(5) If the waste is listed with the code "H" in Subdivision D of Division 101, the petitioner must demonstrate that the waste does not meet both of the following criteria:

(a) The criterion of rule 340-101-011(1)(b).

(b) The criterion of rule 340-101-011(1)(c) when considering the factors listed in rule 340-101-011(1)(c)(A) through (K).

(6) and (7) (Reserved).

(8) Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time

sufficient to represent the variability or the uniformity of the waste.

(9) Each petition must include, in addition to the information required by rule 340-100-020(2):

(a) The name and address of the laboratory facility performing the sampling or tests of the waste;

(b) The names and qualifications of the persons sampling and testing the waste;

(c) The dates of sampling and testing;

(d) The location of the generating facility;

(e) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(f) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(g) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in rule 340-101-011(1)(c);

(h) A description of the methodologies and equipment used to obtain the representative samples;

(i) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization and preservation of the samples;

(j) A description of the tests performed (including results);

(k) The names and model numbers of the instruments used in performing the tests; and

(l) The following statement signed by the generator of the waste or

his authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(10) After receiving a petition for an exclusion, the Department may request any additional information which it may reasonably require to evaluate the petition.

(11) An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility.

(12) The Department may exclude only part of the waste for which the demonstration is submitted where it has reason to believe that variability of the waste justifies a partial exclusion.

(13) The Department may (but shall not be required to) grant a temporary exclusion before making a final decision under rule 340-100-020(4) whenever it finds that there is a substantial likelihood that an exclusion will be finally granted. The Department will place any such temporary exclusion in the public record.

DIVISION 101

HAZARDOUS WASTE MANAGEMENT

Identification and Listing of

Hazardous Waste

Subdivision A: General

- 340-101-001 Purpose.
- 340-101-002 Definition of solid waste.
- 340-101-003 Definition of hazardous waste.
- 340-101-004 Exclusions.
- 340-101-005 Special requirements for hazardous waste produced by small quantity generators.
- 340-101-006 Special requirements for hazardous waste which is used, reused, recycled or reclaimed.
- 340-101-107 Residues of hazardous waste in empty containers.

Subdivision B: Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Wastes

- 340-101-010 Criteria for identifying the characteristics of hazardous waste.
- 340-101-011 Criteria for listing hazardous waste.

Subdivision C: Characteristics of Hazardous Waste

- 340-101-020 General.
- 340-101-021 Characteristic of ignitability.
- 340-101-022 Characteristic of corrosivity.
- 340-101-023 Characteristic of reactivity.
- 340-101-024 Characteristic of EP toxicity.
- 340-101-025 Characteristics of pesticides.

Subdivision D: Lists of Hazardous Wastes

- 340-101-030 General.
- 340-101-031 Hazardous wastes from non-specific sources.
- 340-101-032 Hazardous wastes from specific sources.
- 340-101-033 Discarded commercial chemical products and associated off-specification materials, process wastes, containers and spill residues.

Appendix I: Representative Sampling Methods

Appendix II: EP Toxicity Test Procedure

Appendix III: Chemical Analysis Test Methods

Appendix IV to VI: (Reserved)

Appendix VII: Basis for Listing Hazardous Wastes

Appendix VIII: Hazardous Constituents

Authority: ORS Chapter 468, including 468.020; 459, including 459.440; and 183.

Subdivision A: General

Purpose.

340-101-001 The purpose of this Division is to identify those solid wastes which are subject to regulation as hazardous wastes under Divisions 100 to 110 of this Chapter.

Definition of solid waste.

340-101-002 (1) A "solid waste" is all putrescible and nonputrescible wastes, including but not limited to garbage, rubbish, refuse, ashes, waste paper and cardboard; sewage sludge, septic tank and cesspool pumpings or other sludge; commercial, industrial, demolition and construction wastes; discarded or abandoned vehicles or parts thereof; discarded home and industrial appliances; manure, vegetable or animal solid and semisolid wastes, dead animals and other wastes; but the term does not include:

(a) Hazardous wastes as defined in rule 340-101-003(1).

(b) Materials used for fertilizer or for other productive purposes or which are salvageable as such materials are used on land in agricultural operations and the growing or harvesting of crops and the raising of fowls or animals.

(2) For purposes of this Division, "solid waste" includes "other waste material." "Other waste material" is any solid, liquid, semi-solid or contained gaseous material, resulting from industrial, commercial, mining or agricultural operations, or from community activities which:

(a) Is discarded or is being accumulated, stored or physically, chemically or biologically treated prior to being discarded; or

(b) Has served its original intended use and sometimes is discarded;

or

(c) Is a manufacturing or mining by-product and sometimes is discarded.

(3) A material is "discarded" if it is abandoned (and not used, reused, reclaimed or recycled) by being:

(a) Disposed of; or

(b) Burned or incinerated, except where the material is being burned as a fuel for the purpose of recovering usable energy; or

(c) Physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed of.

(4) A material is "disposed of" if it is discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters of the State as defined in ORS 468.700.

(5) A "manufacturing or mining by-product" is a material that is not one of the primary products of a particular manufacturing or mining operation, is a secondary and incidental product of the particular operation and would not be solely and separately manufactured or mined by the particular manufacturing or mining operation. The term does not include an intermediate manufacturing or mining product which results from one of the steps in a manufacturing or mining process and is typically processed through the next step of the process within a short time.

Definition of hazardous waste.

340-101-003 (1) A "hazardous waste" does not include radioactive

material or the radioactively contaminated containers and receptacles used in the transportation, storage, use or application of radioactive waste, unless the material, container or receptacle is classified as hazardous waste under subsections (1)(a), (b) or (c) of this rule on some basis other than the radioactivity of the material, container or receptacle. Hazardous waste does include all of the following which are not declassified by the Commission under ORS 459.430(3):

(Comment: The Department may declassify listed wastes produced at a particular facility under rule 340-100-022.)

(a) Discarded, useless or unwanted materials or residues resulting from any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling or mitigating of insects, fungi, weeds, rodents or predatory animals, including but not limited to defoliants, desiccants, fungicides, herbicides, insecticides, nematocides and rodenticides.

(b) Residues resulting from any process of industry, manufacturing, trade, business or government or from the development or recovery of any natural resources, if such residues are classified as hazardous by order of the Commission, after notice and public hearing. For purposes of the classification, the Commission must find that the residue, because of its quantity, concentration, or physical, chemical or infectious characteristics, may:

(A) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or

(B) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

(c) Discarded, useless or unwanted containers and receptacles used in the transportation, storage, use or application of the substances described in subsections (a) and (b) of this section.

(Comment: For purposes of compliance with these rules, quantity calculation involving hazardous waste shall be made independent of the concentrations of the hazardous components. For example, rule 340-101-033(3) identifying waste containing a concentration of 3% or greater acrolein (P003) as hazardous with a small quantity exemption of 2 lb/mo. shall be interpreted as requiring the management of 2.1 lb/mo. of a waste containing acrolein as hazardous whether the concentration of acrolein is 3, 30 or 100%.)

(2) A residue identified in section (1) of this rule is a hazardous waste if it meets any of the following criteria:

(a) It exhibits any of the characteristics of hazardous waste identified in Subdivision C.

(b) It is listed in Subdivision D and has not been excluded from the lists in Subdivision D under rules 340-100-020 and -022.

(c) It is a mixture of a solid waste and a hazardous waste that is listed in Subdivision D solely because it exhibits one or more of the characteristics of hazardous waste identified in Subdivision C, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in Subdivision C.

(d) It is a mixture of solid waste and one or more hazardous wastes listed in Subdivision D and has not been excluded from this section under rule 340-100-020 and -022. However, the following mixtures of solid wastes and hazardous wastes listed in Subdivision D are not hazardous wastes (except by application of subsections (a) or (b) of this rule) if the generator can demonstrate that the mixture consists of wastewater the

discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(A) One or more of the following spent solvents listed in rule 340-101-031 -- carbon tetrachloride, tetrachloroethylene, trichloroethylene -- provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million; or

(B) One or more of the following spent solvents listed in rule 340-101-031 -- methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents -- provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million; or

(C) The following waste listed in rule 340-101-032: heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050); or

(D) A discarded commercial chemical product, or chemical intermediate listed in rule 340-101-033 arising from de minimus losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "de minimus" losses include those from normal material handling operations (e.g., 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, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in Subdivision D, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

(3) A residue which is not excluded from regulation under rule 340-101-004 becomes a hazardous waste when any of the following events occur:

(a) In the case of a waste listed in Subdivision D, when the waste first meets the listing description set forth in Subdivision D.

(b) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in Subdivision D is first added to the solid waste.

(c) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in Subdivision C.

(4) Unless and until it meets the criteria of section (5):

(a) A hazardous waste will remain a hazardous waste.

(b) Any residue generated from the treatment, storage or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate (but not including precipitation run-off), is a hazardous waste.

(5) Any residue described in section (4) of this rule is not a hazardous waste if it meets the following criteria:

(a) It does not exhibit any of the characteristics of hazardous waste identified in Subdivision C.

(b) In the case of a waste which is a listed waste under Subdivision D, contains a waste listed under Subdivision D or is derived from a waste listed in Subdivision D, it also has been excluded from section (4) under rules 340-100-020 and -022.

Exclusions.

340-101-004 (1) Residues which are not solid wastes or hazardous wastes. The following residues are not solid wastes or hazardous wastes for the purpose of this Division:

(a)(A) Domestic sewage; and

(B) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(b) Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act, as amended.

(Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being

collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.)

(c) Irrigation return flows.

(d) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

(e) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(2) Residues which are not hazardous wastes. The following residues are not hazardous wastes:

(a) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused. "Household waste" means any waste material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels.)

(b) Residues generated by any of the following and which are returned to the soils as fertilizers:

(A) The growing and harvesting of agricultural crops.

(B) The raising of animals, including animal manures.

(c) Mining overburden returned to the mine site.

(d) Fly ash wastes, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

(e) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(f)(A) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in Subdivision D due to the presence of chromium, which do not fail the test for the characteristic

of EP toxicity for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(i) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(ii) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(iii) The waste is typically and frequently managed in non-oxidizing environments.

(B) Specific wastes which meet the standard in (A)(i), (ii), and (iii) (so long as they do not fail the test for the characteristic of EP toxicity, and do not fail the test for any other characteristic) are

(i) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(ii) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(iii) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(iv) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet

finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(v) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(vi) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(vii) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(viii) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(g) Residues from the extraction and beneficiation of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore.

(Comment: The state program is more stringent than the federal program in that the federal program also excludes residues from processing.)

(h) Cement kiln dust waste.

(i) Residues which consists of discarded wood or wood products which fails the test for the characteristic of EP toxicity and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(3) Hazardous wastes which are exempted from certain regulations. A

hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under Divisions 102 to 106 until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(4) Samples. (a) Except as provided in subsection (4)(b) of this rule, a sample of solid waste or a sample of water, soil or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this Division or Divisions 102 to 106 when:

(A) The sample is being transported to a laboratory for the purpose of testing; or

(B) The sample is being transported back to the sample collector after testing; or

(C) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(D) The sample is being stored in a laboratory before testing; or

(E) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(F) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(b) In order to qualify for the exemption in paragraphs (4)(a)(A) and

(B) of this rule, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(A) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(B) Comply with the following requirements if the sample collector determines that DOT, USPS or other shipping requirements do not apply to the shipment of the sample:

(i) Assure that the following information accompanies the sample:

(I) The sample collector's name, mailing address and telephone number;

(II) The laboratory's name, mailing address and telephone number;

(III) The quantity of the sample;

(IV) The date of shipment; and

(V) A description of the sample.

(ii) Package the sample so that it does not leak, spill or vaporize from its packaging.

(c) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in subsection (4)(a) of this rule.

Special requirements for hazardous waste produced by small quantity generators.

340-101-005 (1) A generator is a small quantity generator in a calendar month if he generates less than 2000 pounds of hazardous waste in that month.

(2) Except for those wastes identified in sections (5) and (6) of this rule, a small quantity generator's hazardous wastes are subject to regulation under Divisions 102 to 106 only to the extent of generator

compliance with the requirements of section (7) of this rule and the owner or operator of a treatment or storage facility's compliance with the requirements of section (10) of this rule.

(3) Hazardous waste that is beneficially used or reused or legitimately recycled or reclaimed and that is excluded from regulation by rule 340-101-006(1) is not included in the quantity determinations of this rule, and is not subject to any requirements of this rule. Hazardous waste that is subject to regulation under rule 340-101-006(3) is included in the quantity determinations of this rule and is subject to the requirements of this rule.

(4) In determining the quantity of hazardous waste he generates, a generator need not include:

- (a) His hazardous waste when it is removed from on-site storage; or
- (b) Hazardous waste produced by on-site treatment of his hazardous waste.

(5) If a small quantity generator generates acutely hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acutely hazardous waste are subject to regulation under Divisions 102 to 106:

(a) A total of 2 pounds of commercial chemical products and manufacturing chemical intermediates having the generic names listed in rule 340-101-033(6), and off-specification commercial chemical products and manufacturing chemical intermediates which, if they met specifications, would have the generic names listed in rule 340-101-033(6); or

(b) A total of 200 pounds of any residue or contaminated soil, water or other debris resulting from the clean-up of a spill, into or on any land or water, of any commercial chemical products or manufacturing chemical intermediates having the generic names listed in rule 340-101-033(6), or

any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification commercial chemical products or manufacturing chemical intermediates which, if they met specifications, would have the generic names listed in rule 340-101-033(6).

(6) A small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 2000 pounds of his hazardous waste, or his acutely hazardous wastes in quantities greater than set forth in subsections (5)(a) or (5)(b) of this rule, all of those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under Divisions 102 to 106. The time period of rule 340-102-034 for accumulation of wastes on-site begins for a small quantity generator when the accumulated wastes exceed the applicable exclusion level.

(7) In order for hazardous waste generated by a small quantity generator to be excluded from full regulation under this rule, the generator must:

(a)(A) Comply with rule 340-102-011; and

(B) If he generates more than 200 pounds in a calendar month, comply with rules 340-102-012(1), -030, -031 and -032(1).

(b) If he stores his hazardous waste on-site, store it in compliance with the requirements of section (6) of this rule; and

(c) If the quantity generated in a calendar month exceeds the small quantity exemptions indicated in Subdivisions C and D of this Division: Either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment or disposal facility, either of which is:

(A) Permitted under Division 105;

(B) In interim status under 40 CFR Parts 265 and 270;

(C) Authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 CFR Part 271;

(d) If the quantity generated in a calendar month is equal to or less than the small quantity exemptions indicated in Subdivisions C and D of this Division:

(A) Either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment or disposal facility, either of which is:

(i) Permitted under Division 105;

(ii) In interim status under 40 CFR Parts 265 and 270;

(iii) Authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 CFR Part 271;

(iv) Permitted, licensed or registered by a state to manage municipal or industrial solid waste; or

(v) A facility which:

(I) Beneficially uses or reuses, or legitimately recycles or reclaims his waste; or

(II) Treats his waste prior to beneficial use or re-use, or legitimate recycling or reclamation; and

(B)(i) Securely contain the waste to minimize the possibility of waste release prior to burial; and

(ii) Generators disposing of small quantities of waste from other than household use shall obtain permission from the waste collector or from the landfill permittee, as appropriate, before depositing the waste in any container for subsequent collection or in any landfill for disposal. In the event that the waste collector or landfill permittee refuses to accept the waste, the Department shall be contacted for alternative disposal

instructions.

(8) Hazardous waste subject to the reduced requirements of this rule may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this rule, unless the mixture meets any of the characteristics of hazardous waste identified in Subdivision C.

(9) If a small quantity generator mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this rule, the mixture is subject to full regulation.

(10) The owner or operator of an off-site facility that treats or stores more than 200 pounds but less than 2000 pounds of hazardous waste in a calendar month must obtain a letter of authorization from the Department as required by rule 340-105-064. Owners or operators of off-site facilities that treat or store more than 2000 pounds per calendar month are fully subject to regulation under Divisions 102 to 106.

Special requirements for hazardous wastes which is used, reused, recycled or reclaimed.

340-101-006 (1) Except as otherwise provided in section (3) of this rule, a hazardous waste which meets either subsections (a), (b) or (c) of this section is not subject to regulation under Divisions 102 to 106 provided the generator meets the requirements of section (2) of this rule:

(a) It is being beneficially used or reused on-site or off-site or legitimately recycled or reclaimed on-site.

(b) It is being accumulated, stored or physically, chemically or biologically treated prior to beneficial use or reuse on-site or off-site or legitimate recycling or reclamation on-site.

(c) It is spent pickle liquor which is reused in wastewater treatment at a facility holding a National Pollutant Discharge Elimination System (NPDES) permit, or which is being accumulated, stored, or physically, chemically or biologically treated before such reuse.

(2) A generator managing his waste under section (1) of this rule must:

(a) Obtain an identification number from the Department as required by rule 340-102-012;

(b) Accumulate the waste in accordance with rules 340-102-034(1)(a) to (c); and

(c) If he ships waste off-site, obtain written authorization from the Department as required by rule 340-102-052.

(3) A hazardous waste identified in section (1) of this rule is fully subject to regulation under Divisions 102 to 106 if:

(a) The waste is a sludge, is listed in rules 340-101-031 or -032, or contains one or more hazardous wastes listed in rules 340-101-031 or -032; and is transported or stored prior to being used, reused, recycled or reclaimed; or

(b) The waste is treated or stored in a surface impoundment or a waste pile (excluding those piles subject to rule 340-104-250(3)); or

(c) The waste is accumulated without a sufficient quantity being used. Such accumulation will be said to occur if, during a one-year period beginning January 1, 1984, or at the start of accumulation, the amount of material that is used does not equal at least 75% of the amount accumulated at the beginning of the period. The Department may grant a six-month extension due to unforeseen, temporary or uncontrollable circumstances; or

(d) The waste is accumulated speculatively, that is, if it is potentially usable but is held without having any known market or

disposition, or is held without having any feasible means of use; or

(e) The waste is used in a manner that constitutes disposal, as-is or after simple mixing, which is not ordinarily done with similar commercial products; or

(f) The Department has reason to believe that the waste may be hazardous to human health and the environment when used in the manner proposed.

Residues of hazardous waste in empty containers.

340-101-007 (1)(a) Any hazardous waste remaining in either (A) an empty container or (B) an inner liner removed from an empty container, as defined in section (2) of this rule, is not subject to regulation under Divisions 101 to 106.

(b) Any hazardous waste in either (A) a container that is not empty or (B) an inner liner removed from a container that is not empty, as defined in section (2) of this rule, is subject to regulation under Divisions 101 to 106.

(2)(a) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is compressed gas or that is identified in rule 340-101-025 and -033(4), is empty if:

(A) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

(B) No more than 1 inch of residue remain on the bottom of the container or inner liner.

(b) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(c) A container or an inner liner removed from a container that has held a hazardous waste identified in rule 340-101-025 and -033(4) is empty if:

(A) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(B) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(C) In the case of a container, the inner liner that prevented contact of the commercial product or manufacturing chemical intermediate with the container has been removed.

Subdivision B: Criteria for Identifying the Characteristics of Hazardous
Waste and for Listing Hazardous Waste

Criteria for identifying the characteristics of hazardous waste.

340-101-010 (1) The Commission shall identify and define a characteristic of hazardous waste in Subdivision C only upon determining that:

(a) A residue that exhibits the characteristic may:

(A) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness, or

(B) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(b) The characteristic can be:

(A) Measured by an available standardized test method which is reasonably within the capability of generators or private sector laboratories that are available to serve those generators; or

(B) Reasonably detected by generators through their knowledge of their waste.

Criteria for listing hazardous waste.

340-101-011 (1) The Commission shall list a residue as a hazardous waste only upon determining that it meets one of the following criteria:

(a) It exhibits any of the characteristics of hazardous waste identified in Subdivision C.

(b) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD₅₀ toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC₅₀ toxicity (rat) of less than 2 milligrams per liter, or a dermal LD₅₀ toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness.

(Comment: Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(c) It contains any of the toxic constituents listed in Appendix VIII of this Division unless, after considering any of the following factors, the Commission concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

(A) The nature of the toxicity presented by the constituent.

(B) The concentration of the constituent in the waste.

(C) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (1)(c)(G) of this rule.

(D) The persistence of the constituent or any toxic degradation product of the constituent.

(E) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(F) The degree to which the constituent or any degradation product of the constituent bioaccumulates in the ecosystems.

(G) The plausible types of improper management to which the waste could be subjected.

(H) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(I) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(J) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(K) Such other factors as may be appropriate.

(Comment: Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(2) The Commission may list classes or types of residues as hazardous waste if it has reason to believe that individual residues, within the class or type of residue, typically or frequently are hazardous under the definition of hazardous waste found in rule 340-101-003(1).

(3) The Department will use the criteria for listing specified in this rule to establish the exclusion limits referred to in rule 340-101-005(3).

Subdivision C: Characteristics of Hazardous Waste

General.

340-101-020 (1) A residue, as defined in rule 340-101-003, which is not excluded from regulation as a hazardous waste under rule 340-101-004, is a hazardous waste if it exhibits any of the characteristics identified in this Subdivision.

(Comment: Rule 340-102-011 sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this Subdivision.)

(2) A hazardous waste which is identified by a characteristic in this subpart, but is not listed as a hazardous waste in Subdivision D, is assigned the EPA Hazardous Waste Number set forth in the respective characteristic in this Subdivision. This number must be used in complying with certain recordkeeping and reporting requirements under Divisions 102 to 106.

(3) For purposes of this Subdivision, the Department will consider a sample obtained using any of the applicable sampling methods specified in Appendix I of this Division to be a representative sample within the meaning of Division 100.

Characteristic of ignitability.

340-101-021 (1) A hazardous waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(a) It is a liquid, other than an aqueous solution containing less than 24% alcohol by volume, and has a flash point less than 140° F, as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, rule 340-100-011), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, rule 340-100-011) or as determined by an equivalent test method approved by the Department under the procedures set forth in rules 340-100-020 and -021.

(Comment: The Department will not consider approving a test method until it has been approved by EPA.)

(b) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(c) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Department under rules 340-100-020 and -021.

(d) It is an oxidizer as defined in 49 CFR 173.151.

(2) A hazardous waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subdivision D, has the EPA Hazardous Waste Number of D001.

(3) Small quantity exemption: 25 pounds per month.

Characteristic of corrosivity.

340-101-022 (1) A hazardous waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the

following properties:

(a) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method approved by the Department under the procedures set forth in rules 340-100-020 and -021. The EPA test method for pH is specified as Method 5.2 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated in reference, see rule 340-100-011).

(b) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 0.250 inch per year at a test temperature of 130° F as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," (incorporated by reference, see rule 340-100-011) or an equivalent test method approved by the Department under the procedures set forth in rules 340-100-020 and -021.

(2) A hazardous waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in Subdivision D, has the EPA Hazardous Waste Number of D002.

(3) Small quantity exemption: 200 pounds per month.

Characteristic of reactivity.

340-101-023 (1) A hazardous waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(a) It is normally unstable and readily undergoes violent change without detonating.

(b) It reacts violently with water.

(c) It forms potentially explosive mixtures with water.

(d) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(e) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(f) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(g) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(h) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

(2) A hazardous waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D003.

(3) Small quantity exemption: As determined by the Department on an individual basis but not to exceed 200 pounds per month.

Characteristic of EP toxicity.

340-101-024 (1) A hazardous waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II of this Division or the equivalent methods approved by the Department under the procedures set forth in rules 340-100-020 and -021, the extract from a

representative sample of the waste contains any of the contaminants listed in Table 1 of this rule at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this rule.

(2) A hazardous waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number specified in Table 1 of this rule which corresponds to the toxic contaminant causing it to be hazardous.

(3) Small quantity exemption: Specified in Table 1 of this rule.

Table 1: Maximum Concentration of Contaminants for Characteristic of EP Toxicity

EPA hazardous waste number	Contaminant	Maximum Concentration (milligrams per liter)	Small Quantity Exemption (pounds per month)
D004.....	Arsenic.....	5.0	10
D005.....	Barium.....	100.0	200
D006.....	Cadmium.....	1.0	10
D007.....	Chromium.....	5.0	200
D008.....	Lead.....	5.0	200
D009.....	Mercury.....	0.2	10
D010.....	Selenium.....	1.0	200
D011.....	Silver.....	5.0	200
D012.....	Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano naphthalene).	0.02	10
D013.....	Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer).	0.4	10
D014.....	Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl) ethane).	10.0	10
D015.....	Toxaphene (C ₁₀ H ₁₀ Cl ₈ , Technical chlorinated camphene, 67-69% chlorine).	0.5	10
D016.....	2,4-D, (2,4-Dichlorophenoxyacetic acid).	10.0	10
D017.....	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid).	1.0	10

Characteristics of pesticides.

340-101-025 (1) A pesticide or pesticide manufacturing residue is a toxic hazardous waste if a representative sample of the waste exhibits any of the following properties:

- (a) A 14-day oral LD₅₀ equal to or less than 500 mg/kg; or
- (b) A one-hour inhalation LD₅₀ equal to or less than 2 mg/l; or
- (c) A 14-day dermal LD₅₀ equal to or less than 2000 mg/kg; or
- (d) A 96-hour aquatic LC₅₀ equal to or less than 250 mg/l.

(Comment: Pesticides meeting the criteria of subsections (a) to (c) of this section carry a DANGER, POISON or WARNING label.)

(2) A pesticide or pesticide manufacturing residue identified in section (1) of this rule but not in rule 340-101-024 or listed as a hazardous waste in Subdivision D, has the Hazardous Waste Number of X001.

(3) Small quantity exemption: 10 pounds per month.

Subdivision D: Lists of Hazardous Wastes

General.

340-101-030 (1) A substance is a hazardous waste if it is listed in this Subdivision, unless it has been excluded from this list under rules 340-100-020 and -022.

(2) The Department will indicate the basis for listing the classes or types of wastes listed in this Subdivision by employing one or more of the following Hazard Codes:

- Ignitable Waste.....(I)
- Corrosive Waste.....(C)
- Reactive Waste.....(R)
- EP Toxic Waste.....(E)
- Acute Hazardous Waste.....(H)
- Toxic Waste.....(T)

Appendix VII of this Division identifies the constituent which caused the Department to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in rules 340-101-031 and -032.

(3) Each hazardous waste listed in this Subdivision is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with certain recordkeeping and reporting requirements under Divisions 102 to 106.

(4) Small quantity exemption: Specified in the tables.

EPA Hazardous Waste Number	Hazardous Waste	Hazard Code	Small Quantity Exemption (lb/mo.)
F001	The following spent halogenated solvents or mixtures of those solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents or mixtures of solvents in degreasing operations.	T	200
F002	The following spent halogenated solvents or mixtures of those solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recycle of these solvents or mixtures of solvents.	T	200
F003	The following spent non-halogenated solvents or mixtures of those solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recycle of these solvents or mixtures of solvents.	I	25
F004	The following spent non-halogenated solvents or mixtures of those solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recycle of these solvents or mixtures of solvents.	T	200
F005	The following spent non-halogenated solvents or mixtures of those solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; and the still bottoms from the recycle of these solvents or mixtures of solvents.	I,T	25
F006	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 basis) 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.	T	200
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.	T	200
F007.....	Spent cyanide plating bath solutions from electroplating operations.	R,T	10
F008.....	Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process.	R,T	10
F009.....	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	R,T	10

F010.....	Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process.	R,T	10
F011.....	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	R,T	10
F012.....	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	T	10
F024.....	Wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor cleanout waste 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 filters and filter aids, spent dessicants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in rule 340-101-032).	T	200

340-101-032 Hazardous waste from specific sources.

EPA Hazardous Waste Number	Hazardous Waste	Hazard Code	Small Quantity Exemption (lb/mo.)
Wood Preservation:			
K001.....	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol	T	10
Inorganic Pigments:			
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	T	200
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	T	200
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	T	200
K005	Wastewater treatment sludge from the production of chrome green pigments.	T	200
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	T	200
K007	Wastewater treatment sludge from the production of iron blue pigments.	T	200
K008	Oven residue from the production of chrome oxide green pigments.	T	200
Organic Chemicals:			
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	T	200
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	T	200
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	R,T	200
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	R,T	200

K014	.... Bottoms from the acetonitrile purification column in the production of acrylonitrile.	T	200
K015	..... Still bottoms from the distillation of benzyl chloride.	T	10
K016	.... Heavy ends or distillation residues from the production of carbon tetrachloride.	T	200
K017	.... Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	T	200
K018	.... Heavy ends from fractionation in ethyl chloride production	T	200
K019	.... Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	T	200
K020	.... Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	T	200
K021	.... Aqueous spent antimony catalyst waste from fluoromethanes production.	T	200
K022	.... Distillation bottom tars from the production of phenol/acetone from cumene.	T	200
K023	.... Distillation light ends from the production of phthalic anhydride from naphthalene.	T	200
K024	.... Distillation bottoms from the production of phthalic anhydride from naphthalene.	T	200
K025	.... Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	T	200
K026	.... Stripping still tails from the production of methyl ethyl pyridines.	T	200
K027	.... Centrifuge and distillation residue from toluene diisocyanate production.	R,T	200
K028	.... Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	T	200
K029	.... Waste from the product stream stripper in the production of 1,1,1-trichloroethane.	T	200
K093	.... Distillation light ends from the production of phthalic anhydride from o-xylene.	T	200
K094	.... Distillation bottoms from the production of phthalic anhydride from o-xylene.	T	200
K095	.... Distillation bottoms from the production of 1,1,1-trichloroethane.	T	200
K096	.... Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	T	200
K030	.... Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	T	200
K083	.... Distillation bottoms from aniline production.	T	200
K103	.... Process residues from aniline extraction from the production of aniline.	T	200
K104	.... Combined wastewater streams generated from nitrobenzene/aniline production.	T	200
K085	.... Distillation or fractionation column bottoms from the production of chlorobenzenes.	T	200
K105	.... Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	T	200
Inorganic Chemicals:			
K071	..... Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	T	10

K073	.... Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	T	200
K106	..... Wastewater treatment sludge from the mercury cell process in chlorine production.	T	10
Pesticides:			
K031	..... By-products salts generated in the production of MSMA and cacodylic acid.	T	10
K032	..... Wastewater treatment sludge from the production of chlordane.	T	10
K033	..... Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	T	10
K034	..... Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	T	10
K097	..... Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	T	10
K035	..... Wastewater treatment sludges generated in the production of creosote.	T	10
K036	..... Still bottoms from toluene reclamation distillation in the production of disulfoton.	T	10
K037	..... Wastewater treatment sludges from the production of disulfoton.	T	10
K038	..... Wastewater from the washing and stripping of phorate production.	T	10
K039	..... Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	T	10
K040	..... Wastewater treatment sludge from the production of phorate	T	10
K041	..... Wastewater treatment sludge from the production of toxaphene.	T	10
K098	..... Untreated process wastewater from the production of toxaphene.	T	10
K042	..... Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	T	10
K043	..... 2,6-Dichlorophenol waste from the production of 2,4-D.	T	10
K099	..... Untreated wastewater from the production of 2,4-D.	T	10
Explosives:			
K044	.... Wastewater treatment sludges from the manufacturing and processing of explosives.	R	200
K045	.... Spent carbon from the treatment of wastewater containing explosives.	R	200
K046	.... Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	T	200
K047	.... Pink/red water from TNT operations.	R	200
Petroleum Refining:			
K048	.... Dissolved air flotation (DAF) float from the petroleum refining industry.	T	200
K049	.... Slop oil emulsion solids from the petroleum refining industry.	T	200
K050	.... Heat exchanger bundle cleaning sludge from the petroleum refining industry.	T	200
K051	.... API separator sludge from the petroleum refining industry.	T	200
K052	.... Tank bottoms (leaded) from the petroleum refining industry.	T	

Iron and Steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	T 200
K062	Spent pickle liquor from steel finishing operations.	C,T 200
Secondary Lead:		
K069	Emission control dust/sludge from secondary lead smelting	T 200
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	T 200
Veterinary Pharmaceuticals:		
K084.....	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	T 10
K101.....	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	T 10
K102.....	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	T 10
Ink Formulations:		
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.	T 200
Coking:		
K060	Ammonia still lime sludge from coking operations.	T 200
K087	Decanter tank tar sludge from coking operations.	T 200
Aluminum:		
K088	Spent potliner from primary aluminum reduction.	R 200

Discarded commercial chemical products, off-specification species, process wastes, containers and spill residues.

340-101-033 The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(1) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in (a) section (6), or (b) section (7) of this rule.

(Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or

marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in sections (6) or (7).)

(2) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in (a) section (6), or (b) section (7) of this rule.

(3)(a) Any manufacturing process waste or other residue having 3% or greater concentration of any substance or mixture of substances listed in section (6) of this rule or a 10% or greater concentration of any substance or mixture of substances listed in section (7) of this rule for toxicity (T).

(b) Small quantity exemption: 10 pounds per month.

(Comment: This rule shall be applied to a manufacturing process waste only in the event it is not identified elsewhere in this Division.)

(4) Any residue remaining in a container or an inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having the generic names listed in sections (6) or (7) of this rule, or a container or inner liner removed from a container that has been used to hold any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in sections (6) or (7) of this rule, unless the container is empty as defined in rule 340-101-007(2)(c).

(Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, reuse, recycling or reclamation, the Department considers the residue to be intended for discard, and thus a

hazardous waste. An example of a legitimate reuse of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.)

(5) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in sections (6) or (7) of this rule, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in sections (6) or (7) of this rule.

(6) The commercial chemical products, manufacturing chemical intermediates, off-specification commercial chemical products and manufacturing chemical intermediates and process waste referred to in sections (1) through (5) of this rule, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in rule 340-101-005(5). These wastes and their corresponding EPA Hazardous Waste Numbers are:

(Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity) and R (Reactivity). Absence of a letter indicates that the compound is listed only for acute toxicity.)

Hazardous Waste No.	Substance
P023.....	Acetaldehyde, chloro-
P002.....	Acetamide, N-(aminothioxomethyl)-
P057.....	Acetamide, 2-fluoro-
P058.....	Acetic acid, fluoro-, sodium salt
P066.....	Acetimidic acid, N-((methylcarbamoyl)-oxy)thio-, methyl ester
P001.....	3-(alpha-acetylbenzyl)-4-hydroxycoumarin and salts
P002.....	1-Acetyl-2-thiourea
P003.....	Acrolein
P070.....	Aldicarb
P004.....	Aldrin
P005.....	Allyl alcohol
P006.....	Aluminum phosphide
P007.....	5-(Aminomethyl)-3-isoxazolol
P008.....	4-aAminopyridine
P009.....	Ammonium picrate (R)
P119.....	Ammonium vanadate
P010.....	Arsenic acid
P012.....	Arsenic (III) oxide
P011.....	Arsenic (V) oxide
P011.....	Arsenic pentoxide
P012.....	Arsenic trioxide
P038.....	Arsine, diethyl-
P054.....	Aziridine
P013.....	Barium cyanide
P024.....	Benzenamine, 4-chloro-
P077.....	Benzenamine, 4-nitro-
P028.....	Benzene, (chloromethyl)-
P042.....	1,2-Benzenediol, 4-(1-hydroxy-2-(methylamino)ethyl)-
P014.....	Benzenethiol
P028.....	Benzyl chloride
P015.....	Beryllium dust
P016.....	Bis(chloromethyl) ether
P017.....	Bromoacetone
P018.....	Brucine
P021.....	Calcium cyanide
P123.....	Camphene, octachloro-
P103.....	Carbamimidoseleonic acid
P022.....	Carbon bisulfide
P022.....	Carbon disulfide
P095.....	Carbonyl chloride
P033.....	Chlorine cyanide
P023.....	Chloroacetaldehyde
P024.....	p-Chloroaniline
P026.....	1-(o-Chlorophenyl)thiourea
P027.....	3-Chloropropionitrile
P029.....	Copper cyanides
P030.....	Cyanides (soluble cyanide salts), not elsewhere specified

P031..... Cyanogen
 P033..... Cyanogen chloride
 P036..... Dichlorophenylarsine
 P037..... Dieldrin
 P038..... Diethylarsine
 P039..... 0,0-Diethyl S-(2-(ethylthio)ethyl)
 phosphorodithioate
 P041..... Diethyl-p-nitrophenyl phosphate
 P040..... 0,0-Diethyl 0-pyrazinyl phosphorothioate
 P043..... Diisopropyl fluorophosphate
 P044..... Dimethoate
 P045..... 3,3-Dimethyl-1-(methylthio)-2-butanone,
 0-((methylamino)carbonyl) oxime
 P071..... 0,0-Dimethyl 0-p-nitrophenyl phosphoro-
 thioate
 P082..... Dimethylnitrosamine
 P046..... alpha, alpha-Dimethylphenethylamine
 P047..... 4,6-Dinitro-o-cresol and salts
 P034..... 4,6-Dinitro-o-cyclohexylphenol
 P048..... 2,4-Dinitrophenol
 P020..... Dinoseb
 P085..... Diphosphoramidate, octamethyl-
 P039..... Disulfoton
 P049..... 2,4-Dithiobiuret
 P109..... Dithiopyrophosphoric acid, tetraethyl
 ester
 P050..... Endosulfan
 P088..... Endothall
 P051..... Endrin
 P042..... Epinephrine
 P046..... Ethanamine, 1,1-dimethyl-2-phenyl-
 P084..... Ethenamine, N-methyl-N-nitroso-
 P101..... Ethyl cyanide
 P054..... Ethylenimine
 P097..... Famphur
 P056..... Fluorine
 P057..... Fluoroacetamide
 P058..... Fluoroacetic acid, sodium salt
 P065..... Fulminic acid, mercury(II) salt (R, T)
 P059..... Heptachlor
 P051..... 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
 P037..... 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
 P060..... 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-
 hexahydro-1,4,5,8-endo, endo-dimethano-
 naphthalene
 P004..... 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-
 hexahydro-1,4,5,8-endo, exo-dimethano-
 naphthalene
 P060..... Hexachlorohexahydro-exo, exo-dimethano-
 naphthalene
 P062..... Hexaethyl tetraphosphate

P116..... Hydrazinecarbothioamide
 P068..... Hydrazine, methyl-
 P063..... Hydrocyanic acid
 P063..... Hydrogen cyanide
 P096..... Hydrogen phosphide
 P064..... Isocyanic acid, methyl ester
 P007..... 3(2H)-isoxazoione, 5-(aminomethyl)-
 P092..... Mercury, (acetato-O)phenyl-
 P065..... Mercury fulminate (R,T)
 P016..... Methane, oxybis(chloro-
 P112..... Methane, tetranitro-(R)
 P118..... Methanethiol, trichloro-
 P059..... 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-
 heptachloro-3a,4,7,7a-tetrahydro-
 P066..... Methomyl
 P067..... 2-Methylaziridine
 P068..... Methyl hydrazine
 P064..... Methyl isocyanate
 P069..... 2-Methylactonitrile
 P071..... Methyl parathion
 P072..... alpha-Naphthylthiourea
 P999..... Nerve agents (such as GB (Sarin) and VX)
 P073..... Nickel carbonyl
 P074..... Nickel cyanide
 P074..... Nickel(II) cyanide
 P073..... Nickel tetracarbonyl
 P075..... Nicotine and salts
 P076..... Nitric oxide
 P077..... p-Nitroaniline
 P078..... Nitrogen dioxide
 P076..... Nitrogen(II) oxide
 P078..... Nitrogen(IV) oxide
 P081..... Nitroglycerine (R)
 P082..... N-Nitrosodimethylamine
 P084..... N-Nitrosomethylvinylamine
 P050..... 5-Norbornene-2,3-dimethanol, 1,4,5,6,7,
 7-hexachloro, cyclic sulfite
 P085..... Octamethylpyrophosphoramidate
 P087..... Osmium oxide
 P087..... Osmium tetroxide
 P088..... 7-Oxabicyclo(2,2,1)heptane-2,3-dicar-
 boxylic acid
 P089..... Parathion
 P034..... Phenol, 2-cyclohexyl-4,6-dinitro-
 P048..... Phenol, 2,4-dinitro-
 P047..... Phenol, 2,4-dinitro-6-methyl-
 P020..... Phenol, 2,4-dinitro-6-(1-methylpropyl)-
 P009..... Phenol, 2,4,6-trinitro-, ammonium salt
 (R)
 P036..... Phenyl dichlorosarin
 P092..... Phenylmercuric acetate
 P093..... N-Phenylthiourea
 P094..... Phorate
 P095..... Phosgene
 P096..... Phosphine

P041..... Phosphoric acid, diethyl p-nitrophenyl ester
 P044..... Phosphorodithioic acid, 0,0-dimethyl S-(2-(methylamino)-2-oxoethyl)ester
 P043..... Phosphorofluoric acid, bis(1-methyl-ethyl)-ester
 P094..... Phosphorothioic acid, 0,0-diethyl S-(ethylthio)methyl ester
 P089..... Phosphorothioic acid, 0,0-diethyl 0-(p-nitrophenyl) ester
 P040..... Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester
 P097..... Phosphorothioic acid, 0,0-dimethyl 0-(p-((dimethylamino)-sulfonyl)phenyl) ester
 P110..... Plumbane, tetraethyl-
 P098..... Potassium cyanide
 P099..... Potassium silver cyanide
 P070..... Propanal, 2-methyl-2-(methylthio)-, 0-((methylamino)carbonyl)oxime
 P101..... Propanenitrile
 P027..... Propanenitrile, 3-chloro-
 P069..... Propanenitrile, 2-hydroxy-2-methyl-
 P081..... 1,2,3-Propanetriol, trinitrate- (R)
 P017..... 2-Propanone, 1-bromo-
 P102..... Propargyl alcohol
 P003..... 2-Propenal
 P005..... 2-Propen-1-ol
 P067..... 1,2-Propylenimine
 P102..... 2-Propyn-1-ol
 P008..... 4-Pyridinamine
 P075..... Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
 P111..... Pyrophosphoric acid, tetraethyl ester
 P103..... Selenourea
 P104..... Silver cyanide
 P105..... Sodium azide
 P106..... Sodium cyanide
 P107..... Strontium sulfide
 P108..... Strychnidin-10-one, and salts
 P018..... Strychnidin-10-one, 2,3-dimethoxy-
 P108..... Strychnine and salts
 P115..... Sulfuric acid, thallium(I) salt
 P109..... Tetraethyldithiopyrophosphate
 P110..... Tetraethyl lead
 P111..... Tetraethylpyrophosphate
 P112..... Tetranitromethane (R)
 P062..... Tetrphosphoric acid, hexaethyl ester
 P113..... Thalllic oxide
 P113..... Thallium(III) oxide
 P114..... Thallium(I) selenite
 P115..... Thallium(I) sulfate
 P045..... Thiofanox
 P049..... Thiomidodicarbonic diamide
 P014..... Thiophenol

P116..... Thiosemicarbazide
 P026..... Thiourea, (2-chlorophenyl)-
 P072..... Thiourea, 1-naphthalenyl-
 P093..... Thiourea, phenyl-
 P123..... Toxaphene
 P118..... Trichloromethanethiol
 P119..... Vanadic acid, ammonium salt
 P120..... Vanadium pentoxide
 P120..... Vanadium(V) oxide
 P001..... Warfarin
 P121..... Zinc cyanide
 P122..... Zinc phosphide (R,T)

(7) The commercial chemical products, manufacturing chemical intermediates, off-specification commercial chemical products and manufacturing chemical intermediates, and process waste referred to in sections (1) to (5) of this rule, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in rules 340-101-005(1) and (6).

(Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is listed only for toxicity.)

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance
U001.....	Acetaldehyde (I)
U034.....	Acetaldehyde, trichloro-
U187.....	Acetamide, N-(4-ethoxyphenyl)-
U005.....	Acetamide, N-9H-fluoren-2-yl-
U112.....	Acetic acid, ethyl ester (I)
U144.....	Acetic acid, lead salt
U214.....	Acetic acid, thallium(I) salt
U002.....	Acetone (I)
U003.....	Acetonitrile (I,T)
U004.....	Acetophenone
U005.....	2-Acetylaminofluorene

U006..... Acetyl chloride (C,R,T)
 U007..... Acrylamide
 U008..... Acrylic acid (I)
 U009..... Acrylonitrile
 U150..... Alanine, 3-(p-bis(2-chloroethyl)amino)
 phenyl, L-
 U011..... Amitrole
 U012..... Aniline (I,T)
 U014..... Auramine
 U015..... Azaserine
 U010..... Azirino(2',3':3,4)pyrrolo(1,2-a)indole-
 4,7-dione, 6-amino-8-(((aminocarbonyl)-
 oxy)methyl)-1, 1a,2,8,8a,8b-hexahydro-8a-
 methoxy-5-methyl-,
 U157..... Benz(j)aceanthrylene, 1,2-dihydro-3-
 methyl-
 U016..... Benz(c)acridine
 U016..... 3,4-Benzacridine
 U017..... Benzal chloride
 U018..... Benz(a)anthracene
 U018..... 1,2-Benzanthracene
 U094..... 1,2-Benzanthracene, 7,12-dimethyl-
 U012..... Benzenamine (I,T)
 U014..... Benzenamine, 4,4'-carbonimidoylbis(N,N-
 dimethyl-
 U049..... Benzenamine, 4-chloro-2-methyl-
 U093..... Benzenamine, N,N'-dimethyl-4-phenylazo-
 U158..... Benzenamine,4,4'-methylenebis(2-chloro-
 U222..... Benzenamine, 2-methyl-, hydrochloride
 U181..... Benzenamine, 2-methyl-5-nitro
 U019..... Benzene (I,T)
 U038..... Benzeneacetic acid, 4-chloro-alpha-(4-
 chlorophenyl)-alpha-hydroxy, ethyl ester
 U030..... Benzene, 1-bromo-4-phenoxy-
 U037..... Benzene, chloro-
 U190..... 1,2-Benzenedicarboxylic acid anhydride
 U028..... 1,2-Benzenedicarboxylic acid, (bis(2-
 ethyl-hexyl)) ester
 U069..... 1,2-Benzenedicarboxylic acid, dibutyl
 ester
 U088..... 1,2-Benzenedicarboxylic acid, diethyl
 ester
 U102..... 1,2-Benzenedicarboxylic acid, dimethyl
 ester
 U107..... 1,2-Benzenedicarboxylic acid, di-n-octyl
 ester
 U070..... Benzene, 1,2-dichloro-
 U071..... Benzene, 1,3-dichloro-
 U072..... Benzene, 1,4-dichloro-
 U017..... Benzene, (dichloromethyl)-
 U223..... Benzene, 1,3-diisocyanatomethyl- (R,T)
 U239..... Benzene, dimethyl- (I,T)
 U201..... 1,3-Benzenediol
 U127..... Benzene, hexachloro-
 U056..... Benzene, hexahydro- (I)

U188..... Benzene, hydroxy-
 U220..... Benzene, methyl-
 U105..... Benzene, 1-methyl-1,2,4-dinitro-
 U106..... Benzene, 1-methyl-2,6-dinitro-
 U203..... Benzene, 1,2-methylenedioxy-4-allyl-
 U141..... Benzene, 1,2-methylenedioxy-4-propenyl-
 U090..... Benzene, 1,2-methylenedioxy-4-propyl-
 U055..... Benzene, (1-methylethyl)- (I)
 U169..... Benzene, nitro- (I,T)
 U183..... Benzene, pentachloro-
 U185..... Benzene, pentachloro-nitro-
 U020..... Benzenesulfonic acid chloride (C,R)
 U020..... Benzenesulfonyl chloride (C,R)
 U207..... Benzene, 1,2,4,5-tetrachloro-
 U023..... Benzene, (trichloromethyl)-(C,R,T)
 O234..... Benzene, 1,3,5-trinitro- (R,T)
 U021..... Benzidine
 U202..... 1,2-Benzisothiazolin-3-one, 1,1-dioxide
 U120..... Benzo(j,k)fluorene
 U022..... Benzo(a)pyrene
 U022..... 3,4-Benzopyrene
 U197..... p-Benzoquinone
 U023..... Benzotrichloride (C,R,T)
 U050..... 1,2-Benzphenanthrene
 U085..... 2,2'-Bioxirane (I,T)
 U021..... (1,1'-Biphenyl)-4,4'-diamine
 U073..... (1,1'-Biphenyl)-4,4'-diamine, 3,3'-
 dichloro-
 U091..... (1,1'-Biphenyl)-4,4'-diamine, 3,3'-
 dimethoxy-
 U095..... (1,1'-Biphenyl)-4,4'-diamine, 3,3'-
 dimethyl-
 U024..... Bis(2-chloroethoxy) methane
 U027..... Bis(2-chloroisopropyl) ether
 U244..... Bis(dimethylthiocarbamoyl) disulfide
 U028..... Bis(2-ethylhexyl) phthalate
 U246..... Bromine cyanide
 U225..... Bromoform
 U030..... 4-Bromophenyl phenyl ether
 U128..... 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
 U172..... 1-Butanamine, N-butyl-N-nitroso-
 U035..... Butanoic acid, 4-(Bis(2-chloroethyl)-
 amino) benzene-
 U031..... 1-Butanol (I)
 U159..... 2-Butanone (I,T)
 U160..... 2-Butanone peroxide (R,T)
 U053..... 2-Butenal
 U074..... 2-Butene, 1,4-dichloro- (I,T)
 U031..... n-Butyl alcohol (I)
 U136..... Cacodylic acid
 U032..... Calcium chromate
 U238..... Carbamic acid, ethyl ester
 U178..... Carbamic acid, methylnitroso-, ethyl
 ester
 U176..... Carbamide, N-ethyl-N-nitroso-

U177..... Carbamide, N-methyl-N-nitroso-
 U219..... Carbamide, thio-
 U097..... Carbamoyl chloride, dimethyl-
 U215..... Carbonic acid, dithallium(I) salt
 U156..... Carbonochloridic acid, methyl ester
 (I,T)
 U033..... Carbon oxyfluoride (R,T)
 U211..... Carbon tetrachloride
 U033..... Carbonyl fluoride (R,T)
 U034..... Chloral
 U035..... Chlorambucil
 U036..... Chlordane, technical
 U026..... Chlornaphazine
 U037..... Chlorobenzene
 U039..... 4-Chloro-m-cresol
 U041..... 1-Chloro-2,3-epoxypropane
 U042..... 2-Chloroethyl vinyl ether
 U044..... Chloroform
 U046..... Chloromethyl methyl ether
 U047..... beta-Chloronaphthalene
 U048..... o-Chlorophenol
 U049..... 4-Chloro-o-toluidine, hydrochloride
 U032..... Chromic acid, calcium salt
 U050..... Chrysene
 U051..... Creosote
 U052..... Cresols
 U052..... Cresylic acid
 U053..... Crotonaldehyde
 U055..... Cumene (I)
 U246..... Cyanogen bromide
 U197..... 1,4-Cyclohexadienedione
 U056..... Cyclohexane (I)
 U057..... Cyclohexanone (I)
 U130..... 1,3-Cyclopentadiene, 1,2,3,4,5,5-
 hexachloro-
 U058..... Cyclophosphamide
 U240..... 2,4,4-D, salts and esters
 U059..... Daunomycin
 U060..... DDD
 U061..... DDT
 U142..... Decachlorooctahydro-1,3,4-metheno-2H-
 cyclobuta(c,d)-pentalen-2-one
 U062..... Diallate
 U133..... Diamine (R,T)
 U221..... Diaminotoluene
 U063..... Dibenz(a,h)anthracene
 U063..... 1,2:5,6-Dibenzanthracene
 U064..... 1,2:7,8-Dibenzopyrene
 U064..... Dibenz(a,i)pyrene
 U066..... 1,2-Dibromo-3-chloropropane
 U069..... Dibutyl phthalate
 U062..... S-(2,3-Dichloroallyl) diisopropylthio-
 carbamate
 U070..... o-Dichlorobenzene
 U071..... m-Dichlorobenzene

U072..... p-Dichlorobenzene
 U073..... 3,3'-Dichlorobenzidine
 U074..... 1,4-Dichloro-2-butene (I,T)
 U075..... Dichlorodifluoromethane
 U192..... 3,5-Dichloro-N-(1,1-dimethyl-2-propo-
 nyl) benzamide
 U060..... Dichloro diphenyl dichloroethane
 U061..... Dichloro diphenyl trichloroethane
 U078..... 1,1-Dichloroethylene
 U079..... 1,2-Dichloroethylene
 U025..... Dichloroethyl ether
 U081..... 2,4-Dichlorophenol
 U082..... 2,6-Dichlorophenol
 U240..... 2,4-Dichlorophenoxyacetic acid, salts
 and esters
 U083..... 1,2-Dichloropropane
 U084..... 1,3-Dichloropropene
 U085..... 1,2,3,4-Diepoxybutane (I,T)
 U108..... 1,4-Diethylene dioxide
 U086..... N,N-Diethylhydrazine
 U087..... O,O-Diethyl-S-methyl-dithiophosphate
 U088..... Diethyl phthalate
 U089..... Diethylstilbestrol
 U148..... 1,2-Dihydro-3,6-pyridazinedione
 U090..... Dihydrosafrole
 U091..... 3,3'-Dimethoxybenzidine
 U092..... Dimethylamine (I)
 U093..... Dimethylaminoazobenzene
 U094..... 7,12-Dimethylbenz(a)anthracene
 U095..... 3,3'-Dimethylbenzidine
 U096..... alpha,alpha-Dimethylbenzylhydroperoxide
 (R)
 U097..... Dimethylcarbamoyl chloride
 U098..... 1,1-Dimethylhydrazine
 U099..... 1,2-Dimethylhydrazine
 U101..... 2,4-Dimethylphenol
 U102..... Dimethyl phthalate
 U103..... Dimethyl sulfate
 U105..... 2,4-Dinitrotoluene
 U106..... 2,6-Dinitrotoluene
 U107..... Di-n-octyl phthalate
 U108..... 1,4-Dioxane
 U109..... 1,2-Diphenylhydrazine
 U110..... Dipropylamine (I)
 U111..... Di-N-propylnitrosamine
 U001..... Ethanal (I)
 U174..... Ethanamine, N-ethyl-N-nitroso-
 U067..... Ethane, 1,2-dibromo-
 U076..... Ethane, 1,1-dichloro-
 U077..... Ethane, 1,2-dichloro-
 U114..... 1,2-Ethanediylobiscarbamodithioic acid
 U131..... Ethane, 1,1,1,2,2,2-hexachloro-
 U024..... Ethane, 1,1'-(methylenebis(oxy))bis(2-
 chloro-
 U003..... Ethanenitrile (I,T)

U117..... Ethane, 1,1'-oxybis- (I)
 U025..... Ethane, 1,1'-oxybis(2-chloro-
 U184..... Ethane, pentachloro-
 U208..... Ethane, 1,1,1,2-tetrachloro-
 U209..... Ethane, 1,1,2,2-tetrachloro-
 U218..... Ethanethioamide
 U247..... Ethane, 1,1,1-trichloro-2,2-bis-
 (p-methoxyphenyl)
 U227..... Ethane, 1,1,2-trichloro-
 U043..... Ethene, chloro-
 U042..... Ethene, 2-chloroethoxy-
 U078..... Ethene, 1,1-dichloro-
 U079..... Ethene, trans-1,2-dichloro-
 U210..... Ethene, 1,1,2,2-tetrachloro-
 U173..... Ethanol, 2,2'-(nitrosoimino)bis-
 U004..... Ethanone, 1-phenyl-
 U006..... Ethanoyl chloride (C,R,T)
 U112..... Ethyl acetate (I)
 U113..... Ethyl acrylate (I)
 U238..... Ethyl carbamate (urethan)
 U038..... Ethyl 4,4'-dichlorobenzilate
 U114..... Ethylenebis(dithiocarbamic acid)
 U067..... Ethylene dibromide
 U077..... Ethylene dichloride
 U115..... Ethylene oxide (I,T)
 U116..... Ethylene thiourea
 U117..... Ethyl ether (I)
 U076..... Ethylidene dichloride
 U118..... Ethylmethacrylate
 U119..... Ethyl methanesulfonate
 U139..... Ferric dextran
 U120..... Fluoranthene
 U122..... Formaldehyde
 U123..... Formic acid (C,T)
 U124..... Furan (I)
 U125..... 2-Furancarboxaldehyde (I)
 U147..... 2,5-Furandione
 U213..... Furan, tetrahydro- (I)
 U125..... Furfural (I)
 U124..... Furfuran (I)
 U206..... D-Glucopyranose, 2-deoxy-2(3-methyl-3-
 nitrosoureido)-
 U126..... Glycidylaldehyde
 U163..... Guanidine, N-nitroso-N-methyl-N'nitro-
 U127..... Hexachlorobenzene
 U128..... Hexachlorobutadiene
 U129..... Hexachlorocyclohexane (gamma isomer)
 U130..... Hexachlorocyclopentadiene
 U131..... Hexachloroethane
 U132..... Hexachlorophene
 U243..... Hexachloropropene
 U133..... Hydrazine (R,T)
 U086..... Hydrazine, 1,2-diethyl-
 U098..... Hydrazine, 1,1-dimethyl-
 U099..... Hydrazine, 1,2-dimethyl-

U109..... Hydrazine, 1,2-diphenyl-
 U134..... Hydrofluoric acid (C,T)
 U134..... Hydrogen fluoride (C,T)
 U135..... Hydrogen sulfide
 U096..... Hydroperoxide, 1-methyl-1-phenylethyl-
 (R)
 U136..... Hydroxydimethylarsine oxide
 U116..... 2-Imidazolidinethione
 U137..... Indeno(1,2,3-cd)pyrene
 U139..... Iron dextran
 U140..... Isobutyl alcohol (I,T)
 U141..... Isosafrole
 U142..... Kepone
 U143..... Lasiocarpine
 U144..... Lead acetate
 U145..... Lead phosphate
 U146..... Lead subacetate
 U129..... Lindane
 U147..... Maleic anhydride
 U148..... Maleic hydrazide
 U149..... Malononitrile
 U150..... Melphalan
 U151..... Mercury
 U152..... Methacrylonitrile (I,T)
 U092..... Methanamine, N-methyl- (I)
 U029..... Methane, bromo-
 U045..... Methane, chloro- (I,T)
 U046..... Methane, chloromethoxy-
 U068..... Methane, dibromo-
 U080..... Methane, dichloro-
 U075..... Methane, dichlorodifluoro-
 U138..... Methane, iodo-
 U119..... Methanesulfonic acid, ethyl ester
 U211..... Methane, tetrachloro-
 U121..... Methane, trichlorfluoro-
 U153..... Methanethiol (I,T)
 U225..... Methane, tribromo-
 U044..... Methane, trichloro-
 U121..... Methane, trichlorofluoro-
 U123..... Methanoic acid (C,T)
 U036..... 4,7-Methanoindan, 1,2,4,5,6,7,8,8-
 octachloro-3a,4,7,7a-tetrahydro-
 U154..... Methanol (I)
 U155..... Methapyrilene
 U247..... Methoxychlor
 U154..... Methyl alcohol (I)
 U029..... Methyl bromide
 U186..... 1-Methylbutadiene (I)
 U045..... Methyl chloride (I,T)
 U156..... Methyl chlorocarbonate (I,T)
 U226..... Methylchloroform
 U157..... 3-Methylcholanthrene
 U158..... 4,4'-Methylenebis(2-chloroaniline)
 U132..... 2,2'-Methylenebis(3,4,6-trichlorophenol)
 U068..... Methylene bromide

U080..... Methylene chloride
 U122..... Methylene oxide
 U159..... Methyl ethyl ketone (I,T)
 U160..... Methyl ethyl ketone peroxide (R,T)
 U138..... Methyl iodide
 U161..... Methyl isobutyl ketone (I)
 U162..... Methyl methacrylate (I,T)
 U163..... N-Methyl-N'-nitro-N-nitrosoguanidine
 U161..... 4-Methyl-2-pentanone (I)
 U164..... Methylthiouracil
 U010..... Mitomycin C
 U059..... 5,12-Naphthacenedione, (8S-cis)-8-acetyl-
 10-((3-amino-2,3,6-trideoxy-alpha-L-
 lyxo-hexopyranosyl)oxyl)-7,8,9,10-tetra-
 hydro-6,8,11-trihydroxy-1-methoxy-
 U165..... Naphthalene
 U047..... Naphthalene, 2-chloro-
 U166..... 1,4-Naphthalenedione
 U236..... 2,7-Naphthalenedisulfonic acid, 3,3'-
 ((3,3'-dimethyl-(1,1'-biphenyl)-4,4'
 diyl))-bis(azo)bis(5-amino-4-hydroxy)-,
 tetrasodium salt
 U166..... 1,4,Naphthaquinone
 U167..... 1-Naphthylamine
 U168..... 2-Naphthylamine
 U167..... alpha-Naphthylamine
 U168..... beta-Naphthylamine
 U026..... 2-Naphthylamine, N,N'-bis(2-chloro-
 methyl)-
 U169..... Nitrobenzene (I,T)
 U170..... p-Nitrophenol
 U171..... 2-Nitropropane (I)
 U172..... N-Nitrosodi-n-butylamine
 U173..... N-Nitrosodiethanolamine
 U174..... N-Nitrodiethylamine
 U111..... N-Nitroso-N-propylamine
 U176..... N-Nitroso-N-ethylurea
 U177..... N-Nitroso-N-methylurea
 U178..... N-Nitroso-N-methylurethane
 U179..... N-Nitrosopiperidine
 U180..... N-Nitrosopyrrolidine
 U181..... 5-Nitro-o-toluidine
 U193..... 1,2-Oxathiolane, 2,2-dioxide
 U058..... 2H-1,3,2-Oxazaphosphorine, 2-(bis(2-
 chloro-ethyl)amino)tetrahydro-, oxide 2-
 U115..... Oxirane (I,T)
 U041..... Oxirane, 2-(chloromethyl)-
 U182..... Paraldehyde
 U183..... Pentachlorobenzene
 U184..... Pentachloroethane
 U185..... Pentachloronitrobenzene
 U242..... Pentachlorophenol
 U186..... 1,3-Pentadiene (I)
 U187..... Phenacetin
 U188..... Phenol

U048..... Phenol, 2-chloro-
 U039..... Phenol, 4-chloro-3-methyl-
 U081..... Phenol, 2,4-dichloro-
 U082..... Phenol, 2,6-dichloro-
 U101..... Phenol, 2,4-dimethyl-
 U170..... Phenol, 4-nitro-
 U242..... Phenol, pentachloro-
 U212..... Phenol, 2,3,4,6-tetrachloro-
 U230..... Phenol, 2,4,5-trichloro-
 U231..... Phenol, 2,4,6-trichloro-
 U137..... 1,10-(1,2-phenylene)pyrene
 U145..... Phosphoric acid, Lead salt
 U087..... Phosphorodithioic acid, O,O-diethyl-,
 S-methylester
 U189..... Phosphorous sulfide (R)
 U190..... Phthalic anhydride
 U191..... 2-Picoline
 U192..... Pronamide
 U194..... 1-Propanamine (I,T)
 U110..... 1-Propanamine, N-propyl- (I)
 U066..... Propane, 1,2-dibromo-3-chloro-
 U149..... Propanedinitrile
 U171..... Propane, 2-nitro- (I)
 U027..... Propane, 2,2'-oxybis(2-chloro-
 U193..... 1,3-Propane sultone
 U235..... 1-Propanol, 2,3-dibromo-, phosphate
 (3:1)
 U126..... 1-Propanol, 2,3-epoxy-
 U140..... 1-Propanol, 2-methyl- (I,T)
 U002..... 2-Propanone (I)
 U007..... 2-Propenamamide
 U084..... Propene, 1,3-dichloro-
 U243..... 1-Propene, 1,1,2,3,3,3-hexachloro-
 U009..... 2-Propenenitrile
 U152..... 2-Propenenitrile, 2-methyl- (I,T)
 U008..... 2-Propenoic acid (I)
 U113..... 2-Propenoic acid, ethyl ester (I)
 U118..... 2-Propenoic acid, 2-methyl-, ethyl ester
 U162..... 2-Propenoic acid, 2-methyl-, methyl
 ester (I,T)
 U233..... Propionic acid, 2-(2,4,5-trichloro-
 phenoxy)-
 U194..... n-Propylamine (I,T)
 U083..... Propylene dichloride
 U196..... Pyridine
 U155..... Pyridine, 2-((2-(dimethylamino)-2-
 thenylamino)-
 U179..... Pyridine, hexahydro-N-nitroso-
 U191..... Pyridine, 2-methyl-
 U164..... 4(1H)-Pyrimidinone, 2,3dihydro-6-methyl-
 2-thioxo-
 U180..... Pyrrole, tetrahydro-N-nitroso-
 U200..... Reserpine
 U201..... Resorcinol
 U202..... Saccharin and salts

U203..... Safrole
 U204..... Selenious acid
 U204..... Selenium dioxide
 U205..... Selenium disulfide (R,T)
 U015..... L-Sennne, diazoacetate (ester)
 U233..... Silvex
 U089..... 4,4'-Stilbenediol, alpha,alpha'-diethyl-
 U206..... Streptozotocin
 U135..... Sulfur hydride
 U103..... Sulfuric acid, dimethyl ester
 U189..... Sulfur phosphide (R)
 U205..... Sulfur selenide (R,T)
 U232..... 2,4,5-T
 U207..... 1,2,4,5-Tetrachlorobenzene
 U208..... 1,1,1,2-Tetrachloroethane
 U209..... 1,1,2,2-Tetrachloroethane
 U210..... Tetrachloroethylene
 U212..... 2,3,4,6-Tetrachlorophenol
 U213..... Tetrahydrofuran (I)
 U214..... Thallium(I) acetate
 U215..... Thallium(I) carbonate
 U216..... Thallium(I) chloride
 U217..... Thallium(I) nitrate
 U218..... Thioacetamide
 U153..... Thiomethanol (I,T)
 U219..... Thiourea
 U244..... Thiram
 U220..... Toluene
 U221..... Toluenediamine
 U223..... Toluene diisocyanate (R,T)
 U222..... O-Toluidine hydrochloride
 U011..... 1H-1,2,4-Triazol-3-amine
 U226..... 1,1,1-Trichloroethane
 U227..... 1,1,2-Trichloroethane
 U228..... Trichloroethene
 U228..... Trichloroethylene
 U121..... Trichloromonofluoromethane
 U230..... 2,4,5-Trichlorophenol
 U231..... 2,4,6-Trichlorophenol
 U232..... 2,4,5-Trichlorophenoxyacetic acid
 U234..... sym-Trinitrobenzene (R,T)
 U182..... 1,3,5-Trioxane, 2,4,5-trimethyl-
 U235..... Tris(2,3-dibromopropyl) phosphate
 U236..... Trypan blue
 U237..... Uracil, 5(bis(2-chloromethyl)amino)-
 U237..... Uracil mustard
 U043..... Vinyl chloride
 U239..... Xylene (I)
 U200..... Yohimban-16-carboxylic acid, 11,17-
 dimethoxy-18-((3,4,5-trimethoxy-ben-
 zoyl)oxy)-, methyl ester

Appendix I: Representative Sampling Methods

The methods and equipment used for sampling wastes will vary with the form and consistency of the wastes to be sampled. Samples collected using the sampling protocols listed below, for sampling wastes with properties similar to the indicated materials, will be considered by the Department to be representative of the waste:

- (1) Extremely viscous liquid: ASTM Standard D140-70
- (2) Crushed or powdered material: ASTM Standard D346-75
- (3) Soil or rock-like material: ASTM Standard D420-69
- (4) Soil-like material: ASTM Standard D1452-65
- (5) Fly Ash-like material: ASTM Standard D2234-76

NOTE: ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA, 19103

(6) Containerized liquid wastes: "COLIWASA" described in Test Methods for Evaluating Solid Waste, Second Ed., July 1982, (SW-846)⁽¹⁾ U.S. Environmental Protection Agency.

NOTE: Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio, 45268.

(7) Liquid waste in pits, ponds, lagoons, and similar reservoirs: Dipper (pond sampler) described in Test Methods for Evaluating Solid Waste, Second Ed., July 1982.

(1) These methods are also described in Samplers and Sampling Procedures for Hazardous Waste Streams, EPA 600/2-80-018, January 1980.

Appendix II: EP Toxicity Test Procedure

(A) Extraction Procedure (EP)

(1) A representative sample of the waste to be tested (minimum size 100 grams) shall be obtained using the methods specified in Appendix 101.1 or any other methods capable of yielding a representative sample. (For detailed guidance on conducting the various aspects of the EP see Test Methods for Evaluating Solid Waste, Second Ed., July 1982, (SW-846))⁽¹⁾

(2) The sample shall be separated into its component liquid and solid phases using the method described in "Separation Procedure" (B) below. If the solid residue⁽²⁾ obtained using this method totals less than 0.5% of the original weight of the waste, the residue can be discarded and the operator shall treat the liquid phase as the extract and proceed immediately to Step 8.

(3) The solid material obtained from the Separation Procedure shall be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than, 3.1 cm² or passes through a 9.5 mm (0.375 inch) standard sieve, the operator shall proceed to Step 4.

(1) Test Methods for Evaluating Solid Waste, Second Ed., July 1982, Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio, 45268 (SW-846)

(2) The percent solids is determined by drying the filter pad at 80° C until it reaches constant weight and then calculating the percent solids using the following equation:

$$\text{Percent solids} = \frac{(\text{weight of pad} + \text{solids}) - (\text{tare weight of pad})}{\text{initial weight of sample}} \times 100$$

If the surface area is smaller or the particle size larger than specified above, the solid material shall be prepared for extraction by crushing, cutting or grinding the material so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" (C) described below.

(4) The solid material obtained in Step 3 shall be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extraction fluid but also insure that all sample surfaces are continuously brought into contact with well mixed extraction fluid.

(5) After the solid material and deionized water are placed in the extractor, the operator shall begin agitation and measure the pH of the solution in the extractor. If the pH is greater than 5.0, the pH of the solution shall be decreased to 5.0 ± 0.2 by adding 0.5 N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be added. The pH of the solution shall be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5 N acetic acid shall be added to bring the pH down to 5.0 ± 0.2 . However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture shall be agitated for 24 hours and maintained at 20°-40°C (68°-104°F) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon, 97123, or its equivalent, in conjunction with a metering pump and reservoir of 0.5 N acetic acid. If such a system is not available, the following manual procedure shall be

employed: (a) A pH meter shall be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution shall be checked and, if necessary, 0.5 N acetic acid shall be manually added to the extractor until the pH reaches 5.0 ± 0.2 . The pH of the solution shall be adjusted at 15, 30 and 60 minute intervals, moving to the next longer interval if the pH does not have to be adjusted more than 0.5 N pH units.

(c) The adjustment procedure shall be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH shall be adjusted to 5.0 ± 0.2 and the extraction continued for an additional four hours, during which the pH shall be adjusted at one hour intervals.

(6) At the end of the 24 hour extraction period, deionized water shall be added to the extractor in an amount determined by the formula:

$$V = 4W - A; \text{ where}$$

V = ml deionized water to be added

W = weight in grams of solid charged to extractor

A = ml of 0.5 N acetic acid added during extraction

(7) The material in the extractor shall be separated into its component liquid and solid phases as described under "Separation Procedure" (B).

(8) The liquids resulting from Steps 2 and 7 shall be combined. This combined liquid (or the waste itself if it has less than 1/2 percent solids, as noted in Step 2) is the extract and shall be analyzed for the presence of any of the contaminants specified in Table 1 of rule 340-101-140 using the Analytical Procedures specified in Test Methods for Evaluating Solid Waste, Second Ed., July 1982, (SW-846).

(B) Separation Procedure

Equipment: A filter holder, designed for filtration media having a nominal pore size of 0.45 micrometers and capable of applying a 75 psi (5.3 kg/cm²) hydrostatic pressure to the solution being filtered shall be used. For mixtures containing nonabsorptive solids, where separation can be affected without imposing a 75 psi pressure differential, vacuum filters employing a 0.45 micrometers filter media can be used. (For further guidance on filtration equipment or procedures see Test Methods for Evaluating Solid Waste, Second Ed., July 1982, (SW-846).

Procedure:(3)

(1) Following manufacturer's directions, the filter unit shall be assembled with a filter bed consisting of a 0.45 micrometer filter membrane. For difficult or slow to filter mixtures a prefilter bed consisting of the following prefilters in increasing pore size (0.65 micrometer membrane, fine glass fiber prefilter, and coarse glass filter prefilter) can be used.

(3) This procedure is intended to result in separation of the "free" liquid portion of the waste from any solid matter having a particle size > 0.45 um. If the sample will not filter, various other separation techniques can be used to aid in the filtration. As described above, pressure filtration is employed to speed up the filtration process. This does not alter the nature of the separation. If liquid does not separate during filtration, the waste can be centrifuged. If separation occurs during centrifugation the liquid portion (centrifugate) is filtered through the 0.45 um filter prior to becoming mixed with the liquid portion of the waste obtained from the initial filtration. Any material that will not pass through the filter after centrifugation is considered a solid and is extracted.

(2) The waste shall be poured into the filtration unit.

(3) The reservoir shall be slowly pressurized until liquid begins to flow from the filtrate outlet at which point the pressure in the filter shall be immediately lowered to 10-15 psig. Filtration shall be continued until liquid flow ceases.

(4) The pressure shall be increased stepwise in 10 psi increments to 75 psig and filtration continued until flow cease or the pressurizing gas begins to exit from the filtrate outlet.

(5) The filter unit shall be depressurized, the solid material removed and weighed and then transferred to the extraction apparatus, or, in the case of final filtration prior to analysis, discarded. Do not allow the material retained on the filter pad to dry prior to weighing.

(6) The liquid phase shall be stored at 4° C for subsequent use in Part A, Step 8.

(C) Structural Integrity Procedure

Equipment: A Structural Integrity Tester having a 3.18 cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) shall be used. This device is available from Associated Design and Manufacturing Company, Alexandria, VA, 22314, as Part No. 125, or it may be fabricated to meet the specifications shown in Figure 1.

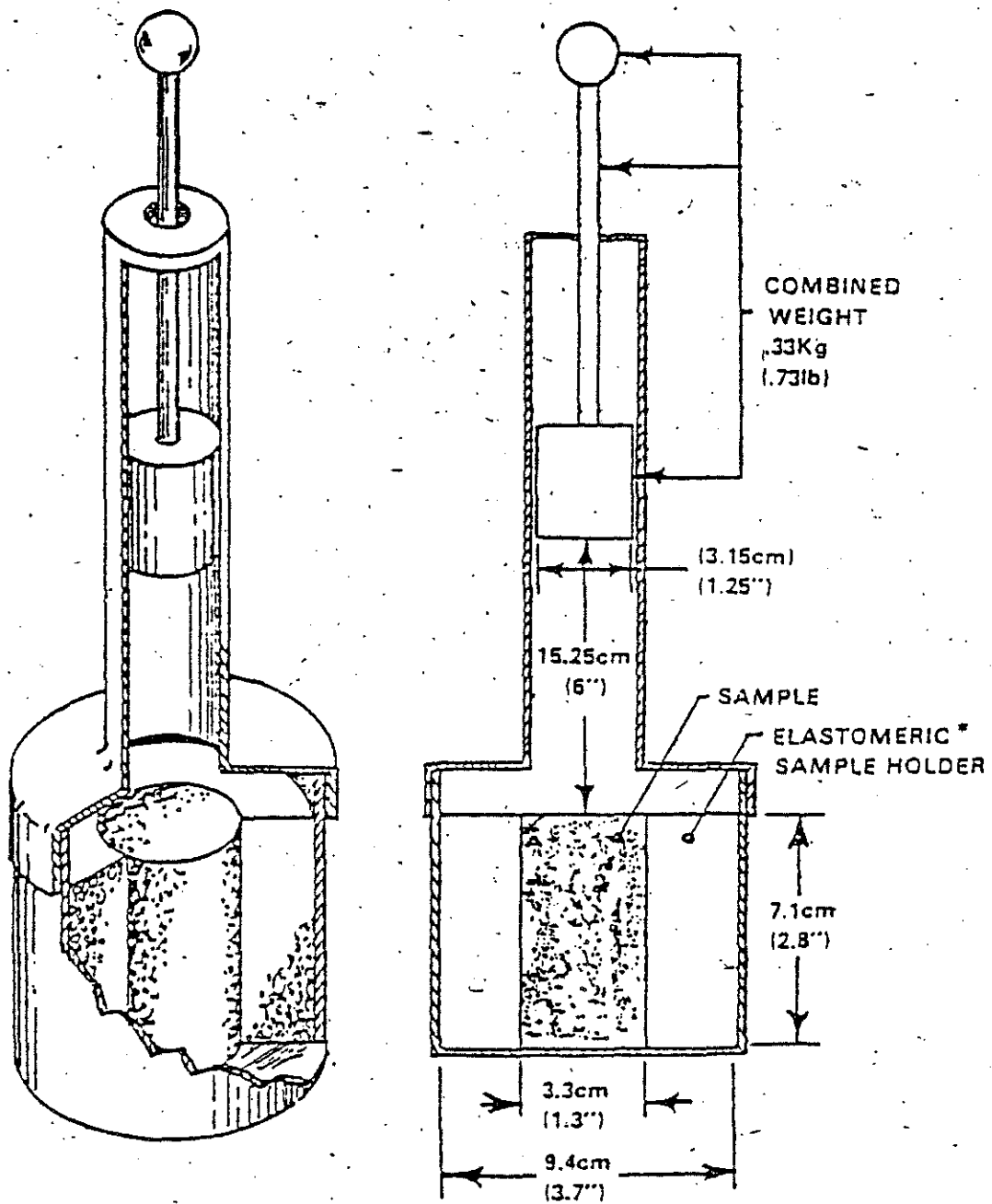
Procedure:

(1) The sample holder shall be filled with the material to be tested. If the sample of waste is a large monolithic block, a portion shall be cut from the block having the dimensions of a 3.3 cm (1.3 in) diameter x 7.1 cm

(2.8 in) cylinder. For a fixated waste, samples may be cast in the form of a 3.3 cm (1.3 in) diameter x 7.1 cm (2.8 in) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.

(2) The sample holder shall be placed into the Structural Integrity Tester, then the hammer shall be raised to its maximum height and dropped. This shall be repeated fifteen times.

(3) The material shall be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.



*ELASTOMERIC SAMPLE HOLDER FABRICATED OF MATERIAL FIRM ENOUGH TO SUPPORT THE SAMPLE

Figure 1

STRUCTURAL INTEGRITY TESTER

Appendix III: Chemical Analysis Test Methods

Tables 1, 2, and 3 of this Appendix specify the appropriate analytical procedures, described in Test Methods for Evaluating Solid Waste, Second Ed. (SW-846), July 1982, which shall be used in determining whether the waste in question contains a given toxic constituent. Table 1 identifies the analytical class and the approved measurement techniques for each organic chemical listed in Appendix VII of this Division. Table 2 identifies the corresponding methods for the inorganic species. Table 3 identifies the specific sample preparation and measurement instrument introduction techniques which may be suitable for both the organic and inorganic species as well as the matrices of concern.

Prior to final selection of the analytical method the operator should consult the specific method descriptions in SW-846 for additional guidance on which of the approved methods should be employed for a specific waste analysis situation.

Table 1: Analytical Characteristics of Organic Chemicals

Compound	Sample handling class/fraction	Non-GC methods	Measurement techniques		
			GC/MS	GC	Conventional Detector
Acetonitrile.....	Volatile.....	.....	8240	8030	NSD
Acrolein.....	Volatile.....	.....	8240	8030	NSD
Acrylamide.....	Volatile.....	.....	8240	28010	FID
Acrylonitrile.....	Volatile.....	.....	8240	8030	NSD
Benzene.....	Volatile.....	.....	8240	8020	PID
Benz(a)anthracene.....	Extractable/BN.....	8100 (HPLC)	8250	38100	FID
Benzo(a)pyrene.....	Extractable/BN.....	8100 (HPLC)	8250	8100	FID
Benzotrichloride.....	Extractable/BN.....	.....	8250	8120	ECD
Benzyl chloride.....	Volatile or Extractable/BN	.....	8240	8010	HSD
Benz(b)fluoranthene.....	Extractable/BN.....	8100 (HPLC)	8250	8100	FID
Bis(2-chloroethoxymethane)	Volatile.....	.....	8240	8010	HSD
Bis(2-chloroethyl)ether....	Volatile.....	.....	8240	8010	HSD
Bis(2-chloroisopropyl)ether	Volatile.....	.....	8240	8010	HSD
Carbon disulfide.....	Volatile.....	.....	8240	8010	HSD
Carbon tetrachloride.....	Volatile.....	.....	8240	8010	HSD
Chlordane.....	Extractable/BN.....	.....	8250	8080	HSD
Chlorinated dibenzo-p-dioxins	Extractable/BN...	.....	8280	.....	.....
Chlorinated dibenzofurans	Extractable/BN.....	.....	8280	.....	.....
Chlorinated biphenyls.....	Extractable/BN.....	.....	8250	8080	HSD
Chloroacetaldehyde.....	Volatile.....	.....	8240	8010	HSD
Chlorobenzene.....	Volatile.....	.....	8240	8010	HSD
				8020	PID
Chloroform.....	Volatile.....	.....	8240	8010	HSD
Chloromethane.....	Volatile.....	.....	8240	8010	HSD
2-Chlorophenol.....	Extractable/BN.....	.....	8250	8040	FID, ECD
Chrysene.....	Extractable/BN.....	8100 (HPLC)	8250	8100	FID
Creosote.....	Extractable/BN.....	.....	18250	8100	ECD
Cresol(s).....	Extractable/A.....	.....	8250	8040	FID, ECD
Cresylic acid(s).....	Extractable/A.....	.....	8250	8040	FID, ECD
Dichlorobenzene(s).....	Extractable/BN.....	.....	8250	8010	HSD
				8020	PID
				8120	ECD
Dichloroethane(s).....	Volatile.....	.....	8240	8010	HSD
Dichloromethane.....	Volatile.....	.....	8240	8010	HSD
Dichlorophenoxy-acetic acid	Extractable/A.....	.....	8250	8150	HSD
Dichloropropanol.....	Extractable/BN.....	.....	8250	8120	ECD
2,4-Dimethylphenol.....	Extractable/A.....	.....	8250	8040	FID, ECD
Dinitrobenzene.....	Extractable/BN.....	.....	8250	8090	FID, ECD
4,6-Dinitro-o-cresol.....	Extractable/A.....	.....	8250	8040	FID, ECD
2,4-Dinitrotoluene.....	Extractable/BN.....	.....	8250	8090	FID, ECD
Endrin.....	Extractable/P.....	.....	8250	8080	HSD
Ethyl ether.....	Volatile.....	.....	8240	8010	FID
				8020	FID
Formaldehyde.....	Volatile.....	.....	8240	8010	FID
Formic acid.....	Extractable/BN.....	.....	8250	8060	FID
Heptachlor.....	Extractable/P.....	.....	8250	8060	HSD
Hexachlorobenzene.....	Extractable/BN.....	.....	8250	8120	ECD
Hexachlorobutadiene.....	Extractable/BN.....	.....	8250	8120	ECD

Hexachloroethane.....	Extractable/BN.....	.....	8250	8120	ECD
Hexachlorocyclopentadiene..	Extractable/BN.....	.....	8250	8120	ECD
Lindane.....	Extractable/P.....	.....	8250	8080	HSD
Maleic anhydride.....	Extractable/BN.....	.....	8250	8060	ECD, FID
Methanol.....	Volatile.....	.....	8240	8010	FID
Methomyl.....	Extractable/BN.....	8.32 (HPLC)	.....	.....	.....
Methyl ethyl ketone.....	Volatile.....	.....	8250	8010	FID
				8020	FID
Methyl isobutyl ketone.....	Volatile.....	.....	8250	8010	FID
				8020	FID
Naphthalene.....	Extractable/BN.....	.....	8250	8100	FID
Napthoquinone.....	Extractable/BN.....	.....	8250	8060	ECD, FID
				8090	FID
Nitrobenzene.....	Extractable/BN.....	.....	8250	8090	ECD, FID
4-Nitrophenol.....	Extractable/A.....	.....	8240	8040	ECD, FID
Paraldehyde (trimer of acetaldehyde)	Volatile.....	.....	8240	8010	FID
Pentachlorophenol.....	Extractable/A.....	.....	8250	8040	ECD
Phenol.....	Extractable/A.....	.....	8250	8040	ECD, FID
Phorate.....	Extractable/BN.....	.....	.....	8140	FPD
Phosphorodithioic acid esters	Extractable/BN.....	.....	.....	8060	ECD, FID
				8090	ECD, FID
				8140	FPD
Phthalic anhydride.....	Extractable/BN.....	.....	8250	8060	ECD, FID
				8090	ECD, FID
2-Picoline.....	Extractable/BN.....	.....	8250	8060	ECD, FID
				8090	ECD, FID
Pyridine.....	Extractable/BN.....	.....	8250	8060	ECD, FID
				8090	ECD, FID
Tetrachlorobenzene(s).....	Extractable/BN.....	.....	8250	8120	ECD
Tetrachloroethane(s).....	Volatile.....	.....	8240	8010	HSD
Tetrachloroethene.....	Volatile.....	.....	8240	8010	HSD
Tetrachlorophenol.....	Extractable/A.....	.....	8240	8040	ECD
Toluene.....	Volatile.....	.....	8240	8020	PID
Toluenediamine.....	Extractable/BN.....	.....	8250		
Toluene diisocyanate(s)....	Extractable/ nonaqueous	.....	8250	8060	FID
Toxaphene.....	Extractable/P.....	.....	8250	8080	HSD
Trichloroethane.....	Volatile.....	.....	8240	8010	HSD
Trichloroethene(s).....	Volatile.....	.....	8240	8010	HSD
Trichlorofluoromethane.....	Volatile.....	.....	8240	8010	HSD
Trichlorophenol(s).....	Extractable/A.....	.....	8250	8040	HSD
2,4,5-TP (Silvex).....	Extractable/A.....	.....	8250	8150	HSD
Trichloropropane.....	Volatile.....	.....	8240	8010	HSD
Vinyl chloride.....	Volatile.....	.....	8240	8010	HSD
Vinylidene chloride.....	Volatile.....	.....	8240	8010	HSD
Xylene.....	Volatile.....	.....	8240	8020	PID

1 Analyze for phenanthrene and carbazole; if these are present in a ratio between 1:4:1 and 5:1, creosote should be considered present.

2 Method 8010: Also see 8015 and 8020

3 Method 8100: Also see 8310

ECD = Electron capture detector; FID = Flame ionization detector; FPD = Flame photometric detector; HSD = Halide specific detector; HPLC = High pressure liquid chromatography; NSD = Nitrogen-specific detector; PID = Photoionization detector.

Table 2: Analytical Characteristics of Inorganic Species

Species	Sample handling class	Measurement technique	Method number
Antimony...	Digestion.....	Atomic absorbtion-furnace/flame...	7040,7041
Arsenic....	Hydride.....	Atomic absorbtion-flame.....	7060,7061
Barium.....	Digestion.....	Atomic absorbtion-furnace/flame...	7080,7081
Cadmium....	Digestion.....	Atomic absorbtion-furnace/flame...	7090,7091
Chromium...	Digestion.....	Atomic absorbtion-furnace/flame...	7190,7191
Cyanides...	Hydrolysis.....	Titrimetry.....	9010
Lead.....	Digestion.....	Atomic absorbtion-furnace/flame...	7420,7421
Mercury....	Cold Vapor.....	Atomic absorbtion.....	7470,7471
Nickel.....	Digestion.....	Atomic absorbtion-furnace/flame...	7520,7521
Selenium...	Hydride digestion	Atomic absorbtion-furnace/flame...	7740,7741
Silver.....	Digestion.....	Atomic absorbtion-furnace/flame...	7760,7761

Table 3: Sample Preparation/Sample Introduction Techniques

Sample handling class	Physical characteristics of waste ¹		
	Fluid	Paste	Solid
Volatile.....	Purge & trap Direct injection	Purge & trap Headspace	Headspace
Semivolatile and nonvolatile	Direct injection Shake out	Shake out	Shake out Soxhlet Sonication
Inorganic.....	Direct injection Digestion Hydride	..... Digestion Hydride	Digestion Hydride

¹ For purposes of this Table, fluid refers to readily pourable liquids, which may or may not contain suspended particles. Paste-like materials, while fluid in the sense of flowability, can be thought of as being thixotropic or plastic in nature, e.g., paints. Solid materials are those wastes which can be handled without a container (i.e., can be piled up without appreciable sagging).

Procedure and Method Number(s)

- Digestion--See appropriate procedure for element of interest.
- Headspace--5020
- Hydride--See appropriate procedure for element of interest.
- Purge & Trap--5030
- Shake out--3510
- Sonication--3550
- Soxhlet--3540

Appendix VII: Basis for Listing Hazardous Wastes

EPA Hazardous Waste Number	Hazardous constituents for which listed
F001.....	tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorinated fluorocarbons, carbon tetrachloride
F002.....	tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane
F003.....	N.A.
F004.....	cresols and cresylic acid, nitrobenzene
F005.....	toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine
F006.....	cadmium, hexavalent chromium, nickel, cyanide (complexed)
F019.....	hexavalent chromium, cyanide (complexed)
F007.....	cyanide (salts)
F008.....	cyanide (salts)
F009.....	cyanide (salts)
F010.....	cyanide (salts)
F011.....	cyanide (salts)
F012.....	cyanide (complexed)
F024.....	chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1,2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorobenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene

K001..... pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene
 K002..... hexavalent chromium, lead
 K003..... hexavalent chromium, lead
 K004..... hexavalent chromium
 K005..... hexavalent chromium, lead
 K006..... hexavalent chromium
 K007..... cyanide (complexed), hexavalent chromium
 K008..... hexavalent chromium
 K009..... chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid
 K010..... chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde
 K011..... acrylonitrile, acetonitrile, hydrocyanic acid
 K013..... hydrocyanic acid, acrylonitrile, acetonitrile
 K014..... acetonitrile, acrylamide
 K015..... benzyl chloride, chlorobenzene, toluene, benzo-trichloride
 K016..... hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene
 K017..... epichlorohydrin, chloroethers (bis-(chloromethyl) ether and bis(2-chloroethyl) ethers), trichloropropane, dichloropropanols
 K018..... 1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene
 K019..... ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane, and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride
 K020..... ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane, and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride
 K021..... antimony, carbon tetrachloride, chloroform
 K022..... phenol, tars (polycyclic aromatic hydrocarbons)
 K023..... phthalic anhydride, maleic anhydride
 K024..... phthalic anhydride, 1,4-naphthoquinone
 K093..... phthalic anhydride, maleic anhydride
 K094..... phthalic anhydride
 K025..... meta-dinitrobenzene, 2,4-dinitrotoluene
 K026..... paraldehyde, pyridines, 2-picoline
 K027..... toluene diisocyanate, toluene-2,4-diamine
 K028..... 1,1,1-trichloroethane, vinyl chloride
 K029..... 1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform
 K095..... 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane
 K096..... 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane
 K030..... hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride

K031..... arsenic
 K032..... hexachlorocyclopentadiene
 K033..... hexachlorocyclopentadiene
 K034..... hexachlorocyclopentadiene
 K097..... chlordane, heptachlor
 K035..... cresote, chrysene, naphthalene, fluoranthene, benzo(b)fluoroan-
 thene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(a)anthra-
 cene, dibenzo(a)anthracene, acenaphthalene
 K036..... toluene, phosphorodithioic and phosphorothioic acid esters
 K037..... toluene, phosphorodithioic and phosphorothioic acid esters
 K038..... phorate, formaldehyde, phosphorodithioic and phosphorothioic acid
 esters
 K039..... phosphorodithioic and phosphorothioic acid esters
 K040..... phorate, formaldehyde, phosphorodithioic and phosphorothioic acid
 esters
 K041..... toxaphene
 K098..... toxaphene
 K042..... hexachlorobenzene, ortho-dichlorobenzene
 K043..... 2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol
 K099..... 2,4-dichlorophenol, 2,4,6-trichlorophenol
 K044..... N.A.
 K045..... N.A.
 K046..... lead
 K047..... N.A.
 K048..... hexavalent chromium, lead
 K049..... hexavalent chromium, lead
 K050..... hexavalent chromium
 K051..... hexavalent chromium, lead
 K052..... lead
 K060..... cyanide, naphthalene, phenolic compounds, arsenic
 K061..... hexavalent chromium, lead, cadmium
 K062..... hexavalent chromium, lead
 K069..... hexavalent chromium, lead, cadmium
 K100..... hexavalent chromium, lead, cadmium
 K071..... mercury
 K073..... chloroform, carbon tetrachloride, hexachloroethane, trichloroeth-
 ane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachlo-
 roethane
 K074..... chromium
 K078..... chromium, lead
 K079..... lead, mercury, benzene, carbon tetrachloride, methylene chloride,
 tetrachloroethylene, naphthalene, di(2-ethylhexyl)phthalate, di-
 n-butylphthalate, toluene
 K081..... chromium, lead, mercury, nickel, methylene chloride, toluene
 K082..... antimony, cadmium, chromium, lead, nickel, silver, cyanides,
 phenol, mercury, pentachlorophenol, vinyl chloride, 3,3-dichlo-
 robenzidene, naphthalene, di(2-ethylhexyl)-phthalate, di-n-
 butylphthalate, benzene, toluene, carbon tetrachloride, methy-
 lene chloride, trichloroethylene
 K083..... aniline, nitrobenzene, diphenylamine, phenylenediamine
 K084..... arsenic
 K085..... benzene, monochlorobenzene, dichlorobenzenes, trichlorobenzenes,
 tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene,
 benzyl chloride
 K086..... chromium, lead

K087..... phenol, naphthalene
K088..... cyanide
K101..... arsenic
K102..... arsenic
K103..... aniline, nitrobenzene, phenylenediamine
K104..... aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine
K105..... benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichloro-
 phenol
K106..... mercury

N.A.--Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity or reactivity.

Appendix VIII

Hazardous Constituents

Acetonitrile (Ethanenitrile)
 Acetophenone (Ethanone, 1-phenyl)
 3-(alpha-Acetylbenzyl)-4-hydroxycoumarin and salts (Warfarin)
 2-Acetylaminofluorene (Acetamide, N-(9H-fluoren-2-yl)-)
 Acetyl chloride (Ethanoyl chloride)
 1-Acetyl-2-thiourea (Acetamide, N-(aminothioxomethyl)-)
 Acrolein (2-Propenal)
 Acrylamide (2-Propenamide)
 Acrylonitrile (2-Propenenitrile)
 Aflatoxins
 Aldrin (1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,8b-hexahydro-endo,exo-1,4:5,8-Dimethanonaphthalene)
 Allyl alcohol (2-Propen-1-ol)
 Aluminum phosphide
 4-Aminobiphenyl ([1,1'-Biphenyl]-4-amine)
 6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methyl-carbamate azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, (ester) (Mitomycin C)
 (Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-

dione, 6-amino-8-[(amino-carbonyl)oxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-)
 5-(Aminomethyl)-3-isoxazolol (3(2H)-isoxazolone, 5-(aminomethyl)-4-aminopyridine (4-Pyridinamine)
 Amitrole (1H-1,2,4-Triazol-3-amine)
 Aniline (Benzenamine)
 Antimony and compounds, N.O.S.*
 Aramite (Sulfurous acid, 2-chloroethyl-, 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester)
 Arsenic and compounds, N.O.S.*
 Arsenic acid (Orthoarsenic acid)
 Arsenic pentoxide (Arsenic (V) oxide)
 Arsenic trioxide (Arsenic (III) oxide)
 Auramine (Benzenamine, 4,4'-carbonimidoylbis[N,N-Dimethyl-, monohydrochloride)
 Azaserine (L-Serine, diazoacetate (ester))
 Barium and compounds, N.O.S.*
 Barium cyanide
 Benz[c]acridine (3,4-Benzacridine)
 Benz[a]anthracene (1,2-Benzanthracene)
 Benzene (Cyclohexatriene)
 Benzenearsonic acid (Arsonic acid, phenyl-)
 Benzene, dichloromethyl- (Benzal chloride)
 Benzenethiol (Thiophenol)
 Benzidine ([1,1'-Biphenyl]-4,4'diamine)
 Benzo[b]fluoranthene (2,3-Benzofluoranthene)
 Benzo[j]fluoranthene (7,8-Benzofluoranthene)
 Benzo[a]pyrene (3,4-Benzopyrene)
 p-Benzoquinone (1,4-Cyclohexadienedione)
 Benzotrifluoride (Benzene, trichloromethyl-)
 Benzyl chloride (Benzene, (chloromethyl)-)
 Beryllium and compounds, N.O.S.*
 Bis(2-chloroethoxy)methane (Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-])
 Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis[2-chloro-])
 N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)
 Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis[2-chloro-])
 Bis(chloromethyl) ether (Methane, oxybis[chloro-])
 Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester)
 Bromoacetone (2-Propanone, 1-bromo-)
 Bromomethane (Methyl bromide)
 4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)
 Brucine (Strychnidin-10-one, 2,3-dimethoxy-)
 2-Butanone peroxide (Methyl ethyl ketone, peroxide)
 Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester)
 2-sec-Butyl-4,6-dinitrophenol (DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-)
 Cadmium and compounds, N.O.S.*
 Calcium chromate (Chromic acid, calcium salt)
 Calcium cyanide
 Carbon disulfide (Carbon bisulfide)
 Carbon oxyfluoride (Carbonyl fluoride)
 Chloral (Acetaldehyde, trichloro-)
 Chlorambucil (Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-)

* The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

Chlordane (alpha and gamma isomers) (4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3,4,7a-tetrahydro-) (alpha and gamma isomers)
 Chlorinated benzenes, N.O.S.*
 Chlorinated ethane, N.O.S.*
 Chlorinated fluorocarbons, N.O.S.*
 Chlorinated naphthalene, N.O.S.*
 Chlorinated phenol, N.O.S.*
 Chloroacetaldehyde (Acetaldehyde, chloro-)
 Chloroalkyl ethers, N.O.S.*
 p-Chloroaniline (Benzenamine, 4-chloro-)
 Chlorobenzene (Benzene, chloro-)*
 Chlorobenzilate (Benzenecetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester)
 p-Chloro-m-cresol (Phenol, 4-chloro-3-methyl)
 1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-)
 2-Chloroethyl vinyl ether (Ethene, (2-chloroethoxy)-)
 Chloroform (Methane, trichloro-)
 Chloromethane (Methyl chloride)
 Chloromethyl methyl ether (Methane, chloromethoxy-)
 2-Chloronaphthalene (Naphthalene, beta-chloro-)
 2-Chlorophenol (Phenol, o-chloro-)
 1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-)
 3-Chloropropionitrile (Propanenitrile, 3-chloro-)
 Chromium and compounds, N.O.S.*
 Chrysene (1,2-Benzphenanthrene)
 Citrus red No. 2 (2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-)
 Coal tars
 Copper cyanide
 Creosote (Creosote, wood)
 Cresols (Cresylic acid) (Phenol, methyl-)
 Crotonaldehyde (2-Butenal)
 Cyanides (soluble salts and complexes), N.O.S.*
 Cyanogen (Ethanedinitrile)
 Cyanogen bromide (Bromine cyanide)
 Cyanogen chloride (Chlorine cyanide)
 Cycasin (beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-)
 2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)
 Cyclophosphamide (2H-1,3,2-Oxazaphosphorine, [bis(2-chloroethyl)amino]-tetrahydro-, 2-oxide)
 Daunomycin (5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,8-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-)
 DDD (Dichlorodiphenyldichloroethane) (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-)
 DDE (Ethylene, 1,1-dichloro-2,2-bis(4-chlorophenyl)-)
 DDT (Dichlorodiphenyltrichloroethane) (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-)
 Diallylate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)
 Dibenz[a,h]acridine (1,2,5,6-Dibenzacridine)
 Dibenz[a,j]acridine (1,2,7,8-Dibenzacridine)
 Dibenz[a,h]anthracene (1,2,5,8-Dibenzanthracene)
 7H-Dibenzo[c,g]carbazole (3,4,5,6-Dibenzcarbazole)
 Dibenzo[a,e]pyrene (1,2,4,5-Dibenzpyrene)
 Dibenzo[a,h]pyrene (1,2,5,6-Dibenzpyrene)
 Dibenzo[a,i]pyrene (1,2,7,8-Dibenzpyrene)

- 1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-)
- 1,2-Dibromoethane (Ethylene dibromide)
- Dibromomethane (Methylene bromide)
- Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester)
- o-Dichlorobenzene (Benzene, 1,2-dichloro-)
- m-Dichlorobenzene (Benzene, 1,3-dichloro-)
- p-Dichlorobenzene (Benzene, 1,4-dichloro-)
- Dichlorobenzene, N.O.S.* (Benzene, dichloro-, N.O.S.*)
- 3,3'-Dichlorobenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-)
- 1,4-Dichloro-2-butene (2-Butene, 1,4-dichloro-)
- Dichlorodifluoromethane (Methane, dichlorodifluoro-)
- 1,1-Dichloroethane (Ethylidene dichloride)
- 1,2-Dichloroethane (Ethylene dichloride)
- trans-1,2-Dichloroethane (1,2-Dichloroethylene)
- Dichloroethylene, N.O.S.* (Ethene, dichloro-, N.O.S.*)
- 1,1-Dichloroethylene (Ethene, 1,1-dichloro-)
- Dichloromethane (Methylene chloride)
- 2,4-Dichlorophenol (Phenol, 2,4-dichloro-)
- 2,6-Dichlorophenol (Phenol, 2,6-dichloro-)
- 2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichlorophenoxy-, salts and esters)
- Dichlorophenylarsine (Phenyl dichloroarsine)
- Dichloropropane, N.O.S.* (Propane, dichloro-, N.O.S.*)
- 1,2-Dichloropropane (Propylene dichloride)
- Dichloropropanol, N.O.S.* (Propanol, dichloro-, N.O.S.*)
- Dichloropropene, N.O.S.* (Propene, dichloro-, N.O.S.*)
- 1,3-Dichloropropene (1-Propene, 1,3-dichloro-)
- Dieldrin (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-endo,exo-1,4:5,8-Dimethanonaphthalene)
- 1,2,3,4-Diepoxybutane (2,2'-Bioxirane)
- Diethylarsine (Arsine, diethyl-)
- N,N-Diethylhydrazine (Hydrazine, 1,2-diethyl-)
- O,O-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, O,O-diethyl S-methyl ester)
- O,O-Diethylphosphoric acid, O-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester)
- Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)
- O,O-Diethyl O-2-pyrazinyl phosphorothioate (Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester)
- Diethylstilbesterol (4,4'-Stilbenediol, alpha, alpha-diethyl, bis(dihydrogen phosphate, (E)-)
- Dihydrosofrole (Benzene, 1,2-methylenedioxy-4-propyl-)
- 3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-)
- Diisopropylfluorophosphate (DFP) (Phosphorofluoric acid, bis(1-methylethyl) ester)
- Dimethoate (Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester)
- 3,3'-Dimethoxybenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-)
- p-Dimethylaminoazobenzene (Benzenamine, N,N-dimethyl-4-(phenylazo)-)
- 7,12-Dimethylbenz[a]anthracene (1,2-Benzanthracene, 7,12-dimethyl-)
- 3,3'-Dimethylbenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-)
- Dimethylcarbamoyl chloride (Carbamoyl chloride, dimethyl-)
- 1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)
- 1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)
- 3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino) carbonyl]oxime (Thiofanox)
- alpha, alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl-)
- 2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)
- Dimethyl phthalate (1,2-Benzenedicarboxylic acid, dimethyl ester)
- Dimethyl sulfate (Sulfuric acid, dimethyl ester)
- Dinitrobenzene, N.O.S.* (Benzene, dinitro-, N.O.S.*)
- 4,6-Dinitro-o-cresol and salts (Phenol, 2,4-dinitro-6-methyl-, and salts)
- 2,4-Dinitrophenol (Phenol, 2,4-dinitro-)
- 2,4-Dinitrotoluene (Benzene, 1-methyl-2,4-dinitro-)
- 2,6-Dinitrotoluene (Benzene, 1-methyl-2,6-dinitro-)
- Di-n-octyl phthalate (1,2-Benzenedicarboxylic acid, dioctyl ester)
- 1,4-Dioxane (1,4-Diethylene oxide)
- Diphenylamine (Benzenamine, N-phenyl-)
- 1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)
- Di-n-propyl nitrosamine (N-Nitroso-di-n-propylamine)
- Disulfoton (O,O-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate)
- 2,4-Dithioburet (Thioimidodicarbonic diamide)
- Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)
- Endrin and metabolites (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-endo,endo-1,4:5,8-dimethanonaphthalene, and metabolites)
- Ethyl carbamate (Urethan) (Carbamic acid, ethyl ester)
- Ethyl cyanide (propanenitrile)
- Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediybis carbamodithioic acid, salts and esters)
- Ethyleneimine (Aziridine)
- Ethylene oxide (Oxirane)
- Ethylenethiourea (2-Imidazolidinethione)
- Ethyl methacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)
- Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)
- Fluoranthene (Benz[*a*],*k*]fluorene)
- Fluorine
- 2-Fluoroacetamide (Acetamide, 2-fluoro-)
- Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)
- Formaldehyde (Methylene oxide)
- Formic acid (Methanoic acid)
- Glycidylaldehyde (1-Propanol-2,3-epoxy)
- Halomethane, N.O.S.*
- Heptachlor (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-)
- Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetrahydro-, alpha, beta, and gamma isomers)
- Hexachlorobenzene (Benzene, hexachloro-)
- Hexachlorobutadiene (1,3-Butadiene, 1,1,2,3,4,4-hexachloro-)
- Hexachlorocyclohexane (all isomers) (Lindane and isomers)
- Hexachlorocyclopentadiene (1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-)
- Hexachloroethane (Ethane, 1,1,1,2,2,2-hexachloro-)
- 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo-dimethanonaphthalene (Hexachlorohexahydro-endo,endo-dimethanonaphthalene)
- Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))
- Hexachloropropene (1-Propene, 1,1,2,3,3,3-hexachloro-)
- Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)
- Hydrazine (Diamine)
- Hydrocyanic acid (Hydrogen cyanide)
- Hydrofluoric acid (Hydrogen fluoride)
- Hydrogen sulfide (Sulfur hydride)
- Hydroxydimethylarsine oxide (Cacodylic acid)
- Indeno(1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)
- Iodomethane (Methyl iodide)
- Iron dextran (Ferric dextran)
- Isocyanic acid, methyl ester (Methyl isocyanate)
- Isobutyl alcohol (1-Propanol, 2-methyl-)
- Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)
- Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta[*cd*]pentalen-2-one)
- Lasiocarpine (2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester)
- Lead and compounds, N.O.S.*
- Lead acetate (Acetic acid, lead salt)
- Lead phosphate (Phosphoric acid, lead salt)
- Lead subacetate (Lead, bis[acetato-O]tetrahydroxytri-)
- Maleic anhydride (2,5-Furandione)
- Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)
- Malononitrile (Propanedinitrile)
- Melphalan (Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-, L-)
- Mercury fulminate (Fulminic acid, mercury salt)
- Mercury and compounds, N.O.S.*
- Methacrylonitrile (2-Propenenitrile, 2-methyl-)
- Methanethiol (Thiomethanol)
- Methapyriline (Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-)
- Metholmyl (Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester)
- Methoxychlor (Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-)
- 2-Methylaziridine (1,2-Propylenimine)
- 3-Methylcholanthrene (Benz[*j*]aceanthrylene, 1,2-dihydro-3-methyl-)
- Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)
- 4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylenebis(2-chloro-)
- Methyl ethyl ketone (MEK) (2-Butanone)
- Methyl hydrazine (Hydrazine, methyl-)
- 2-Methylactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)
- Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)

- Methyl methanesulfonate (Methanesulfonic acid, methyl ester)
- 2-Methyl-2-(methylthio)propionaldehyde-*o*-(methylcarbonyl) oxime (Propanal, 2-methyl-2-(methylthio)-, *O*-[(methylamino)carbonyl]oxime)
- N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitroso-N-methyl-N'-nitro-)
- Methyl parathion (O,O-dimethyl O-(4-nitrophenyl) phosphorothioate)
- Methylthiouracil (4-1H-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-)
- Mustard gas (Sulfide, bis(2-chloroethyl)-)
- Naphthalene
- 1,4-Naphthoquinone (1,4-Naphthalenedione)
- 1-Naphthylamine (alpha-Naphthylamine)
- 2-Naphthylamine (beta-Naphthylamine)
- 1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)
- Nickel and compounds, N.O.S.*
- Nickel carbonyl (Nickel tetracarbonyl)
- Nickel cyanide (Nickel (II) cyanide)
- Nicotine and salts (Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)
- Nitric oxide (Nitrogen (II) oxide)
- p-Nitroaniline (Benzenamine, 4-nitro-)
- Nitrobenzene (Benzene, nitro-)
- Nitrogen dioxide (Nitrogen (IV) oxide)
- Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
- Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
- Nitroglycerine (1,2,3-Propanetriol, trinitrate)
- 4-Nitrophenol (Phenol, 4-nitro-)
- 4-Nitroquinoline-1-oxide (Quinoline, 4-nitro-1-oxide-)
- Nitrosamine, N.O.S.*
- N-Nitrosodi-n-butylamine (1-Butanamine, N-butyl-N-nitroso-)
- N-Nitrosodietanolamine (Ethanol, 2,2'-(nitrosoimino)bis-)
- N-Nitrosodithylamine (Ethanamine, N-ethyl-N-nitroso-)
- N-Nitrosodimethylamine (Dimethylnitrosamine)
- N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)
- N-Nitrosomethyl ethylamine (Ethanamine, N-methyl-N-nitroso-)
- N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)
- N-Nitroso-N-methylurethane (Carbamic acid, methylnitroso-, ethyl ester)
- N-Nitrosomethylvinylamine (Ethanamine, N-methyl-N-nitroso-)
- N-Nitrosomorpholine (Morpholine, N-nitroso-)
- N-Nitrosornicotine (Nornicotine, N-nitroso-)
- N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)
- Nitrosopyrrolidine (Pyrrole, tetrahydro-, N-nitroso-)
- N-Nitrososarcosine (Sarcosine, N-nitroso-)
- 5-Nitro-*o*-toluidine (Benzenamine, 2-methyl-5-nitro-)
- Octamethylpyrophosphoramide (Diphosphoramidate, octamethyl-)
- Osmium tetroxide (Osmium (VIII) oxide)
- 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (Endothal)
- Paraldehyde (1,3,5-Trioxane, 2,4,6-trimethyl-)
- Parathion (Phosphorothioic acid, O,O-diethyl O-(*p*-nitrophenyl) ester)
- Pentachlorobenzene (Benzene, pentachloro-)
- Pentachloroethane (Ethane, pentachloro-)
- Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-)
- Pentachlorophenol (Phenol, pentachloro-)
- Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)
- Phenol (Benzene, hydroxy-)
- Phenylenediamine (Benzenediamine)
- Phenylmercury acetate (Mercury, acetatophenyl-)
- N-Phenylthiourea (Thiourea, phenyl-)
- Phosgene (Carbonyl chloride)
- Phosphine (Hydrogen phosphide)
- Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester (Phorate)
- Phosphorothioic acid, O,O-dimethyl O-[*p*-(dimethylamino)sulfonyl]phenyl ester (Gamphur)
- Phthalic acid esters, N.O.S.* (Benzene, 1,2-dicarboxylic acid, esters, N.O.S.*)
- Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)
- 2-Picoline (Pyridine, 2-methyl-)
- Polychlorinated biphenyl, N.O.S.*
- Potassium cyanide
- Potassium silver cyanide (Argentate(1-), dicyano-, potassium)
- Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)
- 1,3-Propane sultone (1,2-Oxathiolane, 2,2-dioxide)
- n-Propylamine (1-Propanamine)
- Propylthiouracil (Undecamethylenediamine, N,N'-bis(2-chlorobenzyl)-, dihydrochloride)
- 2-Propyn-1-ol (Propargyl alcohol)
- Pyridine
- Reserpine (Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester)
- Resorcinol (1,3-Benzenediol)
- Saccharin and salts (1,2-Benzothiazolin-3-one, 1,1-dioxide, and salts)
- Safrole (Benzene, 1,2-methylenedioxy-4-allyl-)
- Selenious acid (Selenium dioxide)
- Selenium and compounds, N.O.S.*
- Selenium sulfide (Sulfur selenide)
- Selenourea (Carbamimidoseleonic acid)
- Silver and compounds, N.O.S.*
- Silver cyanide
- Sodium cyanide
- Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-)
- Strontium sulfide
- Strychnine and salts (Strychnidin-10-one, and salts)
- 1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)
- 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD) (Dibenzo-*p*-dioxin, 2,3,7,8-tetrachloro-)
- Tetrachloroethane, N.O.S.* (Ethane, tetrachloro-, N.O.S.*)
- 1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)
- 1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,2-tetrachloro-)
- Tetrachlorethane (Ethene, 1,1,2,2-tetrachloro-)
- Tetrachloromethane (Carbon tetrachloride)
- 2,3,4,6-Tetrachlorophenol (Phenol, 2,3,4,6-tetrachloro-)
- Tetraethylthiopyrophosphate (Dithiopyrophosphoric acid, tetraethyl-ester)
- Tetraethyl lead (Plumbane, tetraethyl-)
- Tetraethylpyrophosphate (Pyrophosphoric acid, tetraethyl ester)
- Tetranitromethane (Methane, tetranitro-)
- Thallium and compounds, N.O.S.*
- Thallic oxide (Thallium (III) oxide)
- Thallium (I) acetate (Acetic acid, thallium (I) salt)
- Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)
- Thallium (I) chloride
- Thallium (I) nitrate (Nitric acid, thallium (I) salt)
- Thallium selenite
- Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)
- Thioacetamide (Ethanethioamide)
- Thiosemicarbazide (Hydrazinecarbothioamide)
- Thiourea (Carbamide thio-)
- Thiuram (Bis(dimethylthiocarbonyl) disulfide)
- Toluene (Benzene, methyl-)
- Toluenediamine (Diaminotoluene)
- o*-Toluidine hydrochloride (Benzenamine, 2-methyl-, hydrochloride)
- Tolylene diisocyanate (Benzene, 1,3-diisocyanatomethyl-)
- Toxaphene (Camphene, octachloro-)
- Tribromomethane (Bromoform)
- 1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro-)
- 1,1,1-Trichloroethane (Methyl chloroform)
- 1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)
- Trichloroethene (Trichloroethylene)
- Trichloromethanethiol (Methanethiol, trichloro-)
- Trichloromonofluoromethane (Methane, trichlorofluoro-)
- 2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)
- 2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)
- 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (Acetic acid, 2,4,5-trichlorophenoxy-)
- 2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex) (Propionic acid, 2-(2,4,5-trichlorophenoxy)-)
- Trichloropropane, N.O.S.* (Propane, trichloro-, N.O.S.*)
- 1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)
- O,O,O-Triethyl phosphorothioate (Phosphorothioic acid, O,O,O-triethyl ester)
- sym-Trinitrobenzene (Benzene, 1,3,5-trinitro-)
- Tris(1-aziridinyl) phosphine sulfide (Phosphine sulfide, tris(1-aziridinyl)-)
- Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)
- Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)]bis(5-amino-4-hydroxy-, tetrasodium salt)
- Uracil mustard (Uracil 5-[bis(2-chloroethyl)amino]-)
- Vanadic acid, ammonium salt (ammonium vanadate)
- Vanadium pentoxide (Vanadium (V) oxide)
- Vinyl chloride (Ethene, chloro-)
- Zinc cyanide
- Zinc phosphide
- hexachlorodibenzo-*p*-dioxins
- hexachlorodibenzofurans
- pentachlorodibenzo-*p*-dioxins
- pentachlorodibenzofurans
- tetrachlorodibenzo-*p*-dioxins
- tetrachlorodibenzofurans
- 3-Chloropropene (allyl chloride)
- 2-Chloro-1, 3-butadiene (chloroprene)

DIVISION 102
HAZARDOUS WASTE MANAGEMENT

Standards Applicable to
Generators of Hazardous Waste

Subdivision A: General

- 340-102-010 Purpose and applicability.
- 340-102-011 Hazardous waste determination.
- 340-102-012 Identification number.

Subdivision B: The Manifest

- 340-102-020 General requirements.
- 340-102-021 Required information.
- 340-102-022 Number of copies.
- 340-102-023 Use of the manifest.

Subdivision C: Pre-Transport Requirements

- 340-102-030 Packaging.
- 340-102-031 Labeling.
- 340-102-032 Marking.
- 340-102-033 Placarding.
- 340-102-034 Accumulation time.

Subdivision D: Recordkeeping and Reporting

- 340-102-040 Recordkeeping.
- 340-102-041 Quarterly reporting.
- 340-102-042 Exception reporting.
- 340-102-043 Additional reporting.

Subdivision E: Special Conditions

- 340-102-050 International shipments.
- 340-102-051 Farmers.
- 340-102-052 Beneficial use.

Authority: ORS Chapter 468, including 468.020; 459, including 459.440;
and 183.

Subdivision A: General

Purpose and applicability.

340-102-010 (1) The purpose of this Division is to establish standards for generators of hazardous waste.

(2) A generator who treats, stores, or disposes of hazardous waste on-site must only comply with the following rules of this Division with respect to that waste: rule 340-102-011 for determining whether or not he has a hazardous waste, -012 for obtaining an identification number, -040(3) and (4) for recordkeeping, -043 for additional reporting and, if applicable, -051 for farmers.

(3) Any person who imports hazardous waste into the United States must comply with the standards applicable to generators established in this Division.

(4) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of rule 340-102-051 is not required to comply with other standards in this Division or Divisions 104 or 105 with respect to such pesticides.

(5) A person who generates a hazardous waste as defined by Division 101 is subject to the compliance requirements and penalties prescribed by ORS 459.650 to .690, .992 and .995, and OAR Chapter 340, Division 12, if he does not comply with the requirements of this Division.

(6) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility must comply with the generator standards established in this Division.

(Comments: The provisions of rule 340-102-034 are applicable to the on-site accumulation of hazardous waste by generators. Therefore, the

provisions of rule 340-102-034 also apply to owners or operators who are shipping hazardous waste which they generated at that facility.)

A generator who treats, stores, or disposes of hazardous waste on-site must comply with the applicable standards and permit requirements set forth in Divisions 104 and 105.)

Hazardous waste determination.

340-102-011 A person who generates a solid waste, as defined in rule 340-101-002, must determine if that waste is a hazardous waste using the following method:

(1) He should first determine if the waste is excluded from regulation under rule 340-101-004.

(2) He must then determine if the waste is listed as a hazardous waste in Subdivision D of Division 101.

(Comment: Even if the waste is listed, the generator still has an opportunity under rule 340-100-022 to demonstrate to the Department that the waste from his particular facility or operation is not a hazardous waste.)

(3) If the waste is not listed as a hazardous waste in Subdivision D of Division 101, he must determine whether the waste is identified in Subdivision C of Division 101 by either:

(a) Testing the waste according to the methods set forth in Subdivision C of Division 101, or according to an equivalent method approved by the Department under rule 340-100-021; or

(Comment: The Department will not consider approving a test method until it has been approved by EPA.)

(b) Applying knowledge of the hazard characteristic of the waste in

light of the materials or the processes used.

Identification number.

340-102-012 (1) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an identification number from the Department.

(2) A generator who has not received an identification number may obtain one by applying to the Department on an approved form. Upon receiving the request the Department will assign an identification number to the generator.

(3) A generator must not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an identification number.

(Comment: As a matter of policy, the Department will accept EPA identification numbers already assigned and use EPA's registration form and identification numbering system (Dun and Bradstreet) for generators who register in the future.)

Subdivision B: The Manifest

General requirements.

340-102-020 (1) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal must prepare a manifest before transporting the waste off-site.

(2) A generator must designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(3) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(4) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

(5) A generator may substitute shipping papers for the manifest for waste shipped off-site for beneficial use or reuse as permitted by rule 340-101-006(1).

Required information.

340-102-021 (1) The manifest must contain all of the following information:

(a) A manifest document number;

(b) The generator's name, mailing address, telephone number, and identification number;

(c) The name and identification number of each transporter;

(d) The name, address and identification number of the designated facility and an alternate facility, if any;

(e) The description of the waste(s) (e.g., proper shipping name, etc.) required by regulations of the U.S. Department of Transportation in 49 CFR 172.101, .202, and .203.

(f) The total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle.

(2) The following certification must appear on the manifest: "This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the Oregon Department of Environmental Quality."

(Comment: For commercially printed certifications, the word "EPA" may be substituted for "Oregon Department of Environmental Quality.")

Number of copies.

340-102-022 The manifest consists of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records and another copy to be returned to the generator.

Use of the manifest.

340-102-023 (1) The generator must:

(a) Sign the manifest certification by hand;

(b) Obtain the handwritten signature of the initial transporter and

date of acceptance on the manifest; and

(c) Retain one copy, in accordance with rule 340-102-040(1).

(2) The generator must give the transporter the remaining copies of the manifest.

(3) For shipment of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this rule to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(4) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this rule to:

(a) The next non-rail transporter, if any; or

(b) The designated facility if transported solely by rail; or

(c) The last rail transporter to handle the waste in the United States if exported by rail.

(Comment: See rules 340-103-020(5) for special provisions for water (bulk shipment) transporters.)

Subdivision C: Pre-Transport Requirements

Packaging.

340-102-030 Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR Parts 173, 178, and 179.

Labeling.

340-102-031 Before transporting or offering hazardous waste for transportation off-site, a generator must label each package in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172.

Marking.

340-102-032 (1) Before transporting or offering hazardous waste for transportation off-site, a generator must mark each package of hazardous waste in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172.

(2) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must mark each container of 110 gallons or less used in such transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304:

HAZARDOUS WASTE--Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S.

Environmental Protection Agency.

Generator's Name and Address _____.

Manifest Document Number _____.

Placarding.

340-102-033 Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations on hazardous materials under 49 CFR Part 172, Subpart F.

Accumulation time.

340-102-034 (1) A generator may accumulate hazardous waste on-site for 90 days or less without a permit provided that:

(a) The waste is placed in containers and the generator complies with Subdivision I of Division 104, except rules 340-104-175 and -178;

(b) The waste is placed in tanks and the generator complies with rules 340-104-197 to -199 and the following:

(A) Treatment or storage of hazardous waste in tanks must comply with rule 340-104-017(2);

(B) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode or otherwise fail before the end of its intended life;

(C) Uncovered tanks must be operated to ensure at least 2 feet of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 2 feet of the tank;

(D) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (e.g., a waste feed cutoff system or bypass system to a standby tank); and

(E) The owner or operator inspects, where present:

(i) Discharge control equipment (e.g., waste feed cutoff systems, bypass systems and drainage systems), at least once each operating day to ensure that it is in good working order;

(ii) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the tank is being operated according to its design;

(iii) The level of waste in the tank, at least once each operating day, to ensure compliance with paragraph (C) of this subsection;

(iv) The construction materials of the tank, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(v) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

(c) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each containers;

(d) While being accumulated on-site, each container and tank is labeled or marked clearly with the words "Hazardous Waste";

(e) The generator complies with the requirements for owners or

operators in Subdivisions C and D of Division 104 and with rule 340-104-016; and

(f) After January 1, 1985: If storing in excess of 100 containers, the waste is placed in a storage area that meets the requirements of rule 340-104-175.

(2) A generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of Division 104 and the permit requirements of Division 105 unless he has been granted an extension to the 90-day period. Such extension may be granted by the Department if hazardous wastes must remain on-site for longer than 90 days due to unforeseen, temporary and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Department on a case-by-case basis.

Subdivision D: Recordkeeping and Reporting

Recordkeeping.

340-102-040 (1) A generator must keep a copy of each manifest signed in accordance with rule 340-102-023(1) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

(2) A generator must keep a copy of each Quarterly Report and Exception Report for a period of at least three years from the due date of the report.

(3) A generator must keep records of any test results, waste analyses, or other determinations made in accordance with rule 340-102-011 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(4) The periods or retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

Quarterly reporting.

340-102-041 (1) A generator who ships his hazardous waste off-site must submit to the Department Quarterly Reports of the waste shipped:

(a)(A) The Quarterly Report consists of copies of the latest quarter's manifest and shipping papers. Alternatively, generators may copy the information from the manifests and shipping papers onto a form of their choice and submit it within the same time schedule.

(Comment: For ease of processing, the Department prefers xerographic or carbon copies of the manifests and shipping papers.)

(B) The Quarterly Report must be accompanied by the following certification signed and dated by the generator or his authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(b) No later than 45 days after the end of each calendar quarter.

(Comment: The state program is more stringent than the federal program in that it requires quarterly reporting of hazardous waste shipped off-site whereas the federal program requires a biennial report.)

(2) Any generator who treats, stores, or disposes of hazardous waste on-site must submit a report covering those wastes in accordance with the provisions of Divisions 104 and 105.

Exception reporting.

340-102-042 (1) A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator must submit an Exception Report to the Department if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must include:

(a) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(b) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

Additional reporting.

340-102-043 The Department may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in Division 101.

Subdivision E: Special Conditions

International shipments.

340-102-050 (1) Any person who exports hazardous waste to a foreign country or imports hazardous waste from a foreign country into the United States must comply with the requirements of this Division and with the requirements of this rule.

(2) When shipping hazardous waste outside the United States, the generator must:

(a) Notify the Department and the EPA in writing four weeks before the initial shipment of hazardous waste to each country in each calendar year;

(A) The waste must be identified by its EPA hazardous waste identification number and its DOT shipping description;

(B) the name and address of the foreign consignee must be included in this notice;

(C) These notices must be sent to:

(i) Hazardous Waste Operations

Department of Environmental Quality

PO Box 1760

Portland, OR, 97207 ; and

(ii) Office of International Activities (A-106)

United States Environmental Protection Agency

Washington, D.C., 20460.

(b) Require that the foreign consignee confirm the delivery of the waste in the foreign country. A copy of the manifest signed by the foreign consignee may be used for this purpose;

(c) Meet the requirements under rule 340-102-021 for the manifest,

except that:

(A) In place of the name, address, and EPA identification number of the designated facility, the name and address of the foreign consignee must be used;

(B) The generator must identify the point of departure from the United States through which the waste must travel before entering a foreign country.

(3) A generator must file an Exception Report if:

(a) He has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within 45 days from the date it was accepted by the initial transporter; or

(b) Within 90 days from the date the waste was accepted by the initial transporter, the generator has not received written confirmation from the foreign consignee that the hazardous waste was received.

(4) When importing hazardous waste, a person must meet all requirements of rule 340-102-021 for the manifest except that:

(a) In place of the generator's name, address, and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number must be used.

(b) In addition to the generator's signature on the certification statement, the U.S. importer or his agent must also sign and date the certification and obtain the signature of the initial transporter.

Farmers.

340-102-051 A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in

this Division or other standards in Division 104 for those wastes provided he triple rinses each emptied pesticide container in accordance with rule 340-101-007(2)(c) and disposes of the pesticide residues on his own farm, in a manner consistent with the disposal instructions on the pesticide label and in accordance with the requirements of Division 109.

Beneficial Use.

340-102-052 (1) A generator proposing to ship waste off-site for beneficial use or reuse as permitted by rule 340-101-006(1) shall obtain written authorization from the Department prior to initiating such shipments.

(2) To request authorization, a generator shall submit to the Department, at least 30 days prior to the initial shipment, the following information:

- (a) Name and address of facility at which waste is to be used;
- (b) Type and quantity of waste;
- (c) Why the waste is identified as hazardous;
- (d) Management of waste at the facility prior to use;
- (e) Use of waste;
- (f) Rate or time of that use;
- (g) A statement from the beneficial user, agreeing to permit authorized representatives of the Department access to the site of waste management and use for the purpose of inspecting the site, the records of waste management and use, and environmental monitoring; and
- (h) Other information as may be requested by the Department.

(3) Generators shipping waste to beneficial users before April 6, 1984, shall submit the required information by September 1, 1984.

DIVISION 103

HAZARDOUS WASTE MANAGEMENT

Standards Applicable to Transporters
of Hazardous Waste by Air or Water

Subdivision A: General

- 340-103-010 Purpose and applicability.
- 340-103-011 Identification number.
- 340-103-012 Transfer facility requirements.

Subdivision B: Compliance With the Manifest System and Recordkeeping

- 340-103-020 The manifest system.
- 340-103-021 Compliance with the manifest.
- 340-103-022 Recordkeeping.

Subdivision C: Hazardous Waste Discharges

- 340-103-030 Immediate action.
- 340-103-031 Discharge cleanup.

Authority: ORS Chapter 468, including 468.020; 459, including 459.440;
and 183.

Subdivision A: General

Purpose and applicability.

340-103-010 (1) The purpose of this Division is to establish standards which apply to persons transporting hazardous waste by air or water within the United States if the transportation requires a manifest under Division 102.

(2) These regulations do not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(3) A transporter of hazardous waste must also comply with Division 102, Standards Applicable to Generators of Hazardous Waste, if he:

(a) Transports hazardous waste into the United States from abroad; or

(b) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

Identification Number.

340-103-011 (1) A transporter must not transport hazardous wastes without having received an identification number from the Department.

(2) A transporter who has not received an identification number may obtain one by applying to the Department on an approved form. Upon receiving the request, the Department will assign an identification number to the transporter.

(Comment: As a matter of policy, the Department will accept EPA identification numbers already assigned and use a modified EPA registration form and EPA's identification numbering system (Dun and Bradstreet) for

transporters who register in the future.)

Transfer facility requirements.

340-103-012 A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of rule 340-102-030 at a transfer facility for a period of ten days or less is not subject to regulation under Divisions 104 and 105 with respect to the storage of those wastes.

Subdivision B: Compliance With the Manifest System and Recordkeeping.

The manifest system.

340-103-020 (1) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest, signed by the generator in accordance with the provisions of Division 102.

(2) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(3) The transporter must ensure that the manifest accompanies the hazardous waste.

(4) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(a) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and

(b) Retain one copy of the manifest in accordance with rule 340-103-022; and

(c) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(5) The requirements of sections (3) and (4) of this rule do not apply to water (bulk shipment) transporters if:

(a) The hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(b) A shipping paper containing all the information required on the manifest (excluding the identification numbers, generator certification,

and signatures) accompanies the hazardous waste; and

(c) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and

(d) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and

(e) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with rule 340-103-022.

(6) Transporters who transport hazardous waste out of the United States must:

(a) Indicate on the manifest the date the hazardous waste left the United States; and

(b) Sign the manifest and retain one copy in accordance with rule 340-103-022(4); and

(c) Return a signed copy of the manifest to the generator.

Compliance with the manifest.

340-103-021 (1) The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or another transporter to:

(a) The designated facility listed on the manifest; or

(b) The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or

(c) The next designated transporter; or

(d) The place outside the United States designated by the generator.

(2) If the hazardous waste cannot be delivered in accordance with section (1) of this rule, the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

Recordkeeping.

340-103-022 (1) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(2) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter must retain a copy of a shipping paper containing all the information required in rule 340-103-020(5)(b) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(3) (Reserved).

(4) A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(5) The periods of retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

Subdivision C: Hazardous Waste Discharges

Immediate action.

340-103-030 (1) In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, contain the discharge).

(2) If a discharge of hazardous waste occurs during transportation and an official (state or local government or a Federal Agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have identification numbers and without the preparation of a manifest.

(3) A air or water transporter who has discharged hazardous waste must:

(a) Give notice, if required by 49 CFR 171.15, to the National Response Center (800-424-8802 or 202-426-2675);

(b) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, D.C., 20590; and

(c) Report the discharge to the Oregon Emergency Management Division (OARS, 800-452-0311).

(4) A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

Discharge clean up.

340-103-031 A transporter must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

DIVISION 104

HAZARDOUS WASTE MANAGEMENT

Standards for Owners and Operators of Hazardous
Waste Treatment, Storage and Disposal Facilities

Subdivision A: General

- 340-104-001 Purpose and applicability.
- 340-104-002 & -003 (Reserved)
- 340-104-004 Imminent hazard action.

Subdivision B: General Facility Standards

- 340-104-010 Applicability.
- 340-104-011 Identification number.
- 340-104-012 Required notices.
- 340-104-013 General waste analysis.
- 340-104-014 Security.
- 340-104-015 General inspection requirements.
- 340-104-016 Personnel training.
- 340-104-017 General requirements for ignitable, reactive, or incompatible wastes.
- 340-104-018 Location standards.

Subdivision C: Preparedness and Prevention

- 340-104-030 Applicability.
- 340-104-031 Design and operation of facility.
- 340-104-032 Required equipment.
- 340-104-033 Testing and maintenance of equipment.
- 340-104-034 Access to communications or alarm system.
- 340-104-035 Required aisle space.
- 340-104-036 (Reserved)
- 340-104-037 Arrangements with local authorities.

Subdivision D: Contingency Plan and Emergency Procedures

- 340-104-050 Applicability.
- 340-104-051 Purpose and implementation of contingency plan.
- 340-104-052 Content of contingency plan.
- 340-104-053 Copies of contingency plan.
- 340-104-054 Amendment of contingency plan.
- 340-104-055 Emergency coordinator.
- 340-104-056 Emergency procedures.

Subdivision E: Manifest System, Recordkeeping, and Reporting

- 340-104-070 Applicability.
- 340-104-071 Use of manifest system.
- 340-104-072 Manifest discrepancies.
- 340-104-073 Operating record.
- 340-104-074 Availability, retention, and disposition of records.
- 340-104-075 Periodic report.
- 340-104-076 Unmanifested waste report.
- 340-104-077 Additional reports.

Subdivision F: Groundwater Protection

- 340-104-090 Applicability.
- 340-104-091 Required programs.
- 340-104-092 Groundwater protection standard.
- 340-104-093 Hazardous constituents.
- 340-104-094 Concentration limits.
- 340-104-095 Point of compliance.
- 340-104-096 Compliance period.
- 340-104-097 General groundwater monitoring requirements.
- 340-104-098 Detection monitoring program.
- 340-104-099 Compliance monitoring program.
- 340-104-100 Corrective action program.
- 340-104-101 Unsaturated zone monitoring program.

Subdivision G: Closure and Post-Closure

- 340-104-110 Applicability.
- 340-104-111 Closure performance standard.
- 340-104-112 Closure plan; amendment of plan.
- 340-104-113 Closure; time allowed for closure.
- 340-104-114 Disposal or decontamination of equipment.
- 340-104-115 Certification of closure.
- 340-104-116 (Reserved)
- 340-104-117 Post-closure care and use of property.
- 340-104-118 Post-closure plan; amendment of plan.
- 340-104-119 Notice to local land authority.
- 340-104-120 Notice in deed to property.

Subdivision H: Financial Requirements

- 340-104-140 Applicability.
- 340-104-141 Definitions of terms used in this Subdivision.
- 340-104-142 Cost estimate for facility closure.
- 340-104-143 Financial assurance for facility closure.
- 340-104-144 Cost estimate for post-closure care.
- 340-104-145 Financial assurance for post-closure care.
- 340-104-146 Use of a mechanism for financial assurance of both closure and post-closure care.
- 340-104-147 Liability requirement.
- 340-104-148 Incapacity of institutions issuing letters of credit, surety bonds, or insurance policies.
- 340-104-149 & -150 (Reserved)
- 340-104-151 Wording of the instruments.

Subdivision I: Use and Management of Containers

- 340-104-170 Applicability.
- 340-104-171 Condition of containers.
- 340-104-172 Compatibility of waste with container.
- 340-104-173 Management of containers.
- 340-104-174 Inspections.
- 340-104-175 Containment.
- 340-104-176 Special requirements for ignitable or reactive waste.
- 340-104-177 Special requirements for incompatible wastes.
- 340-104-178 Closure.

Subdivision J: Tanks

- 340-104-190 Applicability.
- 340-104-191 Design of tanks.
- 340-104-192 General operating requirements.
- 340-104-193 (Reserved)
- 340-104-194 Inspections.
- 340-104-195 & -196 (Reserved)
- 340-104-197 Closure.
- 340-104-198 Special requirements for ignitable or reactive waste.
- 340-104-199 Special requirements for incompatible wastes.

Subdivision K: Surface Impoundments

- 340-104-220 Applicability.
- 340-104-221 Design and operating requirements.
- 340-104-222 Double-lined surface impoundments: Exemption from Subdivision F groundwater protection requirements.
- 340-104-223 to -225 (Reserved)
- 340-104-226 Monitoring and inspection.
- 340-104-227 Emergency repairs; contingency plans.
- 340-104-228 Closure and post-closure care.
- 340-104-229 Special requirements for ignitable or reactive waste.
- 340-104-230 Special requirements for incompatible wastes.

Subdivision L: Waste Piles

- 340-104-250 Applicability.
- 340-104-251 Design and operating requirements.
- 340-104-252 Double-lined piles: Exemption from Subdivision F groundwater protection requirements.
- 340-104-253 Inspection of liners: Exemption from Subdivision F groundwater protection requirements.
- 340-104-254 Monitoring and inspection.
- 340-104-255 (Reserved)
- 340-104-256 Special requirements for ignitable or reactive waste.
- 340-104-257 Special requirements for incompatible wastes.
- 340-104-258 Closure and post-closure care.

Subdivision M: Land Treatment

- 340-104-270 Applicability.
- 340-104-271 Treatment program.
- 340-104-272 Treatment demonstration.
- 340-104-273 Design and operating requirements.
- 340-104-274 & -275 (Reserved)
- 340-104-276 Food chain crops.
- 340-104-277 (Reserved)
- 340-104-278 Unsaturated zone monitoring.
- 340-104-279 Recordkeeping.
- 340-104-280 Closure and post-closure.
- 340-104-281 Special requirements for ignitable or reactive waste.
- 340-104-282 Special requirements for incompatible wastes.

Subdivision N: Landfills

- 340-104-300 Applicability.
- 340-104-301 Design and operating requirements.
- 340-104-302 Double-lined landfills: Exemption from Subdivision F groundwater protection requirements.
- 340-104-303 Monitoring and inspection.
- 340-104-304 to -308 (Reserved)
- 340-104-309 Surveying and recordkeeping.
- 340-104-310 Closure and post-closure care.
- 340-104-311 (Reserved)
- 340-104-312 Special requirements for ignitable or reactive waste.
- 340-104-313 Special requirements for incompatible wastes.
- 340-104-314 Special requirements for liquid waste.
- 340-104-315 Special requirements for containers.
- 340-104-316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).
- 340-104-317 Liquids banned from landfills.

Subdivision O: Incinerators

- 340-104-340 Applicability.
- 340-104-341 Waste analysis.
- 340-104-342 Principal organic hazardous constituents (POHCs).
- 340-104-343 Performance standards.
- 340-104-344 Hazardous waste incinerator permits.
- 340-104-345 Operating requirements.
- 340-104-346 (Reserved)
- 340-104-347 Monitoring and inspections.
- 340-104-348 to -350 (Reserved)
- 340-104-351 Closure.

Appendix I: Recordkeeping Instructions.

Appendix II & III: (Reserved)

Appendix IV: Cochran's Approximation to the Behrens-Fisher Students' t-test

Authority: ORS Chapters 468, including 468.020; 459, including 459.440; and 183.

Subdivision A: General

Purpose and applicability.

340-104-001 (1) The purpose of this Division is to establish minimum state standards which define the acceptable management of hazardous waste.

(2) The requirements of this Division apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this Division or Division 101 of this Chapter.

(3) The requirements of this Division apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a hazardous waste permit by rule granted to such a person under Division 105.

(Comment: These Division 104 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.)

(4) The requirements of this Division apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by 40 CFR 122.45;

(Comment: These Division 104 regulations do apply to the above-ground treatment or storage of hazardous waste before it is injected underground.)

(5) The requirements of this Division apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the

extent they are included in a hazardous waste permit by rule granted to such a person under Division 105.

(6) The requirements of this Division do not apply to:

(a) The owner or operator of a facility permitted to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this Division by rule 340-101-005;

(b) The owner or operator of a facility which treats or stores hazardous waste, which treatment or storage meets the criteria in rule 340-101-006(1), except to the extent that rule 340-101-006(3) provides otherwise;

(c) A generator accumulating waste on-site in compliance with rule 340-102-034;

(d) A farmer disposing of waste pesticides from his own use in compliance with rule 340-102-051;

(e) The owner or operator of a totally enclosed treatment facility, as defined in rule 340-100-010;

(f) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in rule 340-100-010;

(g) Reserved.

(h) Persons with respect to those activities which are carried out to immediately contain or treat a spill of hazardous waste or substance which, when spilled, becomes a hazardous waste, except that, with respect to such activities, the appropriate requirements of Subdivisions C and D of this Division are applicable to owners and operators of treatment, storage and disposal facilities otherwise subject to this Division;

(Comment: This subsection only applies to activities taken in immediate response to a spill. After the immediate response activities are

completed, the applicable regulations of this Division apply fully to the management of any spill residue or debris which is a hazardous waste under Division 101.)

(i) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of rule 340-102-030 at a transfer facility for a period of ten days or less; and

(j) The addition of absorbent material to waste in a container or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and rules 340-104-017(2), -171 and -172 are complied with.

Imminent hazard action.

340-104-004 Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to ORS 459.650 to .690.

Subdivision B: General Facility Standards

Applicability.

340-104-010 The regulations of this Subdivision apply to owners and operators of all hazardous waste facilities, except as provided in rule 340-104-001.

Identification number.

340-104-011 Every facility owner or operator must apply to the Department on an approved form for an identification number.

(Comment: The Department will accept EPA identification numbers already assigned, use an amended EPA registration form, and use EPA's identification numbering system (Dun and Bradstreet) for owners and operators who register in the future.)

Required notices.

340-104-012 (1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Department in writing at least two weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(2) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The

owner or operator must keep a copy of this written notice as part of the operating record.

General waste analysis.

340-104-013 (1)(a) Before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of this Division or with the conditions of a permit issued under Divisions 105 and 106.

(b) The analysis may include data developed under Division 101, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

(Comment: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with subsection (1)(a) of this rule. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by subsection (1)(a) of this rule. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this rule.)

(c) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(A) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(B) For off-site facilities, when the results of the inspection required in subsection (1)(d) of this rule indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(d) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(2) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with section (1) of this rule. He must keep this plan at the facility. At a minimum, the plan must specify:

(a) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with section (1) of this rule);

(b) The test methods which will be used to test for these parameters;

(c) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(A) One of the sampling methods described in Appendix I of Division 101; or

(B) An equivalent sampling method.

(d) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-

date; and

(e) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

(f) Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in rules 340-104-017 and -341.

(3) For off-site facilities, the waste analysis plan required in section (1) of this rule must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(a) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(b) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(Comment: Division 105 requires that the waste analysis plan be submitted with Part B of the permit application.)

Security.

340-104-014 (1) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless he can demonstrate to the Department that:

(a) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or

unauthorized persons or livestock which may enter the active portion of a facility; and

(b) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this Division.

(Comment: Division 105 requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.)

(2) Unless the owner or operator has made a successful demonstration under subsection (1)(a) and (1)(b) of this rule, a facility must have:

(a) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(b)(A) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(B) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

(Comment: The requirements of section (2) of this rule are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of subsections (1)(a) or (1)(b) of this rule.)

(3) Unless the owner or operator has made a successful demonstration under subsections (1)(a) and (1)(b) of this rule, a sign with the legend, "Danger--Unauthorized Personnel Keep Out," must be posted at each entrance

to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility, and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger-- Unauthorized Personnel Keep Out," may be used if the legend on the sign indicated that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

(Comment: See rule 340-104-117(2) for discussion of security requirements at disposal facilities during the post-closure care period.)

General inspection requirements.

340-104-015 (1) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing--or may lead to--(a) release of hazardous waste constituents to the environment or (b) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2)(a) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(b) He must keep this schedule at the facility.

(c) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike,

etc.).

(d) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the terms and frequencies called for in rule 340-104-174, -194, -226, -253, -254, -303 and -347, where applicable.

(Comment: Division 105 requires the inspection schedule to be submitted with Part B of the permit application. The Department will evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, the Department may modify or amend the schedule as may be necessary.)

(3) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(4) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

Personnel training.

340-104-016 (1)(a) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this Division. The owner or operator must ensure that this program includes all the elements described in the document required under subsection (4)(c) of this rule.

(b) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(c) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- (A) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- (B) Key parameters for automatic waste feed cut-off systems;
- (C) Communications or alarm systems;
- (D) Response to fires or explosions;
- (E) Response to groundwater contamination incidents; and
- (F) Shutdown of operations.

(Comment: Division 105 requires that owners and operators submit with Part B of the RCRA permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.)

(2) Facility personnel must successfully complete the program required in section (1) of this rule within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of section (1) of this rule.

(3) Facility personnel must take part in an annual review of the initial training required in section (1) of this rule.

(4) The owner or operator must maintain the following documents and records at the facility:

(a) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(b) A written job description for each position listed under subsection (4)(a) of this rule. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(c) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under subsection (4)(a) of this rule; and

(d) Records that document that the training or job experience required under sections (1), (2), and (3) of this rule has been given to, and completed by, facility personnel.

(5) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for at least three years from the date the employee last worked at the facility.

Personnel training records may accompany personnel transferred within the same company.

General requirements for ignitable, reactive, or incompatible wastes.

340-104-017 (1) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) Where specifically required by other rules of this Division, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

(a) Generate extreme heat or pressure, fire or explosions, or violent reactions.

(b) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

(c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(d) Damage the structural integrity of the device or facility; or

(e) Through other like means threaten human health or the environment.

(3) When required to comply with sections (1) or (2) of this rule, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in rule 340-104-013), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

Location standards.

340-104-018 (1) (Reserved).

(2) Floodplains. (a) A facility located in a 100-year floodplain must be designed, constructed, operated and maintained to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate to the Department's satisfaction that:

(A) Procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or

(B) For existing surface impoundments, waste piles, land treatment units, and landfills, no adverse effects on human health or the environment will result if washout occurs, considering:

(i) The volume and physical and chemical characteristics of the waste in the facility;

(ii) The concentration of hazardous constituents that would potentially affect surface waters as a result of washout;

(iii) The impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and

(iv) The impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

(Comment: The location where wastes are moved must be a facility which is either permitted by the Department under Division 105, authorized to manage hazardous waste by a state with a hazardous waste management program authorized by EPA, or in interim status under 40 CFR 265 and 270.)

(b) As used in subsection (2)(a) of this rule:

(A) "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(B) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(C) "100-year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

(Comment: Requirements pertaining to other Federal laws which affect the location and permitting of facilities are found in 40 CFR 270.3. For details relative to these laws, see EPA's manual for SEA (special environmental area) requirements for hazardous waste facility permits. As the Department will be guided by these laws, applicants are advised to consider them in planning the location of a facility to help prevent subsequent project delays.)

Subdivision C: Preparedness and Prevention

Applicability.

340-104-030 The regulations of this Subdivision apply to owners and operators of all hazardous waste facilities, except as rule 340-104-001 provides otherwise.

Design and operation of facility.

340-104-031 Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Required equipment.

340-104-032 All facilities must be equipped with the following, unless it can be demonstrated to the Department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(3) Portable fire extinguishers, fire control equipment (including special extinguishing, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(4) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(Comment: Division 105 requires that an owner or operator who wishes to make the demonstration referred above must do so with Part B of the permit application.)

Testing and maintenance of equipment.

340-104-033 All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

Access to communications or alarm system.

340-104-034 (1) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the Department has ruled that such a device is not required under rule 340-104-032.

(2) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held

two-way radio, capable of summoning external emergency assistance, unless the Department has ruled that such a device is not required under rule 340-104-032.

Required aisle space.

340-104-035 The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Department that aisle space is not needed for any of these purposes.

(Comment: Division 105 requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.)

Arrangements with local authorities.

340-104-037 (1) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(a) Arrangements to familiarize police and fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(b) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to

provide support to the primary emergency authority;

(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

(d) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(2) Where state or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subdivision D: Contingency Plan and Emergency Procedures

Applicability.

340-104-050 The regulations of this Subdivision apply to owners and operators of all hazardous waste facilities, except as rule 340-104-001 provides otherwise.

Purpose and implementation of contingency plan.

340-104-051 (1) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(2) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Content of contingency plan.

340-104-052 (1) The contingency plan must describe the actions facility personnel must take to comply with rules 340-104-051 and -056 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(2) If the owner or operator has already prepared a Spill Prevention,

Control, and Countermeasure (SPCC) Plan in accordance with 40 CFR Parts 112 or 1510, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Division.

(3) The plan must describe arrangements agreed to by local police and fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services, pursuant to rule 340-104-037.

(4) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see rule 340-104-055), and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the Department at the time of certification, rather than at the time of permit application.

(5) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up-to-date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

Copies of contingency plan.

340-104-053 A copy of the contingency plan and all revisions to the plan must be:

- (1) Maintained at the facility; and
- (2) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

(Comment: The contingency plan must be submitted to the Department with Part B of the permit application under Division 105 and, after modification or approval, will become a condition of any permit issued.)

Amendment of contingency plan.

340-104-054 The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

- (1) The facility permit is revised;
- (2) The plan fails in an emergency;
- (3) The facility changes--in its design, construction, operation, maintenance, or other circumstances--in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- (4) The list of emergency coordinators changes; or
- (5) The list of emergency equipment changes.

(Comment: A change in the lists of facility emergency coordinators or equipment in the contingency plan constitutes a minor modification to the facility permit to which the plan is a condition.)

Emergency coordinator.

340-104-055 At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

(Comment: The emergency coordinator's responsibilities are more fully spelled out in rule 340-104-056. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.)

Emergency procedures.

340-104-056 (1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(b) Notify appropriate state or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire, or explosion, the emergency

coordinator must immediately identify the character, exact source, amount, and areal extent of any release of materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water runoff from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(a) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(b) He must immediately notify either the Department or the Oregon Emergency Management Division (using their 24-hour toll-free number 800-452-3011). The report must include:

(A) Name and telephone number of the reporter;

(B) Name and address of facility;

(C) Time and type of incident (e.g., release, fire);

(D) Name and quantity of material(s) involved, to the extent known;

(E) The extent of injuries, if any; and

(F) The possible hazards to human health, or the environment, outside the facility.

(5) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(Comment: Unless the owner or operator can demonstrate, in accordance with rule 340-101-003(3) or (4), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Divisions 102, 103 and 104.)

(8) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(a) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(b) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The owner or operator must notify the Department, and appropriate local authorities, that the facility is in compliance with section (8) of

this rule before operations are resumed in the affected area(s) of the facility.

(10) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Department. The report must include:

- (a) Name, address, and telephone number of the owner or operator;
- (b) Name, address, and telephone number of the facility;
- (c) Date, time, and type of incident (e.g., fire, explosion);
- (d) Name and quantity of material(s) involved;
- (e) The extent of injuries, if any;
- (f) An assessment of actual or potential hazards to human health or the environment, where this is applicable;
- (g) Estimated quantity and disposition of recovered material that resulted from the incident;
- (h) The steps taken to prevent a recurrence of the incident; and
- (i) Any changes required in the contingency plan.

Subdivision E: Manifest System, Recordkeeping, and Reporting

Applicability.

340-104-070 The regulations of this Subdivision apply to owners and operators of both on-site and off-site facilities, except as rule 340-104-001 provides otherwise. Rules 340-104-071, -072 and -076 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Use of manifest system.

340-104-071 (1) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(a) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(b) Note any significant discrepancies in the manifest (as defined in rule 340-104-072(1)) on each copy of the manifest;

(Comment: The Department does not intend that the owner or operator of a facility whose procedures under rule 340-104-013(3) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Rule 340-104-072(2), however, requires reporting an unreconciled discrepancy discovered during later analysis.)

(c) Immediately give the transporter at least one copy of the signed manifest;

(d) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(e) Retain at the facility a copy of each manifest for at least three

years from the date of delivery.

(2) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(a) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(b) Note any significant discrepancies (as defined in rule 340-104-072(1)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

(Comment: The Department does not intend that the owner or operator of a facility whose procedures under rule 340-104-013(3) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Rule 340-104-072(2), however, requires reporting an unreconciled discrepancy discovered during later analysis.)

(c) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received).

(d) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after the delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator; and

(Comment: Rule 340-102-023(3) requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).)

(e) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery), for at least three years from the date of delivery.

(3) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of Division 102.

(Comment: The provisions of rule 340-102-034 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of rule 340-102-034 only apply to owners or operators who are shipping hazardous waste which they generate at that facility.)

Manifest discrepancies.

340-104-072 (1) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: (a) For bulk waste, variations greater than 10% in weight, and (b) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(2) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Department a letter describing the

discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

Operating record.

340-104-073 (1) The owner or operator must keep a written operating record at his facility.

(2) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(a) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Appendix I of this Division;

(b) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

(Comment: See rule 340-104-119 for related requirements.)

(c) Records and results of waste analyses performed as specified in rules 340-104-013, -017 and -341;

(d) Summary reports and details of all incidents that require implementing the contingency plan as specified in rule 340-104-056(10);

(e) Records and results of inspections as required by rule 340-104-015(4) (except these data need be kept only three years);

(f) Monitoring, testing, or analytical data where required by Subdivision F and rules 340-104-226, -253, -254, -276, -278, -280, -303,

-309, and -347;

(g) For off-site facilities, notices to generators as specified in rule 340-104-012(2); and

(h) All closure cost estimates under rule 340-104-142, and, for disposal facilities, all post-closure cost estimates under rule 340-104-144.

Availability, retention, and disposition of records.

340-104-074 (1) All records, including plans, required under this Division must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Department as authorized by ORS 459.285.

(2) The retention period for all records required under this Division is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Department.

(3) A copy of records of waste disposal locations and quantities under rule 340-104-073(2)(b) must be submitted to the Department and local land authority upon closure of the facility.

Periodic report.

340-104-075 The owner or operator must prepare and submit an operating report to the Department on an approved form. Disposal facility reports are due monthly within 45 days after the end of each calendar month, and treatment and storage facility reports are due within 45 days after the end of each calendar quarter. The report must cover facility activities during the previous month or quarter, as appropriate, and must

include the following information:

- (1) The EPA identification number, name, and address of the facility;
- (2) The period covered by the report;
- (3) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the period; for imported shipments, the report must give the name and address of the foreign generator;
- (4) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator;
- (5) The method of treatment, storage, or disposal for each hazardous waste;
- (6) (Reserved)
- (7) The most recent closure cost estimate under rule 340-104-142, and, for disposal facilities, the most recent post-closure cost estimate under rule 340-104-144; and
- (8) A certification signed by the owner or operator of the facility or his authorized representative as required by rule 340-105-011(2).

Unmanifested waste report.

340-104-076 If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in rule 340-103-020(5)(b), and if the waste is not excluded from the manifest requirement by rule 340-101-005, then the owner or operator must prepare and submit a report on a form approved by the Department to the Department within 15 days after receiving the waste. The report must include the

following information:

- (1) The EPA identification number, name, and address of the facility;
- (2) The date the facility received the waste;
- (3) The EPA identification number, name, and address of the generator and the transporter, if available;
- (4) A description and the quantity of each unmanifested hazardous waste the facility received;
- (5) The method of treatment, storage, or disposal for each hazardous waste;
- (6) The certification signed by the owner or operator of the facility or his authorized representative; and
- (7) A brief explanation of why the waste was unmanifested, if known.

(Comment: Small quantities of hazardous waste are excluded from regulation under this Division and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Department suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Department suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.)

Additional reports.

340-104-077 In addition to submitting the periodic report and unmanifested waste reports described in rules 340-104-075 and -076, the owner or operator must also report to the Department:

- (1) Releases, fires, and explosions as specified in rule 340-104-056(10);
- (2) Facility closures specified in rule 340-104-115; and
- (3) As otherwise required by Subdivisions F and K-N.

Subdivision F: Groundwater Protection

Applicability.

340-104-090 (1) Except as provided in section (2) of this rule, the regulations in this Subdivision apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in surface impoundments, waste piles, land treatment units, or landfills. The owner or operator must satisfy the requirements of this Subdivision for all wastes (or constituents thereof) contained in any such waste management unit at a facility that receives hazardous waste after the effective date of these rules (hereinafter referred to as a "regulated unit"). Any waste or waste constituent migrating beyond the waste management area under rule 340-104-095(2) is assumed to originate from a regulated unit unless the Department finds that such waste or waste constituent originated from another source.

(2) The owner or operator is not subject to regulation under this Subdivision if:

(a) He is exempted under rule 340-104-001;

(b) He designs and operates a surface impoundment in compliance with rule 340-104-222, a pile in compliance with rules 340-104-250(3), -252 or -253, or a landfill in compliance with rule 340-104-302;

(c) The Department finds, pursuant to rule 340-104-280(4), that the treatment zone of a land treatment unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of rule 340-104-278 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the

unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this Subdivision during the post-closure care period; or

(d) The Department finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the post-closure care period specified under rule 340-104-117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(3) The regulations under this Subdivision apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this Subdivision:

(a) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(b) Apply during the post-closure care period under rule 340-104-117 if the owner or operator is conducting a detection monitoring program under rule 340-104-098; or

(c) Apply during the compliance period under rule 340-104-096 if the owner or operator is conducting a compliance monitoring program under rule 340-104-099 or a corrective action program under rule 340-104-100.

Required programs.

340-104-091 (1) Owners and operators subject to this Subdivision must

conduct a monitoring and response program as follows:

(a) Whenever hazardous constituents under rule 340-104-093 from a regulated unit are detected at the compliance point under rule 340-104-095, the owner or operator must institute a compliance monitoring program under rule 340-104-099;

(b) Whenever the groundwater protection standard under rule 340-104-092 is exceeded, the owner or operator must institute a corrective action program under rule 340-104-100;

(c) Whenever hazardous constituents under rule 340-104-093 from a regulated unit exceed concentration limits under rule 340-104-094 in groundwater between the compliance point under rule 340-104-095 and the downgradient facility property boundary, the owner or operator must institute a corrective action program under rule 340-104-100; or

(d) In all other cases, the owner or operator must institute a detection monitoring program under rule 340-104-098.

(2) The Department will specify in the facility permit the specific elements of the monitoring and response program. The Department may include one or more of the programs identified in section (1) of this rule in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Department will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

Groundwater protection standard.

340-104-092 The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents identified under rule 340-104-093 that enter the groundwater from a regulated unit do not exceed the concentration limits under rule 340-104-094 in the uppermost aquifer underlying the waste management area beyond the point of compliance under rule 340-104-095 during the compliance period under rule 340-104-096. The Department will establish this groundwater protection standard in the facility permit when hazardous constituents have entered the groundwater from a regulated unit.

Hazardous constituents.

340-104-093 (1) The Department will specify in the facility permit the hazardous constituents to which the groundwater protection standard of rule 340-104-092 applies. Hazardous constituents are constituents identified in Appendix VIII of Division 101 that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Department has excluded them under section (2) of this rule.

(2) The Department will exclude an Appendix VIII constituent from the list of hazardous constituents specified in the facility permit if it finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether

to grant an exemption, the Department will consider the following:

(a) Potential adverse effects on groundwater quality, considering:

(A) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(B) The hydrogeological characteristics of the facility and surrounding land;

(C) The quantity of groundwater and the direction of groundwater flow;

(D) The proximity and withdrawal rates of groundwater users;

(E) The current and future uses of groundwater in the area;

(F) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(G) The potential for health risks caused by human exposure to waste constituents;

(H) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(I) The persistence and permanence of the potential adverse effects;
and

(b) Potential adverse effects on hydraulically connected surface water quality, considering:

(A) The volume and physical and chemical characteristics of the waste in the regulated unit;

(B) The hydrogeological characteristics of the facility and surrounding land;

(C) The quantity and quality of groundwater and the direction of groundwater flow;

(D) The patterns of rainfall in the region;

(E) The proximity of the regulated unit to surface waters;

(F) The current and future uses of surface water in the area and any water quality standards established for those surface waters;

(G) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;

(H) The potential for health risks caused by human exposure to waste constituents;

(I) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(J) The persistence and permanence of the potential adverse effects.

(3) In making any determination under section (2) of this rule about the use of groundwater in the area around the facility, the Department will consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.8.

Concentration limits.

340-104-094 (1) The Department will specify in the facility permit concentration limits in the groundwater for hazardous constituents established under rule 340-104-093. The concentration of a hazardous constituent:

(a) Must not exceed the background level of that constituent in the groundwater at the time that limit is specified in the permit; or

(b) For any of the constituents listed in Table 1 of this rule, must not exceed the respective value given in that Table if the background level of the constituent is below the value given in Table 1; or

TABLE 1--MAXIMUM CONCENTRATION OF CONSTITUENTS FOR
GROUNDWATER PROTECTION

Constituent	Maximum Concentration (mg/l)
Arsenic.....	0.05
Barium.....	1.0
Cadmium.....	0.01
Chromium.....	0.05
Lead.....	0.05
Mercury.....	0.002
Selenium.....	0.01
Silver.....	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy- 1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano naphthalene).....	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer).....	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl) ethane).....	0.1
Toxaphene, Technical chlorinated camphene, 67-69% chlorine).....	0.005
2,4-D, (2,4-Dichlorophenoxyacetic acid)....	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxy- propionic acid).....	0.01

(c) Must not exceed an alternate limit established by the Department under section (2) of this rule.

(2) The Department will establish an alternate concentration limit for a hazardous constituent if it finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Department will consider the following factors:

(a) Potential adverse effects on groundwater quality, considering:

(A) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(B) The hydrogeological characteristics of the facility and surrounding land;

- (C) The quantity of groundwater and the direction of groundwater flow;
 - (D) The proximity and withdrawal rates of groundwater users;
 - (E) The current and future uses of groundwater in the area;
 - (F) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;
 - (G) The potential for health risks caused by human exposure to waste constituents;
 - (H) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
 - (I) The persistence and permanence of the potential adverse effects;
- and
- (b) Potential adverse effects on hydraulically connected surface water quality, considering:
 - (A) The volume and physical and chemical characteristics of the waste in the regulated unit;
 - (B) The hydrogeological characteristics of the facility and surrounding land;
 - (C) The quantity and quality of groundwater and the direction of groundwater flow;
 - (D) The patterns of rainfall in the region;
 - (E) The proximity of the regulated unit to surface waters;
 - (F) The current and future uses of surface water in the area and any water quality standards established for those surface waters;
 - (G) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
 - (H) The potential for health risks caused by human exposure to waste constituents;

(I) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(J) The persistence and permanence of the potential adverse effects.

(3) In making any determination under section (2) of this rule about the use of groundwater in the area around the facility, the Department will consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.8.

Point of compliance.

340-104-095 (1) The Department will specify in the facility permit the point of compliance at which the groundwater protection standard of rule 340-104-092 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(2) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(a) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(b) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several units.

Compliance period.

340-104-096 (1) The Department will specify in the facility permit the compliance period during which the groundwater protection standard of rule 340-104-092 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period).

(2) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of rule 340-104-099.

(3) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in section (1) of this rule, the compliance period is extended until the owner or operator can demonstrate that the groundwater protection standard of rule 340-104-092 has not been exceeded for a period of three consecutive years.

General groundwater monitoring requirements.

340-104-097 The owner or operator must comply with the following requirements for any groundwater monitoring program developed to satisfy rule 340-104-098, -099 or -100:

(1) The groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that:

(a) Represent the quality of background water that has not been affected by leakage from a regulated unit; and

(b) Represent the quality of groundwater passing the point of compliance.

(2) If a facility contains more than one regulated unit, separate groundwater monitoring systems are not required for each regulated unit provided that provisions for sampling the groundwater in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the groundwater in the uppermost aquifer.

(3) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection of groundwater samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

(4) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality below the waste management area. At a minimum the program must include procedures and techniques for:

- (a) Sample collection;
- (b) Sample preservation and shipment;
- (c) Analytical procedures; and
- (d) Chain of custody control.

(5) The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents in groundwater samples.

(6) The groundwater monitoring program must include a determination of the groundwater surface elevation each time groundwater is sampled.

(7) Where appropriate, the groundwater monitoring program must establish background groundwater quality for each of the hazardous

constituents or monitoring parameters or constituents specified in the permit.

(a) In the detection monitoring program under rule 340-104-098, background groundwater quality for a monitoring parameter or constituent must be based on data from quarterly sampling of wells upgradient from the waste management area for one year.

(b) In the compliance monitoring program under rule 340-104-099, background groundwater quality for a hazardous constituent must be based on data from upgradient wells that:

- (A) Is available before the permit is issued;
- (B) Accounts for measurements errors in sampling and analysis; and
- (C) Accounts, to the extent feasible, for seasonal fluctuations in background groundwater quality if such fluctuations are expected to affect the concentration of the hazardous constituent.

(c) Background quality may be based on sampling of wells that are not upgradient from the waste management area where:

- (A) Hydrogeologic conditions do not allow the owner or operator to determine what wells are upgradient; or
- (B) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells.

(d) In developing the data base used to determine a background value for each parameter or constituent, the owner or operator must take a minimum of one sample from each well and a minimum of four samples from the entire system used to determine background groundwater quality, each time the system is sampled.

(8) The owner or operator must use the following statistical procedure in determining whether background values or concentration limits have been

exceeded:

(a) If, in a detection monitoring program, the level of a constituent at the compliance point is to be compared to the constituent's background value and that background value has a sample coefficient of variation less than 1.00;

(A) The owner or operator must take at least four portions from a sample at each well at the compliance point and determine whether the difference between the mean of the constituent at each well (using all portions taken) and the background value for the constituent is significant at the 0.05 level using the Cochran's Approximation to the Behrens-Fisher Student's t-test as described in Appendix IV of this Division. If the test indicates that the difference is significant, the owner or operator must repeat the same procedure (with at least the same number of portions as used in the first test) with a fresh sample from the monitoring well. If this second round of analyses indicates that the difference is significant, the owner or operator must conclude that a statistically significant change has occurred; or

(B) The owner or operator may use an equivalent statistical procedure for determining whether a statistically significant change has occurred. The Department will specify such a procedure in the facility permit if it finds that the alternative procedure reasonably balances the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating regulated unit in a manner that is comparable to that of the statistical procedure described in paragraph (8)(a)(A) of this rule.

(b) In all other situations in a detection monitoring program and in a compliance monitoring program, the owner or operator must use a statistical procedure providing reasonable confidence that the migration of hazardous

constituents from a regulated unit into and through the aquifer will be indicated. The Department will specify a statistical procedure in the facility permit that it finds:

(A) Is appropriate for the distribution of the data used to establish background values or concentration limits; and

(B) Provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating regulated unit.

Detection monitoring program.

340-104-098 An owner or operator required to establish a detection monitoring program under this Subdivision must, at a minimum, discharge the following responsibilities:

(1) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater. The Department will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

(a) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(b) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(c) The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and

(d) The concentrations or values and coefficients of variation of

proposed monitoring parameters or constituents in the groundwater background.

(2) The owner or operator must install a groundwater monitoring system at the compliance point as specified under rule 340-104-095. The groundwater monitoring system must comply with rule 340-104-097(1)(b), (2), and (3).

(3) The owner or operator must establish a background value for each monitoring parameter or constituent specified in the permit pursuant to section (1) of this rule. The permit will specify the background values for each parameter or specify the procedures to be used to calculate the background values.

(a) The owner or operator must comply with rule 340-104-097(7) in developing the data base used to determine background values.

(b) The owner or operator must express background values in a form necessary for the determination of statistically significant increases under rule 340-104-097(8).

(c) In taking samples used in the determination of background values, the owner or operator must use a groundwater monitoring system that complies with rule 340-104-097(1)(a), (2) and (3).

(4) The owner or operator must determine groundwater quality at each monitoring well at the compliance point at least semi-annually during the active life of a regulated unit (including the closure period) and the post-closure care period. The owner or operator must express the groundwater quality at each monitoring well in a form necessary for the determination of statistically significant increases under rule 340-104-097(8).

(5) The owner or operator must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(6) The owner or operator must use procedures and methods for sampling

and analysis that meet the requirements of rule 340-104-097(4) and (5).

(7) The owner or operator must determine whether there is a statistically significant increase over background values for any parameter or constituent specified in the permit pursuant to section (1) of this rule each time he determines groundwater quality at the compliance point under section (4) of this rule.

(a) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality at each monitoring well at the compliance point for each parameter or constituent to the background value for that parameter or constituent, according to the statistical procedure specified in the permit under rule 340-104-097(8).

(b) The owner or operator must determine whether there has been a statistically significant increase at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Department will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(8) If the owner or operator determines, pursuant to section (7) of this rule, that there is a statistically significant increase for parameters or constituents specified pursuant to section (1) of this rule at any monitoring well at the compliance point, he must:

(a) Notify the Department of this finding in writing within seven days. The notification must indicate what parameters or constituents have shown statistically significant increases;

(b) Immediately sample the groundwater in all monitoring wells and determine the concentration of all constituents identified in Appendix VIII

of Division 101 that are present in groundwater;

(c) Establish a background value for each Appendix VIII constituent that has been found at the compliance point under subsection (8)(b) of this rule, as follows:

(A) The owner or operator must comply with rule 340-104-097(7) in developing the data base used to determine background values;

(B) The owner or operator must express background values in a form necessary for the determination of statistically significant increases under rule 340-104-097(8); and

(C) In taking samples used in the determination of background values, the owner or operator must use a groundwater monitoring system that complies with rules 340-104-097(1)(a), (2) and (3);

(d) Within 90 days, submit to the Department an application for a permit modification to establish a compliance monitoring program meeting the requirements of rule 340-104-099. The application must include the following information:

(A) An identification of the concentration of any Appendix VIII constituents found in the groundwater at each monitoring well at the compliance point;

(B) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of rule 340-104-099;

(C) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of rule 340-104-099;

(D) For each hazardous constituent found at the compliance point, a proposed concentration limit under rule 340-104-094(1)(a) or (b), or a notice of intent to seek a variance under rule 340-104-094(2); and

(e) Within 180 days, submit to the Department:

(A) All data necessary to justify any variance sought under rule 340-104-094(2); and

(B) An engineering feasibility plan for a corrective action program necessary to meet the requirements of rule 340-104-100, unless:

(i) All hazardous constituents identified under subsection (8)(b) of this rule are listed in Table 1 of rule 340-104-094 and their concentrations do not exceed the respective values given in that Table; or

(ii) The owner or operator has sought an alternate concentration limit under rule 340-104-094(2) for every hazardous constituent identified under subsection (8)(b) of this rule.

(9) If the owner or operator determines, pursuant to section (7) of this rule, that there is a statistically significant increase of parameters or constituents specified pursuant to section (1) of this rule at any monitoring well at the compliance point, he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this section in addition to, or in lieu of, submitting a permit modification application under subsection (8)(d) of this rule, he is not relieved of the requirement to submit a permit modification within the time specified in subsection (8)(d) of this rule unless the demonstration made under this section successfully shows that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(a) Notify the Department in writing within seven days of determining a statistically significant increase at the compliance point that he intends to make a demonstration under this section;

(b) Within 90 days, submit a report to the Department which

demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation;

(c) Within 90 days, submit to the Department an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility; and

(d) Continue to monitor in accordance with the detection monitoring program established under this rule.

(10) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this rule, he must, within 90 days, submit an application for a permit modification to make any appropriate changes in the program.

(11) The owner or operator must assure that monitoring and corrective action measures to achieve compliance with the groundwater protection standard under rule 340-104-092 are taken during the term of the permit.

Compliance monitoring program.

340-104-099 An owner or operator required to establish a compliance monitoring program under this Subdivision must, at a minimum, discharge the following responsibilities:

(1) The owner or operator must monitor the groundwater to determine whether regulated units are in compliance with the groundwater protection standard under rule 340-104-092. The Department will specify the groundwater protection standard in the facility permit, including:

(a) A list of the hazardous constituents identified under rule 340-104-093;

(b) Concentration limits under rule 340-104-094 for each of those

hazardous constituents;

(c) The compliance point under rule 340-104-095; and

(d) The compliance period under rule 340-104-096.

(2) The owner or operator must install a groundwater monitoring system at the compliance point as specified under rule 340-104-095. The groundwater monitoring system must comply with rules 340-104-097(1)(b), (2) and (3).

(3) Where a concentration limit established under subsection (1)(b) of this rule is based on background groundwater quality, the Department will specify the concentration limit in the permit as follows:

(a) If there is a high temporal correlation between upgradient and compliance point concentrations of the hazardous constituents, the owner or operator may establish the concentration limit through sampling at upgradient wells each time groundwater is sampled at the compliance point. The Department will specify the procedures used for determining the concentration limit in this manner in the permit. In all other cases, the concentration limit will be the mean of the pooled data on the concentration of the hazardous constituent.

(b) If a hazardous constituent is identified on Table 1 of rule 340-104-094 and the difference between the respective concentration limit in Table 1 and the background value of that constituent under rule 340-104-097(7) is not statistically significant, the owner or operator must use the background value of the constituent as the concentration limit. In determining whether this difference is statistically significant, the owner or operator must use a statistical procedure providing reasonable confidence that a real difference will be indicated. The statistical procedure must:

(A) Be appropriate for the distribution of the data used to establish background values; and

(B) Provide a reasonable balance between the probability of falsely identifying a significant difference unit and the probability of failing to identify a significant difference.

(c) The owner or operator must:

(A) Comply with rule 340-104-097(7) in developing the data base used to determine background values;

(B) Express background values in a form necessary for the determination of statistically significant increases under rule 340-104-097(8); and

(C) Use a groundwater monitoring system that complies with rules 340-104-097(1)(a), (2) and (3).

(4) The owner or operator must determine the concentration of hazardous constituents in groundwater at each monitoring well at the compliance point at least quarterly during the compliance period. The owner or operator must express the concentration at each monitoring well in a form necessary for the determination of statistically significant increases under rule 340-104-097(8).

(5) The owner or operator must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(6) The owner or operator must analyze samples from all monitoring wells at the compliance point for all constituents contained in Appendix VIII of Division 101 at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer. If the owner or operator finds Appendix VIII constituents in the groundwater that are not identified in the permit as hazardous constituents, the owner or operator must report the concentrations of these additional constituents to

the Department within seven days after completion of the analysis.

(7) The owner or operator must use procedures and methods for sampling and analysis that meet the requirements of rules 340-104-097(4) and (5).

(8) The owner or operator must determine whether there is a statistically significant increase over the concentration limits for any hazardous constituents specified in the permit pursuant to section (1) of this rule each time he determines the concentration of hazardous constituents in the groundwater at the compliance point.

(a) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality at each monitoring well at the compliance point for each hazardous constituent to the concentration limit for that constituent according to the statistical procedures specified in the permit under rule 340-104-097(8).

(b) The owner or operator must determine whether there has been a statistically significant increase at each monitoring well at the compliance point, within a reasonable time period after completion of sampling. The Department will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(9) If the owner or operator determines, pursuant to section (8) of this rule, that the groundwater protection standard is being exceeded at any monitoring well at the point of compliance, he must:

(a) Notify the Department of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(b) Submit to the Department an application for a permit modification to establish a corrective action program meeting the requirements of rule

340-104-100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Department under rule 340-104-098(8)(e). The application must at a minimum include the following information:

(A) A detailed description of corrective actions that will achieve compliance with the groundwater protection standard specified in the permit under section (1) of this rule; and

(B) A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of this rule.

(10) If the owner or operator determines, pursuant to section (8) of this rule, that the groundwater protection standard is being exceeded at any monitoring well at the point of compliance, he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this section in addition to, or in lieu of, submitting a permit modification application under subsection (9)(b) of this rule, he is not relieved of the requirement to submit a permit modification within the time specified in subsection (9)(b) of this rule unless the demonstration made under this section successfully shows that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this section, the owner or operator must:

(a) Notify the Department in writing within seven days that he intends to make a demonstration under this section;

(b) Within 90 days, submit a report to the Department which demonstrates that a source other than a regulated unit caused the standard

to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(c) Within 90 days, submit to the Department an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(d) Continue to monitor in accordance with the compliance monitoring program established under this rule.

(11) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this rule, he must, within 90 days, submit an application for a permit modification to make any appropriate changes in the program.

(12) The owner or operator must assure that monitoring and corrective action measures to achieve compliance with the groundwater protection standard under rule 340-104-092 are taken during the term of the permit.

Corrective action program.

340-104-100 An owner or operator required to establish a corrective action program under this Subdivision must at a minimum, discharge the following responsibilities:

(1) The owner or operator must take corrective action to ensure that regulated units are in compliance with the groundwater protection standard under rule 340-104-092. The Department will specify the groundwater protection standard in the facility permit, including:

(a) A list of the hazardous constituents identified under rule 340-104-093;

(b) Concentration limits under rule 340-104-094 for each of those hazardous constituents;

(c) The compliance point under rule 340-104-095; and

(d) The compliance period under rule 340-104-096.

(2) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(3) The owner or operator must begin corrective action within a reasonable time period after the groundwater protection standard is exceeded. The Department will specify that time period in the permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of rule 340-104-099(9)(b).

(4) In conjunction with a corrective action program, the owner or operator must establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under rule 340-104-099 and must be as effective as that program in determining compliance with the groundwater protection standard under rule 340-104-092 and in determining the success of a corrective action program under section (5) of this rule, where appropriate.

(5) In addition to the other requirements of this rule, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under rule 340-104-093 that exceed concentration limits under rule 340-104-094 in groundwater between the compliance point under rule 340-104-095 and the downgradient facility property boundary. The permit will specify the measures to be taken.

(a) Corrective action measures under this section must be initiated and completed within a reasonable period of time considering the extent of contamination.

(b) Corrective action measures under this section may be terminated once the concentration of hazardous constituents under rule 340-104-093 is reduced to levels below their respective concentration limits under rule 340-104-094.

(6) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the groundwater monitoring program under section (4) of this rule, that the groundwater protection standard of rule 340-104-092 has not been exceeded for a period of three consecutive years.

(7) The owner or operator must report in writing to the Department on the effectiveness of the corrective action program. The owner or operator must submit these reports semi-annually.

(8) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this rule, he must, within 90 days, submit an application for a permit modification to make any appropriate changes in the program.

Unsaturated zone monitoring program.

340-104-101 An owner or operator may be required to establish an unsaturated zone monitoring program consisting of soil-pore liquid monitoring in the zone immediately below a facility to determine whether hazardous constituents have migrated out of the facility. The Department will approve the components of this program based on a consideration of the construction and operation of the facility and the type and amount of waste being managed therein.

Subdivision G: Closure and Post-Closure

Applicability.

340-104-110 Except as rule 340-104-001 provides otherwise:

(1) Rules 340-104-111 to -115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(2) Rules 340-104-117 to -120 (which concern post-closure care) apply to the owners and operators of:

(a) All hazardous waste disposal facilities; and

(b) Piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these rules are made applicable to such facilities in rules 340-104-228 and -258.

Closure performance standard.

340-104-111 The owner or operator must close the facility in a manner that:

(1) Minimizes the need for further maintenance, and

(2) Controls, minimizes or eliminates, to the extent necessary to prevent threats to human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

Closure plan; amendment of plan.

340-104-112 (1) The owner or operator of a hazardous waste management

facility must have a written closure plan. The plan must be submitted with the permit application, in accordance with rule 340-105-014(2)(m), and approved by the Department as part of the permit issuance proceeding under Division 106. In accordance with rule 340-105-032, the approved closure plan will become a condition of any hazardous waste permit. The Department's decision must assure that that approved closure plan is consistent with rules 340-104-111, -113, -114, -115, and the applicable requirements of rules 340-104-178, -197, -228, -258, -280, -310 and -351. A copy of the approved plan and all revisions to the plan must be kept at the facility until closure is completed and certified in accordance with rule 340-104-115. The plan must identify steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan must include, at least:

(a) A description of how and when the facility will be partially closed, if applicable, and finally closed. The description must identify the maximum extent of the operation which will be active during the life of the facility, and how the requirements of rules 340-104-111, -113, -114, -115, and the applicable closure requirements of rules 340-104-178, -197, -228, -258, -280, -310, and -351 will be met;

(b) An estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility. (Any change in this estimate is a minor modification under rule 340-105-042);

(c) A description of the steps needed to decontaminate facility equipment during closure; and

(d) An estimate of the expected year of closure and a schedule for final closure. The schedule must include, at a minimum, the total time required to close the facility and the time required for intervening

closure activities which will allow tracking of the progress of closure.

(For example, in the case of a landfill, estimates of the time required to treat and dispose of all waste inventory and of the time required to place a final cover must be included.)

(2) The owner or operator may amend his closure plan at any time during the active life of the facility. (The active life of the facility is that period during which wastes are periodically received.) The owner or operator must amend the plan whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure. When the owner or operator requests a permit modification to authorize a change in operating plans or facility design, he must request a modification of the closure plan at the same time (see rule 340-106-005(1)). If a permit modification is not needed to authorize the change in operating plans or facility design, the request for modification of the closure plan must be made within 60 days after the change in plans or design occurs.

(Comment: Changes in estimates of maximum inventory and of the estimated year of closure under rule 340-104-112(1)(b) and (d) may be made as minor permit modifications under rule 340-105-042).

(3) The owner or operator must notify the Department at least 180 days prior to the date he expects to begin closure.

(Comment: The date when he "expects to begin closure" should be within 30 days after the date on which he expects to receive the final volume of wastes. If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or by order of the Department, to cease receiving wastes or to close, then the requirement of this paragraph does not apply. However, the owner or operator must close the facility in accordance with the deadlines established in rule 340-104-113).

Closure; time allowed for closure.

340-104-113 (1) Within 90 days after receiving the final volume of hazardous wastes, the owner or operator must treat, remove from the site, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Department may approve a longer period if the owner or operator demonstrates that:

(a)(A) The activities required to comply with this section will, of necessity, take longer than 90 days to complete; or

(B)(i) The facility has the capacity to receive additional wastes;

(ii) There is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(iii) Closure of the facility would be incompatible with continued operation of the site; and

(b) He has taken and will continue to take all steps to prevent threats to human health and the environment.

(2) The owner or operator must complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes. The Department may approve a longer closure period if the owner or operator demonstrates that:

(a)(A) The closure activities will, of necessity, take longer than 180 days to complete; or

(B)(i) The facility has the capacity to receive additional wastes;

(ii) There is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(iii) Closure of the facility would be incompatible with continued operation of the site; and

(b) He has taken and will continue to take all steps to prevent

threats to human health and the environment from the unclosed but inactive facility.

(Comment: Any extension of the 90 or 180 day period in this rule may be made as a minor modification under rule 340-105-042. Under paragraphs (1)(a)(B) and (2)(a)(B) of this rule, if operation of the site is recommenced, the Department may defer completion of closure activities until the new operation is terminated.)

Disposal or decontamination of equipment.

340-104-114 When closure is completed, all facility equipment and structures must have been properly disposed of, or decontaminated by removing all hazardous waste and residues.

Certification of closure.

340-104-115 When closure is completed, the owner or operator must submit to the Department certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

Post-closure care and use of property.

340-104-117 (1)(a) Post-closure care must continue for 30 years after the date of completing closure and must consist of at least the following:

(A) Monitoring and reporting in accordance with the requirements of Subdivisions F, K, L, M, and N of this Division; and

(B) Maintenance and monitoring of waste containment systems in

accordance with the requirements of Subdivisions F, K, L, M, and N of this Division; and

(b)(A) During the 180-day period preceding closure (see rule 340-104-112(3)) or at any time thereafter, the Department may reduce the post-closure care period to less than 30 years if it finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure).

(B) Prior to the time that the post-closure care period is due to expire, the Department may extend the post-closure care period if it finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment).

(2) The Department may require, at closure, continuation of any of the security requirements of rule 340-104-014 during part or all of the post-closure period after the date of completing closure when:

(a) Wastes may remain exposed after completion of closure; or

(b) Access by the public or domestic livestock may pose a hazard to human health.

(3) Post-closure use of property on or in which hazardous wastes remain after closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any containment system, or the function of the facility's monitoring systems, unless the Department finds that the disturbance:

(a) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(b) Is necessary to reduce a threat to human health or the environment.

(4) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in rule 340-104-118.

Post-closure plan; amendment of plan.

340-104-118 (1) The owner or operator of a disposal facility must have a written post-closure plan. In addition, certain piles and certain surface impoundments from which the owner or operator intends to remove the wastes at closure are required by rules 340-104-228 and -258 to have post-closure plans. The plan must be submitted with a permit application, in accordance with rule 340-105-014(2)(m), and approved by the Department as part of the permit issuance proceeding under Division 106. In accordance with rule 340-105-032, the approved post-closure plan will become a condition of any permit issued. A copy of the approved plan and all revisions to the plan must be kept at the facility until the post-closure care period begins. This plan must identify the activities which will be carried on after closure and the frequency of these activities, and include at least:

(a) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subdivisions F, K, L, M, and N of this Division during the post-closure care period;

(b) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(A) The integrity of the cap and final cover or other containment structures in accordance with the requirements of Subdivisions K, L, M, and

N of this Division; and

(B) The function of the facility monitoring equipment in accordance with the requirements of Subdivisions F, K, L, M, and N of this Division; and

(c) The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period. This person or office must keep an updated post-closure plan during the post-closure period.

(2) The owner or operator may amend his post-closure plan at any time during the active life of the disposal facility or during the post-closure care period. The owner or operator must amend his plan whenever changes in operating plans or facility design, or events which occur during the active life of the facility or during the post-closure period, affect his post-closure plan. He must also amend his plan whenever there is a change in the expected year of closure.

(3) When a permit modification is requested during the active life of the facility to authorize a change in operating plans or facility design, modification of the post-closure plan must be requested at the same time (see rule 340-106-005(1)). In all other cases, the request for modification of the post-closure plan must be made within 60 days after the change in operating plans or facility design or the events which affect his post-closure plan occur.

Notice to local land authority.

340-104-119 Within 90 days after closure is completed, the owner or operator of a disposal facility must submit to the local zoning authority or the authority with jurisdiction over local land use and to the

Department a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the site as specified in rule 340-104-117(3). In addition, the owner or operator must submit to the local zoning authority or the authority with jurisdiction over local land use and to the Department a record of the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility. For wastes disposed of before these regulations were promulgated, the owner or operator must identify the type, location and quantity of the wastes to the best of his knowledge and in accordance with any records he has kept. Any changes in the type, location, or quantity of hazardous wastes disposed of within each cell or area of the facility that occur after the survey plat and record of wastes have been filed must be reported to the local zoning authority or the authority with jurisdiction over local land use and to the Department.

Notice in deed to property.

340-104-120 (1) The owner of the property on which a disposal facility is located must record, in accordance with state law, a notation on the deed to the facility property--or on some other instrument which is normally examined during title search--that will in perpetuity notify any potential purchaser of the property that:

- (a) The land has been used to manage hazardous wastes;
- (b) Its use is restricted under rule 340-104-117(3); and

(c) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility required in rule 340-104-119 have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Department.

(2) If at any time the owner or operator or any subsequent owner of the land upon which a hazardous waste facility was located removes the waste and waste residues, the liner, if any, and all contaminated underlying and surrounding soil, he may remove the notation on the deed to the facility property or other instrument normally examined during title search, or he may add a notation to the deed or instrument indicating removal of the waste.

(Comment: On removing the waste and waste residues, the liner, if any, and the contaminated soil, the owner or operator, unless he can demonstrate in accordance with rule 340-101-003(5) that anything removed from the facility is not a hazardous waste, becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Divisions 102 to 106.)

Subdivision H: Financial Requirements

Applicability.

340-104-140 (1) The requirements of rules 340-104-142, -143 and -147 to -151, apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this rule or in rule 340-104-001.

(2) The requirements of rules 340-104-144 to -146 apply only to owners and operators of disposal facilities.

(3) The state and the federal governments are exempt from the requirements of this Subdivision.

Definitions of terms used in this Subdivision.

340-104-141 (1) "Closure plan" means the plan for closure prepared in accordance with the requirements of rule 340-104-112.

(2) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with rule 340-104-142(1), (2) and (3).

(3) "Current post-closure cost estimate" means the most recent of the estimates prepared in accordance with rule 340-104-144(1), (2) and (3).

(4) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(5) "Post-closure plan" means the plan for post-closure care prepared in accordance with the requirements of rules 340-104-117 to -120.

(6) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage.

The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

"Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(7) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable state law. However, these terms do not include those liabilities which, consistent with standard industry practices, are

excluded from coverage in liability policies for bodily injury and property damage. The Department intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

Cost estimate for facility closure.

340-104-142 (1) The owner or operator must prepare a written estimate, in current dollars, of the cost of closing the facility in accordance with the closure plan as specified in rule 340-104-112. The closure cost estimate must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan.

(2) The owner or operator must adjust the closure cost estimate within 30 days after each anniversary of the date on which the first closure cost

estimate was prepared. The adjustment must be made as specified in subsections (2)(a) and (2)(b) of this rule, using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(a) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(b) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(3) The owner or operator must revise the closure cost estimate whenever a change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in rule 340-104-142(2).

(4) The owner or operator must keep the following at the facility during the operating life of the facility: the latest closure cost estimate prepared in accordance with rule 340-104-142(1) and (3) and, when this estimate has been adjusted in accordance with rule 340-104-142(2), the latest adjusted closure cost estimate.

Financial assurance for facility closure.

340-104-143 An owner or operator of each facility must establish financial assurance for closure of the facility. An owner or operator of a disposal facility must choose the option specified in section (1) of this rule. An owner or operator of a treatment or storage facility must choose from one of the options specified in sections (1) through (6) of this

rule.

(1) Closure trust fund. (a)(A) An owner or operator may satisfy the requirements of this Section by establishing a closure trust fund which conforms to the requirements of this section. However, during the period the current closure cost estimate (CE) exceeds the current value of the trust fund (CV), the owner or operator must also establish supplemental financial assurance in the amount CE-CV by choosing one of the options specified in sections (2) to (6) of this rule.

(B) An owner or operator must submit an originally signed duplicate of the trust agreement to the Department. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be a entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(b) The wording of the trust agreement must be identical to the wording specified in rule 340-104-151(1)(a), and the trust agreement must be accompanied by a formal certification of acknowledgement (for example, see rule 340-104-151(1)(b)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(c) Payments into the trust fund must be made annually by the owner or operator over the initial 10 years the facility is permitted or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments to the closure trust fund must be made as follows:

(A) For a new facility, the first payment must be made before the

initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Department before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in rule 340-104-143(7), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(B) If an owner or operator has already established a trust fund and the value of the trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in subsection (1)(c) of this rule. Payments must continue to be made no later than 30 days after each anniversary date of the first payment. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at

the time the fund is established. However, he must maintain the value of the fund at no less than the value the fund would have if annual payments were made as specified in subsection (1)(c) of this rule.

(e) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this rule, his first payment must be at least the amount that the fund would have contained if the trust fund were established initially and annual payments made according to specifications of this section.

(f) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days of the change in the cost estimate, must either deposit a sufficient amount into the fund so that its value after payment at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this rule to cover the difference.

(g) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Department for release of the amount in excess of the current closure cost estimate.

(h) If an owner or operator of a treatment or storage facility substitutes other financial assurance as specified in this rule for all or part of the trust fund, he may submit a written request to the Department for release of the amount in excess of the current cost estimate covered by the trust fund.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in subsections (1)(g) or (h) of

this rule, the Department will instruct the trustee to release to the owner or operator such funds as the Department specifies in writing.

(j) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for closure activities, the Department will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, it will instruct the trustee to make reimbursements in such amounts as the Department specifies in writing. If the Department has reason to believe that the cost of closure will be significantly greater than the value of the trust fund, it may withhold reimbursement of such amounts as it deems prudent until it determines, in accordance with rule 340-104-143(9), that the owner or operator is no longer required to maintain financial assurance for closure.

(k) The Department will agree to termination of the trust when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-143(9).

(2) Surety bond guaranteeing payment into a closure trust fund.

(a) An owner or operator may satisfy the requirements of this Section by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Department. An owner or operator of a new facility must submit the surety bond to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond

must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(b) The wording of the surety bond must be identical to the wording specified in rule 340-104-151(2).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this rule must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in rule 340-104-143(1), except that:

(A) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(B) Until the standby trust fund is funded pursuant to the requirements of this rule, the following are not required by these regulations:

(i) Payments into the trust fund as specified in rule 340-104-143(1);

(ii) Updating of Schedule A of the trust agreement (see rule 340-104-151(1)) to show current closure cost estimates;

(iii) Annual valuations as required by the trust agreement; and

(iv) Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will:

(A) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(B) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin closure is issued by the Department or by a U.S. district court or other court of competent jurisdiction; or

(C) Provide alternate financial assurance as specified in this rule, and obtain the Department's written approval of the assurance provided,

within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond must be in an amount at least equal to the amount of the current closure cost estimate, except as provided in rule 340-104-143(7).

(g) Whenever the current closure cost estimate increases to an amount greater than the amount of the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this rule to cover the increase.

Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(i) The owner or operator may cancel the bond if the Department has given prior written consent based on receipt of evidence of alternate financial assurance as specified in this rule.

(3) Surety bond guaranteeing performance of closure.

(a) An owner or operator may satisfy the requirements of this rule by

obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Department. An owner or operator of a new facility must submit the bond to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(b) The wording of the surety bond must be identical to the wording specified in rule 340-104-151(3).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this rule must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in rule 340-104-143(1), except that:

(A) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(B) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required by these regulations:

- (i) Payments into the trust fund as specified in rule 340-104-143(1);
- (ii) Updating of Schedule A of the trust agreement (see rule 340-104-151(1)) to show current closure cost estimates;
- (iii) Annual valuations as required by the trust agreement; and
- (iv) Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will:

- (A) Perform final closure in accordance with the closure plan and

other requirements in the permit for the facility whenever required to do so; or

(B) Provide alternate financial assurance as specified in this rule, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the Department that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond and will deposit the amount of the penal sum into the standby trust fund.

(f) The penal sum of the bond must be in an amount at least equal to the amount of the current closure cost estimate.

(g) Whenever the current closure cost estimate increases to an amount greater than the amount of the penal sum of the bond, the owner or operator, within 60 days after the increase, must either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this rule. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both

the owner or operator and the Department, as evidence by the return receipts.

(i) The owner or operator may cancel the bond if the Department has given prior written consent. The Department will provide such written consent when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-143(9).

(j) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-143(9).

(4) Closure letter of credit. (a) An owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Department. An owner or operator of a new facility must submit the letter of credit to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before the initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The wording of the letter of credit must be identical to the wording specified in rule 340-104-151(4).

(c) An owner or operator who uses a letter of credit to satisfy the requirements of this rule must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by

the Department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Department. The standby trust fund must meet the requirements of the trust fund specified in paragraph rule 340-104-143(1), except that:

(A) An originally signed duplicate of the trust agreement must be submitted to the Department with the letter of credit; and

(B) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required by these regulations:

(i) Payments into the trust fund as specified in rule 340-104-143(1);

(ii) Updating of Schedule A of the trust agreement (see rule 340-104-151(1)) to show current closure cost estimates;

(iii) Annual valuations as required by the trust agreement; and

(iv) Notices of nonpayment as required by the trust agreement.

(d) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(e) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120-day period will begin on the date when both the owner or operator and the Department have received the notice, as evidenced on the return receipts.

(f) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in rule 340-104-143(7).

(g) Whenever the current closure cost estimate increases to an amount greater than the amount of credit, the owner or operator, within 60 days after the increase, must either cause the amount of credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Department or obtain other financial assurance as specified in this rule to cover the increase. Whenever the adjusted closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(h) Following a determination by the Department that the owner or operator has failed to perform closure in accordance with the closure plan or other permit requirements when required to do so, the Department may draw on the letter of credit.

(i) If the owner or operator does not establish alternate financial assurance as specified in this rule and obtain written approval of such alternate assurance from the Department within 90 days after receipt by both the owner and operator and the Department of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Department will draw on the letter of credit. The Department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this rule and obtain written approval of such assurance from the Department.

(j) The Department will return the letter of credit to the issuing institution for termination when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-143(9).

(5) Closure insurance. (a) An owner or operator may satisfy the requirements of this rule by obtaining closure insurance which conforms to the requirements of this section and submitting a certificate of such insurance to the Department. An owner or operator of a new facility must submit the certificate of insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(b) The wording of the certificate of insurance must be identical to the wording specified in rule 340-104-151(5).

(c) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in rule 340-104-143(7). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount

of the policy, upon the direction of the Department, to such party or parties as the Department specifies.

(e) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for closure activities, the Department will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursements in such amounts as the Department specifies in writing. If the Department has reason to believe that the cost of closure will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with rule 340-104-143(9), that the owner or operator is no longer required to maintain financial assurance for closure of the facility.

(f) The owner or operator must maintain the policy in full force and effect until the Department consents to termination of the policy by the owner or operator as specified in subsection (5)(j) of this rule. Failure to pay the premium, without substitution of alternate financial assurance as specified in this rule, will constitute a significant violation of these regulations, warranting such remedy as the Department deems necessary. Such violation will be deemed to begin upon receipt by the Department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(h) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Department. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Department and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (A) The Department deems the facility abandoned; or
- (B) The permit is terminated or revoked or a new permit is denied; or
- (C) Closure is ordered by the Department or a U.S. district court or other court of competent jurisdiction; or
- (D) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (E) The premium due is paid.

(i) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this rule to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following

written approval by the Department.

(j) The Department will give written consent to the owner or operator that he may terminate the insurance policy when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-143(9).

(6) Financial test and corporate guarantee for closure. (a) An owner or operator may satisfy the requirements of this rule by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator must meet the criteria of either paragraph (6)(a)(A) or (6)(a)(B) of this rule:

(A) The owner or operator must have:

(i) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(ii) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates; and

(iii) Tangible net worth of at least \$10 million; and

(iv) Assets in the United States amounting to at least six times the sum of the current closure and post-closure cost estimates.

(B) The owner or operator must have:

(i) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Bbb as issued by Moody's; and

(ii) Tangible net worth at least six times the sum of the current

closure and post-closure cost estimates; and

(iii) Tangible net worth of at least \$10 million; and

(iv) Assets in the United States amounting to at least 90% of his total assets or at least six times the sum of the current closure and post-closure cost estimates.

(b) The phrase "current closure and post-closure cost estimates" as used in subsection (6)(a) of this rule refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's and operator's chief financial officer (rule 340-104-151(6)).

(c) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(A) A letter signed by the owner's or operator's chief financial officer and worded as specified in rule 340-104-151(6); and

(B) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(C) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(i) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(ii) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) An owner or operator of a new facility must submit the items specified in subsection (6)(c) of this rule to the Department at least 60 days before the date on which hazardous wastes is first received for

treatment, storage, or disposal.

(e) After the initial submission of items specified in subsection (6)(c) of this rule, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in subsection (6)(c) of this rule.

(f) If the owner or operator no longer meets the requirements of subsection (6)(a) of this rule, he must send notice to the Department of intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(g) The Department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (6)(a) of this rule, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (6)(c) of this rule. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (6)(a) of this rule, the owner or operator must provide alternate financial assurance as specified in this rule within 30 days after notification of such a finding.

(h) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (6)(c)(B) of this rule). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The

Department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this rule within 30 days after notification of the disallowance.

(i) The owner or operator is no longer required to submit the items specified in subsection (6)(c) of this rule when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-143(9).

(j) An owner or operator may meet the requirements of this rule by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in subsections (6)(a) through (6)(h) of this rule and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in rule 340-104-151(8). The corporate guarantee must accompany the items sent to the Department as specified in subsection (6)(c) of this rule. The terms of the corporate guarantee must provide that:

(A) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in rule 340-104-143(1) in the name of the owner or operator.

(B) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both

the owner or operator and the Department, as evidenced by the return receipts.

(C) If the owner or operator fails to provide alternate financial assurance as specified in this rule and obtain the written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(7) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this rule by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a closure trust fund, letters of credit, and insurance. The mechanisms must be as specified in sections (1), (2), (4) and (5), respectively, of this rule, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust may be established for two or more mechanisms. The Department may use any or all of the mechanisms to provide for closure of the facility.

(8) Use of a financial mechanism for multiple facilities. (a) An owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this rule for more than one facility. Evidence of financial assurance submitted to the Department must include a list showing, for each facility, regardless of location, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the

mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(9) Release of the owner or operator from the requirements of this rule. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that closure has been accomplished in accordance with the closure plan, the Department will notify the owner or operator in writing that he is no longer required by this rule to maintain financial assurance for closure of the particular facility, unless the Department has reason to believe that closure has not been in accordance with the closure plan.

Cost estimate for post-closure care.

340-104-144 (1) The owner or operator must prepare a written estimate, in current dollars, of the cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in rules 340-104-117 to -120. The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under Subdivision G of Division 104.

(2) During the operating life of the facility, the owner or operator must adjust the post-closure cost estimate within 30 days after each anniversary of the date on which the first post-closure cost estimate was

prepared. The adjustment must be made as specified in subsections (2)(a) and (2)(b) of this rule, using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(a) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(b) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(3) The owner or operator must revise the post-closure cost estimate during the operating life of the facility whenever a change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in rule 340-104-144(2).

(4) The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with rule 340-104-144(1) and (3) and, when this estimate has been adjusted in accordance with rule 340-104-144(2), the latest adjusted post-closure cost estimate.

Financial assurance for post-closure care.

340-104-145 An owner or operator of each disposal facility must establish financial assurance for post-closure care of the facility. An owner or operator of a disposal facility must choose the option specified in section (1) of this rule. An owner or operator of a treatment or

storage facility must choose from one of the options specified in sections (1) through (6) of this rule.

(1) Post-closure trust fund. (a)(A) An owner or operator may satisfy the requirements of this rule by establishing a post-closure trust fund which conforms to the requirements of this section. However, during the period the current post-closure cost estimate (CE) exceeds the current value of the trust fund (CV), the owner or operator must also establish supplemental financial assurance in the amount CE-CV by choosing one of the options specified in sections (2) to (6) of this rule.

(B) An owner or operator must submit an originally signed duplicate of the trust agreement to the Department. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be a entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(b) The wording of the trust agreement must be identical to the wording specified in rule 340-104-151(1)(a), and the trust agreement must be accompanied by a formal certification of acknowledgement (for example, see rule 340-104-151(1)(b)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(c) Payments into the trust fund must be made annually by the owner or operator over the initial 10 years the facility is permitted or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments to the post-closure trust fund must be made as follows:

(A) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Department before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in rule 340-104-145(7), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(B) If an owner or operator has already established a trust fund, and the value of the trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in subsection (1)(c) of this rule. Payments must continue to be made no later than 30 days after each anniversary date of the first payment. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(d) The owner or operator may accelerate payments into the trust fund

or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value the fund would have if annual payments were made as specified in subsection (1)(c) of this rule.

(e) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this rule, his first payment must be at least the amount that the fund would have contained if the trust fund were established initially and annual payments made according to specifications of this section.

(f) After the pay-in period is completed, whenever the current post-closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days of the change in the cost estimate, must either deposit a sufficient amount into the fund so that its value after payment at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this rule to cover the difference.

(g) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Department for release of the amount in excess of the current post-closure cost estimate.

(h) If an owner or operator of a treatment or storage facility substitutes other financial assurance as specified in this rule for all or part of the trust fund, he may submit a written request to the Department for release of the amount in excess of the current cost estimate covered by the trust fund.

(i) Within 60 days after receiving a request from the owner or operator for release of funds as specified in subsections (1)(g) or (h) of this rule, the Department will instruct the trustee to release to the owner or operator such funds as the Department specifies in writing.

(j) During the period of post-closure care, the Department may approve a release of funds if the owner or operator demonstrates to the Department that the value of the trust fund exceeds the remaining cost of post-closure care.

(k) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for post-closure activities, the Department will determine whether the post-closure expenditures are in accordance with the post-closure plan or otherwise justified, and if so, he will instruct the trustee to make reimbursements in such amounts as the Department specifies in writing.

(1) The Department will agree to termination of the trust when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-145(9).

(2) Surety bond guaranteeing payment into a post-closure trust fund.

(a) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Department. An owner or operator of a new facility must submit the surety bond to the Department at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste.

The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(b) The wording of the surety bond must be identical to the wording specified in rule 340-104-151(2).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this rule must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in rule 340-104-145(1), except that:

(A) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(B) Until the standby trust fund is funded pursuant to the requirements of this rule, the following are not required by these regulations:

(i) Payments into the trust fund as specified in rule 340-104-145(1);

(ii) Updating of Schedule A of the trust agreement (see 340-104-151(1)) to show current post-closure cost estimates;

(iii) Annual valuations as required by the trust agreement; and

(iv) Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will:

(A) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(B) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin closure is issued by the Department or by a U.S. district court or other court of competent jurisdiction; or

(C) Provide alternate financial assurance as specified in this rule,

and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(f) The penal sum of the bond must be in an amount at least equal to the amount of the current post-closure cost estimate, except as provided in rule 340-104-145(7).

(g) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum of the bond to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this rule to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Department.

(h) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(i) The owner or operator may cancel the bond if the Department has given prior written consent based on receipt of evidence of alternate financial assurance as specified in this rule.

(3) Surety bond guaranteeing performance of post-closure care.

(a) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Department. An owner or operator of a new facility must submit the bond to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(b) The wording of the surety bond must be identical to the wording specified in rule 340-104-151(3).

(c) The owner or operator who uses a surety bond to satisfy the requirements of this rule must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in rule 340-104-145(1), except that:

(A) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(B) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required by these regulations:

- (i) Payments into the trust fund as specified in rule 340-104-145(1);
- (ii) Updating of Schedule A of the trust agreement (see 340-104-151(1)) to show current post-closure cost estimates;
- (iii) Annual valuations as required by the trust agreement; and
- (iv) Notices of nonpayment as required by the trust agreement.

(d) The bond must guarantee that the owner or operator will:

(A) Perform post-closure care in accordance with the post-closure care plan and other requirements in the permit for the facility whenever required to do so; or

(B) Provide alternate financial assurance as specified in this rule, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(e) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the Department that the owner or operator has failed to perform post-closure care in accordance with the post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

(f) The penal sum of the bond must be in an amount at least equal to the amount of the current post-closure cost estimate.

(g) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the penal sum of the bond, the owner or operator, within 60 days after the increase, must either cause the penal sum of the bond to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this rule. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Department.

(h) During the period of post-closure care, the Department may approve

a decrease in the penal sum if the owner or operator demonstrates to the Department that the amount exceeds the remaining cost of post-closure care.

(i) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(j) The owner or operator may cancel the bond if the Department has given prior written consent. The Department will provide such written consent when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with 340-104-145(9).

(k) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the Department releases the owner or operator from the requirements of this rule in accordance with 340-104-145(9).

(4) Post-closure letter of credit. (a) An owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Department. An owner or operator of a new facility must submit the letter of credit to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before the initial receipt of hazardous waste. The issuing institution

must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(b) The wording of the letter of credit must be identical to the wording specified in rule 340-104-151(4).

(c) An owner or operator who uses a letter of credit to satisfy the requirements of this rule must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Department. The standby trust fund must meet the requirements of the trust fund specified in paragraph rule 340-104-145(1), except that:

(A) An originally signed duplicate of the trust agreement must be submitted to the Department with the letter of credit; and

(B) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required by these regulations:

- (i) Payments into the trust fund as specified in rule 340-104-145(1);
- (ii) Updating of Schedule A of the trust agreement (see 340-104-151(1)) to show current post-closure cost estimates;
- (iii) Annual valuations as required by the trust agreement; and
- (iv) Notices of nonpayment as required by the trust agreement.

(d) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure of the facility by the letter of credit.

(e) The letter of credit must be irrevocable and issued for a period

of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120-day period will begin on the date when both the owner or operator and the Department have received the notice, as evidenced on the return receipts.

(f) The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in rule 340-104-145(7).

(g) Whenever the current post-closure cost estimate increases to an amount greater than the amount of credit, the owner or operator, within 60 days after the increase, must either cause the amount of credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Department or obtain other financial assurance as specified in this rule to cover the increase. Whenever the adjusted post-closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Department.

(h) During the period of post-closure care, the Department may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Department that the amount exceeds the remaining cost of post-closure care.

(i) Following a determination by the Department that the owner or operator has failed to perform post-closure care in accordance with the post-closure plan or other permit requirements, the Department may draw on the letter of credit.

(j) If the owner or operator does not establish alternate financial assurance as specified in this rule and obtain written approval of such alternate assurance from the Department within 90 days after receipt by both the owner and operator and the Department of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Department will draw on the letter of credit. The Department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this rule and obtain written approval of such assurance from the Department.

(k) The Department will return the letter of credit to the issuing institution for termination when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with 340-104-145(9).

(5) Post-closure insurance. (a) An owner or operator may satisfy the requirements of this rule by obtaining post-closure insurance which conforms to the requirements of this section and submitting a certificate of such insurance to the Department. An owner or operator of a new facility must submit the certificate of insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more

States.

(b) The wording of the certificate of insurance must be identical to the wording specified in rule 340-104-151(5).

(c) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in rule 340-104-145(7). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(d) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Department, to such party or parties as the Department specifies.

(e) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for post-closure activities, the Department will determine whether the post-closure expenditures are in accordance with the post-closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursements in such amounts as the Department specifies in writing.

(f) The owner or operator must maintain the policy in full force and effect until the Department consents to termination of the policy by the owner or operator as specified in subsection (5)(k) of this rule. Failure to pay the premium, without substitution of alternate financial assurance as specified in this rule, will constitute a significant violation of these

regulations, warranting such remedy as the Department deems necessary. Such violation will be deemed to begin upon receipt by the Department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(g) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(h) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Department. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Department and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (A) The Department deems the facility abandoned; or
- (B) The permit is terminated or revoked or a new permit is denied; or
- (C) Closure is ordered by the Department or a U.S. district court or other court of competent jurisdiction; or
- (D) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (E) The premium due is paid.

(i) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this rule to cover the increase. Whenever the current post-closure cost estimate decreases, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Department.

(j) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(k) The Department will give written consent to the owner or operator that he may terminate the insurance policy when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the requirements of this rule in accordance with rule 340-104-145(9).

(6) Financial test and corporate guarantee for post-closure care.

(a) An owner or operator may satisfy the requirements of this rule by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator must meet the criteria of either paragraph (6)(a)(A) or (6)(a)(B) of this rule:

(A) The owner or operator must have:

(i) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(ii) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates; and

(iii) Tangible net worth of at least \$10 million; and

(iv) Assets in the United States amounting to at least six times the sum of the current closure and post-closure cost estimates.

(B) The owner or operator must have:

(i) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Bbb as issued by Moody's; and

(ii) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates; and

(iii) Tangible net worth of at least \$10 million; and

(iv) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates.

(b) The phrase "current closure and post-closure cost estimates" as used in subsection (6)(a) of this rule refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (rule 340-104-151(6)).

(c) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(A) A letter signed by the owner's or operator's chief financial officer and worded as specified in rule 340-104-151(6); and

(B) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(C) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(i) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(ii) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) An owner or operator of a new facility must submit the items specified in subsection (6)(c) of this rule to the Department at least 60 days before the date on which hazardous wastes is first received for treatment, storage, or disposal.

(e) After the initial submission of items specified in subsection (6)(c) of this rule, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in subsection (6)(c) of this rule.

(f) If the owner or operator no longer meets the requirements of subsection (6)(a) of this rule, he must send notice to the Department of intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the

end of such fiscal year.

(g) The Department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (6)(a) of this rule, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (6)(c) of this rule. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (6)(a) of this rule, the owner or operator must provide alternate financial assurance as specified in this rule within 30 days after notification of such a finding.

(h) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (6)(c)(B) of this rule). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this rule within 30 days after notification of the disallowance.

(i) During the period of post-closure care, the Department may approve a decrease in the current post-closure care estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Department that the amount exceeds the remaining cost of post-closure care.

(j) The owner or operator is no longer required to submit the items specified in subsection (6)(c) of this rule when:

(A) An owner or operator substitutes alternate financial assurance as specified in this rule; or

(B) The Department releases the owner or operator from the

requirements of this rule in accordance with 340-104-145(9).

(k) An owner or operator may meet the requirements of this rule by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in subsections (6)(a) through (6)(i) of this rule and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in rule 340-104-151(8). The corporate guarantee must accompany the items sent to the Department as specified in subsection (6)(c) of this rule. The terms of the corporate guarantee must provide that:

(A) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in rule 340-104-145(1) in the name of the owner or operator.

(B) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(C) If the owner or operator fails to provide alternate financial assurance as specified in this rule and obtain the written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(7) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this rule by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in sections (1), (2), (4) and (5), respectively, of this rule, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust may be established for two or more mechanisms. The Department may use any or all of the mechanisms to provide for post-closure care of the facility.

(8) Use of a financial mechanism for multiple facilities. (a) An owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this rule for more than one facility. Evidence of financial assurance submitted to the Department must include a list showing, for each facility, regardless of location, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(9) Release of the owner or operator from the requirements of this rule. When the owner or operator has completed, to the satisfaction of the Department, all post-closure care requirements in accordance with the post-closure plan, the Department will, at the request of the owner or operator, notify him in writing that he is no longer required by this rule to maintain financial assurance for post-closure care of the particular facility.

Use of a mechanism for financial assurance of both closure and post-closure care.

340-104-146 An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism of both rules 340-104-143 and -145. The amount of funds available under the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

Liability requirements.

340-104-147 (1) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability

coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in subsections (1)(a), (1)(b) and (1)(c) of this rule:

(a) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subsection.

(A) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in rule 340-104-151(9). The wording of the certificate of insurance must be identical to the wording specified in rule 340-104-151(10). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Department. If requested by the Department, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(B) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(b) An owner or operator may meet the requirements of this rule by passing a financial test for liability coverage as specified in section (6) of this rule.

(c) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this rule. The amounts of coverage demonstrated must total at least the minimum amounts required by this section.

(2) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in subsections (2)(a), (2)(b) and (2)(c) of this rule:

(a) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subsection.

(A) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in rule 340-104-151(9). The wording of the certificate of insurance must be identical to the wording specified in rule 340-104-151(10). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the

Department. If requested by the Department, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(B) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(b) An owner or operator may meet the requirements of this rule by passing a financial test for liability coverage as specified in section (6) of this rule.

(c) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this rule. The amounts of coverage demonstrated must total at least the minimum amounts required by this section.

(3) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Department that the levels of financial responsibility required by sections (1) or (2) of this rule are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Department. The request for a variance must be submitted to the Department as part of the application under rule 340-105-014 for a facility that does not have a permit, or

pursuant to the procedures for permit modification under rule 340-106-005 for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Department may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Department to determine a level of financial responsibility other than that required by section (1) or (2) of this rule. Any request for a variance for a permitted facility will be treated as a request for a permit modification under rules 340-105-041(1)(e)(C) and 340-106-005.

(4) Adjustments by the Department. If the Department determines that the levels of financial responsibility required by section (1) or (2) of this rule are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Department may adjust the level of financial responsibility required under section (1) or (2) of this rule as may be necessary to protect human health and the environment. This adjusted level will be based on the Department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with section (2) of this rule. An owner or operator must furnish to the Department, within a reasonable time, any information which the Department requests to

determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under rules 340-105-041(1)(e)(C) and 340-106-005.

(5) Period of coverage. An owner or operator must continuously provide liability coverage for a facility as required by this rule until certifications of closure of the facility, as specified in rule 340-104-115, are received by the Department.

(6) Financial test for liability coverage. (a) An owner or operator may satisfy the requirements of this rule by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator must meet the criteria of paragraph (6)(a)(A) or (6)(a)(B):

(A) The owner or operator must have:

(i) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(ii) Tangible net worth of at least \$10 million; and

(iii) Assets in the United States amounting to either: (I) at least 90% of his total assets; or (II) at least six times the amount of liability coverage to be demonstrated by this test.

(B) The owner or operator must have:

(i) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Bbb as issued by Moody's; and

(ii) Tangible net worth of at least \$10 million; and

(iii) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(iv) Assets in the United States amounting to either: (I) at least 90% of his total assets; or (II) at least six times the amount of liability

coverage to be demonstrated by this test.

(b) The phrase "amount of liability coverage" as used in subsection (6)(a) of this rule refers to the annual aggregate amounts for which coverage is required under sections (1) and (2) of this rule.

(c) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(A) A letter signed by the owner's or operator's chief financial officer and worded as specified in rule 340-104-151(7). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by rules 340-104-143(6) and -145(6), and liability coverage, he must submit the letter specified in rule 340-104-151(7) to cover both forms of financial responsibility; a separate letter as specified in rule 340-104-151(6) is not required.

(B) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(C) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(i) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(ii) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) An owner or operator of a new facility must submit the items specified in subsection (6)(c) of this rule to the Department at least 60 days before the date on which hazardous wastes is first received for

treatment, storage, or disposal.

(e) After the initial submission of items specified in subsection (6)(c) of this rule, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in subsection (6)(c) of this rule.

(f) If the owner or operator no longer meets the requirements of subsection (6)(a) of this rule, he must obtain insurance for the entire amount of required liability coverage as specified in this rule. Evidence of insurance must be submitted to the Department within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(g) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (6)(c)(B) of this rule). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this rule within 30 days after notification of the disallowance.

Incapacity of institutions issuing letters of credit, surety bonds, or insurance policies.

340-104-148 (1) An owner or operator must notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as

debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in rules 340-104-143(6) and -145(6) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (rule 340-104-151(8)).

(2) An owner or operator who fulfills the requirements of rules 340-104-143, -145, -147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

Wording of the instruments.

340-104-151 (1)(a) A trust agreement for a trust fund as specified in rules 340-104-143(1) or -145(1) must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust agreement, the "Agreement", entered into as of (date) by and between (name of the owner or operator), a (State)(corporation, partnership, association, proprietorship), the "Grantor", and (name of corporate trustee), a (State corporation)(national bank), the "Trustee".

Whereas, the Oregon Department of Environmental Quality (hereinafter called "Department") an agency of the State of Oregon, has established certain regulations applicable to the Grantor, requiring that the owner or operator of a hazardous waste management facility must provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

Whereas, the Grantor has elected to establish a trust to provide such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to (for each facility insert the EPA Identification Number, name, and address, and the adjusted closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement.)

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund" for the benefit of the Department. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently

transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund will be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make such payments from the Fund as the Department shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the Department from the Fund for closure and post-closure expenditures in such amounts as the Department shall direct, in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Department specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and

with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and similiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 USC 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collection trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 USC 80a-1 et seq., or one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting

the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at the end of the month coincident with or preceding the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from

time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee and the date on which he assumes administration of the trust shall be specified in writing and sent to the Grantor, the Department, and the present and successor trustees by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the

authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests and instructions from the Grantor and/or the Department, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the Department, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of

any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed and enforced according to the laws of the State of Oregon.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in OAR 340-104-151(1)(a) as such regulations were constituted on the date first above written.

(Signature of Grantor)

By (Title)

Attest:

(Title)

(Seal)

(Signature of Trustee)

By

Attest:

(Title)

(Seal)

(b) The following is an example of the certification of acknowledgement, which must accompany the trust agreement for a trust fund as specified in rules 340-104-143(1) and -145(1):

State of _____

County of _____

On this (date), before me personally came (owner or operator) to me known, who, being by me duly sworn, did depose and say that she/he resides at (address), that she/he is (title) of (corporation), the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

(Signature of Notary Public)

(Comment: As required in rules 340-104-143(1)(b) and -145(1)(b), the trust agreement must be accompanied by a formal certification of acknowledgement. This is an example only.)

(2) A surety bond guaranteeing payment into a trust fund, as specified in rules 340-104-143(2) or -145(2), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Financial Guarantee Bond

Date bond executed: _____

Effective date: _____

Principal: (legal name and business address of owner or operator)

Type of organization: (insert "individual," "joint venture,"
"partnership," or "corporation")

State of incorporation: _____

Surety(ies): (name(s) and business address(es))

Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond (indicate closure and post-closure amounts separately): _____

Total penal sum of bond: \$_____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Oregon Department of Environmental Quality (hereinafter called Department), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said Principal is required under Oregon law to have a permit in order to own or operate each hazardous waste management facility

identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after an order to begin closure is issued by the Department or by a court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance as specified in Subdivision H of OAR Chapter 340, Division 104, as applicable, and obtain the Department's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department from the Surety(ies), then this obligation will be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Department that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Department.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but

in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Department, provided, however, that cancellation cannot occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Department as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond from the Department.

(The following paragraph is an optional rider that may be included but is not required.)

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Department.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in OAR 340-104-151(2).

Principal

Signature(s): _____

Name(s) and title(s) (typed): _____

Corporate seal:

Corporate Surety(ies)

Name and address: _____

State of incorporation: _____

Liability limit: \$ _____

Signature(s): _____

Name(s) and title(s) (typed): _____

Corporate seal:

(For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.)

Bond premium: \$ _____

(3) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in rules 340-104-143(3) or 145(3), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Performance Bond for Closure

Date bond executed: _____

Effective date: _____

Principal: (legal name and business address of owner or operator)

Type of organization: (insert "individual," "joint venture,"
"partnership," or "corporation")

State of incorporation: _____

Surety(ies): (name(s) and business address(es))

Identification Number, name, address, and closure and/or post-closure
amount(s) for each facility guaranteed by this bond (indicate closure and
post-closure amounts separately): _____

Total penal sum of bond: \$_____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and
Surety(ies) hereto are firmly bound to the Oregon Department of
Environmental Quality (hereinafter called Department), in the above penal
sum for the payment of which we bind ourselves, our heirs, executors,
administrators, successors, and assigns, jointly and severally; provided
that, where the Surety(ies) are corporations acting as co-sureties, we, the
Sureties, bind ourselves in such sum "jointly and severally" only for the
purpose of allowing a joint action or actions against any or all of us, and
for all other purposes each Surety binds itself, jointly and severally with
the Principal, for the payment of such sum only as is set forth opposite
the name of such Surety, but if no limit of liability is indicated, the
limit of liability shall be the full amount of the penal sum.

Whereas, said Principal is required under Oregon law to have a permit
in order to own or operate each hazardous waste management facility
identified above, and

Whereas said Principal is required to provide financial assurance for
closure, or closure and post-closure care, as a condition of the permit,
and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore the conditions of the obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in Subdivision H of OAR Chapter 340, Division 104, and obtain the Department's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department from the Surety(ies), then this obligation will be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Department that the Principal has been found in violation of the closure requirements of OAR Chapter 340, Division 104, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed

for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has been found in violation of the post-closure requirements of OAR Chapter 340, Division 104, for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform closure in accordance with the post-closure plan and other permit requirements or place post-closure amount guaranteed for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has failed to provide alternate financial assurance as specified in Subdivision H of OAR Chapter 340, Division 104, and obtain written approval of such assurance from the Department during the 90 days following receipt by both the Principal and the Department of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Department.

The Surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department, provided, however, that cancellation shall not occur during the 120 days beginning on

the date of receipt of the notice of cancellation by both the Principal and the Department as evidenced by the return receipts;

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond from the Department.

(The following paragraph is an optional rider that may be included but is not required.)

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Department.

In Witness Whereof, the Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in OAR 340-104-151(3) as such regulation was constituted on the date the bond was executed.

Principal

Signature(s): _____

Name(s) and title(s) (typed): _____

Corporate seal:

Corporate Surety(ies)

Name and address: _____

State of incorporation: _____

Liability limit: \$ _____

Signature(s): _____

Name(s) and title(s) (typed): _____

Corporate seal:

(For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.)

Bond premium: \$ _____

(4) A letter of credit as specified in rules 340-104-143(4) or -145(4) must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Director,

Oregon Department of Environmental Quality

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of (owner's or operator's name and address) up to the aggregate amount of (in words) U.S. dollars \$_____, available upon presentation by you or your designee of

(1) your sight draft, bearing reference to this letter of credit No. _____, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under the authority of ORS 459.410 to .690."

This letter of credit is effective as of (date) and shall expire on (date at least 1 year later), but such expiration date shall be automatically extended for a period of (at least one year) on (date) and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and (owner or operator's name) by certified mail that we decide not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and (owner's or operator's name) as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft promptly and directly into the standby trust fund of (owner's or operator's name) in accordance with your instructions.

We hereby certify that the wording of this letter of credit is identical to the wording specified in OAR 340-104-151(4) as such regulations were constituted on the date shown immediately below.

Attest:

(Signature and title of official of issuing institution)(Date)

This credit is subject to (insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code").

(5) A certificate of insurance as specified in rules 340-104-143(5) or -145(5) must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Certificate of Insurance for Closure or Post-Closure Care

Name and Address of Insurer (herein called the "Insurer"): _____

Name and Address of Insured (herein called the "Insured"): _____

Facilities Covered: (List for each facility: The Identification Number, name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below).)

Face Amount: _____

Policy Number: _____

Effective Date: _____

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for (insert "closure" or "closure and post-closure care" or "post-closure care") for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of rules 340-104-143(5) and -145(5) as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Department, the Insurer agrees to furnish to the Department a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in OAR 340-104-151(5) as such regulations were constituted on the date shown immediately below.

(Authorized signature for Insurer)

(Name of person signing)

(Title of person signing)

Signature of witness or notary: _____

(Date)

(6) A letter from the chief financial officer as specified in rules 340-104-143(6) or -145(6) must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Letter From Chief Financial Officer

I am the chief financial officer of (name and address of firm). This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subdivision H of OAR Chapter 340, Division 104.

(Fill out the following four paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.)

1. This firm is the owner or operator of the following facilities for

which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subdivision H of OAR Chapter 340, Division 104. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____

2. This firm guarantees, through the corporate guarantee specified in Subdivision H of OAR Chapter 340, Division 104, the closure or post-closure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____

3. In states other than Oregon, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated to the state through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____

This firm (insert "is required" or "is not required") to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on (month, day). The figures for

the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended (date).

(Fill in Alternative I if the criteria of rules 340-104-143(6)(a)(A) or -145(6)(a)(A) are used. Fill in Alternative II if the criteria of rules 340-104-143(6)(a)(B) or -145(6)(a)(B) are used.)

ALTERNATIVE I

- 1. Sum of current closure and post-closure cost estimates (total of all cost estimates shown in the four paragraphs above) \$ _____
 - *2. Total liabilities (if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4) . . . _____
 - *3. Tangible net worth _____
 - *4. Net worth _____
 - *5. Current assets _____
 - *6. Current liabilities _____
 - 7. Net working capital (line 5 minus line 6) _____
 - *8. The sum of net income plus depreciation, depletion and amortization _____
 - *9. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) _____
- | | Yes | No |
|--|-----|----|
| 10. Is line 3 at least \$10 million? | | |
| 11. Is line 3 at least 6 times line 1? | | |
| 12. Is line 7 at least 6 times line 1? | | |
| *13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14 | | |
| 14. Is line 9 at least 6 times line 1? | | |
| 15. Is line 2 divided by line 4 less than 2.0? | | |
| 16. Is line 8 divided by line 2 greater than 0.1? | | |
| 17. Is line 5 divided by line 6 greater than 1.5? | | |

ALTERNATIVE II

- 1. Sum of current closure and post-closure cost estimates (total of all cost estimates shown in the four paragraphs above) \$ _____
- 2. Current bond rating of most recent issuance of this firm and name of rating service _____
- 3. Date of issuance of bond _____
- 4. Date of maturity of bond _____
- *5. Total net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line) . . . _____

- *6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) _____
- | | Yes | No |
|---|-----|----|
| 7. Is line 5 at least \$10 million? | | |
| 8. Is line 5 at least 6 times line 1? | | |
| *9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10 | | |
| 10. Is line 6 at least 6 times line 1? | | |

I hereby certify that the wording of this certificate is identical to the wording specified in OAR 340-104-151(6) as such regulations were constituted on the date shown immediately below.

(Signature)
 (Name)
 (Title)
 (Date)

(7) A letter from the chief financial officer as specified in rule 340-104-147(6) must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Letter from Chief Financial Officer (to demonstrate liability coverage or to demonstrate both liability coverage and assurance of closure or post-closure care)

I am the chief financial officer of (owner's or operator's name and address). This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage (insert "and closure and/or post-closure care" if applicable) as specified in Subdivision H of OAR Chapter 340, Division 104.

(Fill out the following paragraph regarding facilities and liability coverage. For each facility, include its Identification Number, name, and address.)

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Subdivision H of OAR Chapter 340, Division 104: _____

(If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following four paragraphs regarding facilities and associated closure and post-closure cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.)

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subdivision H of OAR Chapter 340, Division 104. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____

2. The owner or operator identified above guarantees, through the corporate guarantee specified in Subdivision H of OAR Chapter 340, Division 104, the closure or post-closure care of the following facilities owned or operated its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____

3. In states other than Oregon, this owner or operator is demonstrating financial assurance for the closure or post-closure care of

the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated to the state through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____

This firm (insert "is required" or "is not required") to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on (month, day). The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended (date).

(Fill in Part A if you are using the financial test to demonstrate coverage only for the liability requirements.)

Part A. Liability Coverage for Accidental Occurrences

(Fill in Alternative I if the criteria of rule 340-104-147(6)(a)(A) are used. Fill in Alternative II if the criteria of rule 340-104-147(6)(a)(B) are used.)

ALTERNATIVE I

- 1. Amount of annual aggregate liability coverage to be demonstrated \$ _____
 - *2. Current assets _____
 - *3. Current liabilities _____
 - 4. Net working capital (line 2 minus line 3) _____
 - *5. Tangible net worth _____
 - *6. If less than 90% of firm's assets are located in the U.S., give total U.S. assets _____
- Yes No
- 7. Is line 5 at least \$10 million?
 - 8. Is line 4 at least 6 times line 1?
 - 9. Is line 5 at least 6 times line 1?
 - *10. Are at least 90% of firm's assets located in the U.S.? If not, complete line 11
 - 11. Is line 6 at least 6 times line 1?

ALTERNATIVE II

- 1. Amount of annual aggregate liability coverage to be demonstrated \$ _____
 - 2. Current bond rating of most recent issuance of this firm and name of rating service _____
 - 3. Date of issuance of bond _____
 - 4. Date of maturity of bond _____
 - *5. Tangible net worth _____
 - *6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) _____
- Yes No
- 7. Is line 5 at least \$10 million?
 - 8. Is line 5 at least 6 times line 1?
 - *9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10
 - 10. Is line 6 at least 6 times line 1?

(Fill in Part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.)

Part B. Closure or Post-Closure Care and Liability Coverage

(Fill in Alternative I if the criteria of rules 340-104-143(6)(a)(A) or -145(6)(a)(A) and rule 340-104-147(6)(a)(A) are used. Fill in Alternative II if the criteria of rules 340-104-143(6)(a)(B) or -145(6)(a)(B) and rule 340-104-147(6)(a)(B) are used.)

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) \$ _____
 2. Amount of annual aggregate liability coverage to be demonstrated _____
 3. Sum of lines 1 and 2 _____
 - *4. Total liabilities (if any portion of the closure or post-closure cost estimates is included in your total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 5 and 6) _____
 - *5. Tangible net worth _____
 - *6. Net worth _____
 - *7. Current assets _____
 - *8. Current liabilities _____
 9. Net working capital (line 7 minus line 8) _____
 - *10. The sum of net income plus depreciation, depletion and amortization _____
 - *11. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) _____
-
- | | Yes | No |
|--|-----|----|
| 12. Is line 5 at least \$10 million? | | |
| 13. Is line 5 at least 6 times line 3? | | |
| 14. Is line 9 at least 6 times line 3? | | |
| *15. Are at least 90% of firm's assets located in the U.S.? If not, complete line 16 | | |
| 16. Is line 11 at least 6 times line 3? | | |
| 17. Is line 4 divided by line 6 less than 2.0? | | |
| 18. Is line 10 divided by line 4 greater than 0.1? | | |
| 19. Is line 7 divided by line 8 greater than 1.5? | | |

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) \$ _____
 2. Amount of annual aggregate liability coverage to be demonstrated _____
 3. Sum of lines 1 and 2 _____
 4. Current bond rating of most recent issuance of this firm and name of rating service _____
 5. Date of issuance of bond _____
 6. Date of maturity of bond _____
 - *7. Total net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements, you may add the amount of that portion to this line) _____
 - *8. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) _____
-
- | | Yes | No |
|--|-----|----|
| 9. Is line 7 at least \$10 million? | | |
| 10. Is line 7 at least 6 times line 3? | | |
| *11. Are at least 90% of firm's assets located in the U.S.? If not, complete line 12 | | |
| 12. Is line 8 at least 6 times line 3? | | |

I hereby certify that the wording of this certificate is identical to the wording specified in OAR 340-104-151(7) as such regulations were constituted on the date shown immediately below.

(Signature)

(Name)

(Title)

(Date)

(8) A corporate guarantee as specified in rules 340-104-143(6) or -145(6) must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Corporate Guarantee for Closure or Post-Closure Care

Guarantee made this (date) by (name of guaranteeing entity), a business corporation organized under the laws of the State of Oregon, herein referred to as guarantor, to the Oregon Department of Environmental Quality (DEQ), obligee, on behalf of our subsidiary (owner or operator) of (business address).

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in OAR 340-104-143(6) and -145(6).

2. (Owner or operator) owns or operates the following hazardous waste management facility (ies) covered by this guarantee: (List for each facility: Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.)

3. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by Subdivision G of OAR Chapter 340, Division 104 for the closure and post-closure care for facilities as identified above.

4. For value received from (owner or operator), guarantor guarantees to the Department that in the event that (owner or operator) fails to perform (insert "closure," "post-closure care," or "closure and post-closure care") of the above facility(ies) in accordance with the closure or post-closure plans and other license requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Subdivision H of OAR Chapter 340, Division 104, as applicable, in the name of (owner or operator) in the amount of the current closure or post-closure cost estimates as specified in Subdivision H of OAR Chapter 340, Division 104.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Department and to (owner or operator) that he intends to provide alternate financial assurance as specified in Subdivision H of OAR Chapter 340, Division 104, as applicable, in the name of (owner or operator). Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless (owner or operator) has done so.

6. The guarantor agrees to notify the Department by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the

Department of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in Subdivision H of OAR Chapter 340, Division 104, as applicable, in the name of (owner or operator) unless (owner or operator) has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the license, the extension or reduction of the time of performance of closure or post-closure, or any other modification of alteration of an obligation of the owner or operator pursuant to OAR Chapter 340, Division 104.

9. Guarantor agrees to remain bound under this guarantee for so long as (owner or operator) must comply with the applicable financial assurance requirements of Subdivision H of OAR Chapter 340, Division 104 for the above-listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the Department and to (owner or operator), such cancellation to become effective no earlier than 120 days after receipt of such notice by both the Department and (owner or operator), as evidenced by the return receipts.

10. Guarantor agrees that if (owner or operator) fails to provide alternate financial assurance as specified in Subdivision H of OAR Chapter 340, Division 104, as applicable, and obtain written approval of such assurance from the Department within 90 days after a notice of cancellation by the guarantor is received by the Department from guarantor, guarantor shall provide such alternate financial assurance in the name of (owner or operator).

11. Guarantor expressly waives notice of acceptance of this guarantee

by the Department or by (owner or operator). Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility license(s).

I hereby certify that the wording of this certificate is identical to the wording specified in OAR 340-104-151(8) as such regulations were constituted on the date shown immediately below.

Effective date: _____

(Name of guarantor)

(Authorized signature for guarantor)

(Name of person signing)

(Title of person signing)

Signature of witness or notary: _____

(Date)

(9) A hazardous waste facility liability endorsement as required in rule 340-104-147 must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Hazardous Waste Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under OAR 340-104-147. The coverage applies at (list Identification Number, name, and address for each

facility) for (insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences": if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both). The limits of liability are (insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability), exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in OAR 340-104-147(6).

(c) Whenever requested by the Department, the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Department.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Department.

Attached to and forming part of policy No. ____ issued by (name of Insurer), herein called the Insurer, of (address of Insurer) to (name of insured) of (address) this _____ day of _____, 19___. The effective date of said policy is _____ day of _____, 19__.

I hereby certify that the wording of this certificate is identical to the wording specified in OAR 340-104-151(9) as such regulations was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(Signature of Authorized Representative of Insurer)

(Type name)

(Title), Authorized Representative of (name of Insurer)

(Address of Representative)

(10) A certificate of liability insurance as required in rule 340-104-147 must be worded as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Hazardous Waste Facility Certificate of Liability Insurance

1. (Name of Insurer), (the "Insurer"), of (address of Insurer) hereby certifies that it has issued liability insurance covering bodily injury and property damage to (name of insured), (the "insured"), of (address of insured) in connection with the insured's obligation to demonstrate

financial responsibility under OAR 340-104-147. The coverage applies at (list Identification Number, name, and address for each facility) for (insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences": if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both). The limits of liability are (insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability), exclusive of legal defense costs. The coverage is provided under policy number _____, issued on (date). The effective date of said policy is (date).

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in OAR 340-104-147(6).

(c) Whenever requested by the Department, the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Department.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Department.

I hereby certify that the wording of this certificate is identical to the wording specified OAR 340-104-151(10) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(Signature of Authorized Representative of Insurer)

(Type name)

(Title), Authorized Representative of (name of Insurer)

(Address of Representative)

Subdivision I: Use and Management of Containers

Applicability.

340-104-170 The regulations in this Subdivision apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as rule 340-104-001 provides otherwise.

(Comment: Under rules 340-101-007 and -033(4), if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is "empty" as defined in rule 340-101-007. In that event, management of the container is exempt from the requirements of this Subdivision.)

Condition of containers.

340-104-171 If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this Division.

Compatibility of waste with containers.

340-104-172 The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

Management of containers.

340-104-173 (1) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(2) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(Comment: Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.)

Inspections.

340-104-174 At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

(Comment: See rules 340-104-015(3) and -171 for remedial action required if deterioration or leaks are detected.)

Containment.

340-104-175 (1) Container storage areas must have a containment system that is designed and operated in accordance with section (2) of this rule, except as otherwise provided by section (3) of this rule.

(2) A containment system must be designed and operated as follows:

(a) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected material is detected and

removed;

(b) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(c) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(d) Run-on into the containment system must be prevented, unless the collection system has sufficient excess capacity in addition to that required in subsection (2)(c) of this rule to contain any run-on which might enter the system; and

(e) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(Comment: If the collected material is a hazardous waste under Division 101, it must be managed as a hazardous waste in accordance with all applicable requirements of Divisions 102 to 104. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of Section 402 of the Clean Water Act, as amended.)

(3) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by section (2) of this rule, provided that:

(a) The storage area is sloped and is otherwise designed and operated to drain and remove liquid resulting from precipitation; or

(b) The containers are elevated or are otherwise protected from

contact with accumulated liquids.

Special requirements for ignitable or reactive waste.

340-104-176 Containers holding ignitable or reactive waste must be located at least 50 feet from the facility's property line.

(Comment: See rule 340-104-017(1) for additional requirements.)

Special requirements for incompatible wastes.

340-104-177 (1) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same container, unless rule 340-104-017(2) is complied with.

(2) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

(Comment: As required by rule 340-104-013, the waste analysis plan must include analyses needed to comply with rule 340-104-177. Also, rule 340-104-017(3) requires wastes analyses, trial tests or other documentation to assure compliance with rule 340-104-017(2). As required by rule 340-104-073, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.)

(3) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

(Comment: The purpose of this rule is to prevent fires, explosions,

gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.)

Closure.

340-104-178 At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

(Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with rule 340-101-003(5) that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Divisions 102 to 104.)

Subdivision J: Tanks

Applicability.

340-104-190 (1) The regulations in this Subdivision apply to owners and operators of facilities that use tanks to treat or store hazardous waste, except as rule 340-104-001 provides otherwise;

(Comment: The regulations of this Subdivision apply to facilities that treat or store hazardous waste in covered underground tanks to the extent allowed by normal engineering and operating practices.)

Design of tanks.

340-104-191 (1) Tanks must have sufficient shell strength and, for closed tanks, pressure controls (e.g., vents) to assure that they do not collapse or rupture. The Department will review the design of the tanks, including the foundation, structural support, seams and pressure controls. The Department shall require that a minimum shell thickness be maintained at all times to ensure sufficient shell strength. Factors to be considered in establishing minimum thickness include the width, height, and materials of construction of the tank, and the specific gravity of the waste which will be placed in the tank. In reviewing the design of the tank and establishing a minimum thickness, the Department shall rely upon appropriate industrial design standards and other available information.

(2) Tanks installed after January 1, 1985, must have secondary containment that:

(a) Is sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected material is detected and

removed;

(b) Has sufficient capacity to hold the entire volume of the largest tank; and

(c) Prevents run-on into the containment system unless there is sufficient excess capacity in addition to that required by subsection (2)(b) of this rule to contain it.

General operating requirements.

340-104-192 (1) Wastes and other materials (e.g., treatment reagents) which are incompatible with the material of construction of the tank must not be placed in the tank unless the tank is protected from accelerated corrosion, erosion or abrasion through the use of:

(a) An inner liner or coating which is compatible with the waste or material and which is free of leaks, cracks, holes, or other deterioration; or

(b) Alternative means of protection (e.g., cathodic protection or corrosion inhibitors).

(2) The owner or operator must use appropriate controls and practices to prevent overfilling. These must include:

(a) Controls to prevent overfilling (e.g., waste feed cut-off system or by-pass system to a standby tank); and

(b) For uncovered tanks, maintenance of sufficient freeboard to prevent overtopping by wave or wind action or by precipitation.

Inspections.

340-104-194 (1) The owner or operator must inspect:

(a) Overfilling control equipment (e.g., waste feed cut-off systems and by-pass systems) at least once each operating day to ensure that it is in good working order;

(b) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) where present, at least once each operating day to ensure that the tank is being operated according to its design;

(c) For uncovered tanks, the level of waste in the tank, at least once each operating day, to ensure compliance with rule 340-104-192(2)(b);

(d) The construction materials of the above-ground portions of the tank, at least weekly to detect corrosion or erosion and leaking of fixtures and seams; and

(e) The area immediately surrounding the tank, at least weekly, to detect obvious signs of leakage (e.g., wet spots or dead vegetation).

(2) As part of the inspection schedule required in rule 340-104-015(2) and in addition to the specific requirements of section (1) of this rule, the owner or operator must develop a schedule and procedure for assessing the condition of the tank. The schedule and procedure must be adequate to detect cracks, leaks, corrosion or erosion which may lead to cracks or leaks, or wall thinning to less than the thickness required under rule 340-104-191. Procedures for emptying a tank to allow entry and inspection of the interior must be established when necessary to detect corrosion or erosion of the tank sides and bottom. The frequency of these assessments must be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during previous inspections, and the characteristics of the waste being treated or stored.

(3) As part of the contingency plan required under Subdivision D of this Division, the owner or operator must specify the procedures he intends

to use to respond to tank spills or leakage, including procedures and timing for expeditious removal of leaked or spilled waste and repair of the tank.

(Comment: As required in rule 340-104-015(3), the owner or operator must remedy any leak, crack, or wall thinning in violation of rule 340-104-191, or equipment or process malfunction in violation of rule 340-104-192, which he discovers during inspection. See 29 CFR 1910.94(d)(11) for Occupational Safety and Health Administration requirements relating to entry of tanks for inspection.)

Closure.

340-104-197 At closure, all hazardous waste and hazardous waste residues must be removed from tanks, discharge control equipment, and discharge confinement structures.

(Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with rule 340-101-003(5) that the solid waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Divisions 102 to 104.)

Special requirements for ignitable or reactive wastes.

340-104-198 (1) Ignitable or reactive waste must not be placed in a tank unless:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the tank so that (A) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or

reactive waste under rule 340-101-021 or -023, and (B) rule 340-104-017(2) is complied with; or

(b) The waste is stored or treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react; or

(c) The tank is used solely for emergencies.

(2) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), (incorporated by reference, see 260.11).

Special requirements for incompatible wastes.

340-104-199 (1) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank, unless rule 340-104-017(2) is complied with.

(2) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless rule 340-104-017(2) is complied with.

(Comment: As required by rule 340-104-013, the waste analysis plan must include analyses needed to comply with rule 340-104-199. Also, rule 340-104-017(3) requires wastes analyses, trial tests or other documentation to assure compliance with rule 340-104-017(2). As required by rule 340-104-073, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.)

Subdivision K: Surface Impoundments

Applicability.

340-104-220 The regulations in this Subdivision apply to owners and operators of facilities that use surface impoundments to treat or store hazardous waste, except as rule 340-104-001 provides otherwise.

Design and operating requirements.

340-104-221 (1) A surface impoundment (except for an existing portion of a surface impoundment) must have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility. The liner must be:

(a) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, and the stress of daily operation;

(b) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(c) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(2) The owner or operator will be exempted from the requirements of section (1) of this section if the Department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see rule 340-104-093) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Department will consider:

- (a) The nature and quantity of the wastes;
- (b) The proposed alternate design and operation;
- (c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and groundwater or surface water; and
- (d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) A surface impoundment must be designed, constructed, maintained and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(4) A surface impoundment must have dikes that are designed, constructed and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

(5) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

Double-lined surface impoundments: Exemption from Subdivision F groundwater protection requirements.

340-104-222 (1) The owner or operator of a double-lined surface impoundment is not subject to regulation under Subdivision F of this Division if the following conditions are met:

(a) The impoundment (including its underlying liners) must be located entirely above the seasonal high water table.

(b) The impoundment must be underlain by two liners which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners. Both liners must meet all the specifications of rule 340-104-221(1).

(c) A leak detection system must be designed, constructed, maintained and operated between the liners to detect any migration of liquids into the space between the liners.

(2) If liquid leaks into the leak detection system, the owner or operator must:

(a) Notify the Department of the leak in writing within seven days after detecting the leak; and

(b)(A) Within a period of time specified in the permit, remove accumulated liquid, repair or replace the liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to be best of his knowledge and opinion, the leak has been stopped; or

(B) If a detection monitoring program pursuant to rule 340-104-098 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable

requirements of Subdivision F of this Division within a period of time specified in the permit.

(3) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this rule are satisfied.

Monitoring and inspection.

340-104-226 (1) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from rule 340-104-221(1)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of overtopping control systems;

(b) Sudden drops in the level of the impoundment's contents; and

(c) The presence of liquids in leak detection systems, where installed to comply with rule 340-104-222; and

(d) Severe erosion or other signs of deterioration in dikes or other

containment devices.

(3) Prior to the issuance of a permit, and after any extended period of time (at least six months) during which the impoundment was not in service, the owner or operator must obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

(a) Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(b) Will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

Emergency repairs; contingency plans.

340-104-227 (1) A surface impoundment must be removed from service in accordance with section (2) of this section when:

(a) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(b) The dike leaks.

(2) When a surface impoundment must be removed from service as required by section (1) of this rule, the owner or operator must:

(a) Immediately shut off the flow of or stop the addition of wastes into the impoundment;

(b) Immediately contain any surface leakage which has occurred or is occurring;

(c) Immediately stop the leak;

(d) Take any other necessary steps to stop or prevent catastrophic

failure;

(e) If a leak cannot be stopped by any other means, empty the impoundment; and

(f) Notify the Department of the problem in writing within seven days after detecting the problem.

(3) As part of the contingency plan required in Subdivision D of this Division, the owner or operator must specify a procedure for complying with the requirements of section (2) of this rule.

(4) No surface impoundment that has been removed from service in accordance with the requirements of this rule may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(a) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with rule 340-104-226(3).

(b) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(A) For any existing portion of the impoundment, a liner must be installed in compliance with rule 340-104-221(1) or -222; and

(B) For any other portion of the impoundment, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

(5) A surface impoundment that has been removed from service in accordance with the requirements of this rule and that is not being repaired must be closed in accordance with rule 340-104-228.

Closure and post-closure care.

340-104-228 (1) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless rule 340-101-003(5) applies.

(Comment: The state program is more stringent than the federal program in that it does not permit the closure of surface impoundments with wastes left in place.)

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in section (1) of this rule, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (rule 340-104-310).

(3)(a) The owner or operator of a surface impoundment that does not comply with the liner requirements of rule 340-104-221(1) and is not exempt from them in accordance with rule 340-104-221(2) must:

(A) Include in the closure plan for the surface impoundment under rule 340-104-112 both a plan for complying with section (1) of this rule and a contingency plan for complying with section (2) of this rule in case not all contaminated subsoils can be practicably removed at closure; and

(B) Prepare a contingent post-closure plan under rule 340-104-118 for complying with section (2) of this rule in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under rules 340-104-142 and -144 for closure and post-closure care of a surface impoundment subject to this section must include the cost of complying with the contingent closure

plan and the contingent post-closure plan.

Special requirements for ignitable or reactive waste.

340-104-229 Ignitable or reactive waste must not be placed in a surface impoundment, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under rules 340-101-021 or -023; and

(b) Rule 340-104-017(2) is complied with; or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

(3) The surface impoundment is used solely for emergencies.

Special requirements for incompatible wastes.

340-104-230 Incompatible wastes, or incompatible wastes and materials must not be placed in the same surface impoundment, unless rule 340-104-017(2) is complied with.

Subdivision L: Waste Piles

Applicability.

340-104-250 (1) The regulations in this Subdivision apply to owners and operators of facilities that treat or store hazardous waste in piles, except as rule 340-104-001 provides otherwise.

(2) The regulations in this Subdivision do not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under Subdivision N of this Division (Landfills).

(3) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither runoff or leachate is generated is not subject to regulation under rule 340-104-251 or under Subdivision F of this Division, provided that:

(a) Liquids or materials containing free liquids are not placed in the pile;

(b) The pile is protected from surface water run-on by the structure or in some other manner;

(c) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

(d) The pile will not generate leachate through decomposition or other reactions.

Design and operating requirements.

340-104-251 (1) A waste pile (except for an existing portion of a waste pile) must have:

(a) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility. The liner must be:

(A) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, and the stress of daily operation;

(B) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(C) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained and operated to collect and remove leachate from the pile. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed one foot. The leachate collection and removal system must be:

(A) Constructed of materials that are:

(i) Chemically resistant to the waste managed in the pile and the leachate expected to be generated; and

(ii) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by

any equipment used at the pile; and

(B) Designed and operated to function without clogging through the scheduled closure of the waste pile.

(2) The owner or operator will be exempted from the requirements of section (1) of this rule if the Department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see rule 340-104-093) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Department will consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the pile and groundwater or surface water; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(4) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(5) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(6) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal.

(7) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this rule are satisfied.

Double-lined piles: Exemption from Subdivision F groundwater protection requirements.

340-104-252 (1) The owner or operator of a double-lined waste pile is not subject to regulation under Subdivision F of this Division if the following conditions are met:

(a) The pile (including its underlying liners) must be located entirely above the seasonal high water table.

(b) The pile must be underlain by two liners which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners. Both liners must meet all the specifications of rule 340-104-251(1)(a).

(c) A leak detection system must be designed, constructed, maintained and operated between the liners to detect any migration of liquids into the space between the liners.

(d) The pile must have a leachate collection and removal system above the top liner that is designed, constructed, maintained, and operated in accordance with rule 340-104-251(1)(b).

(2) If liquid leaks into the leak detection system, the owner or operator must:

(a) Notify the Department of the leak in writing within seven days

after detecting the leak; and

(b)(A) Within a period of time specified in the permit, remove accumulated liquid, repair or replace the liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to be best of his knowledge and opinion, the leak has been stopped; or

(B) If a detection monitoring program pursuant to rule 340-104-098 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable requirements of Subdivision F of this Division within a period of time specified in the permit.

(3) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this rule are satisfied.

Inspection of liners: Exemption from Subdivision F groundwater protection requirements.

340-104-253 (1) The owner or operator of a pile is not subject to regulation under Subdivision F of this Division if the following conditions are met:

(a) The pile (including its underlying liners) must be located entirely above the seasonal high water table.

(b) The pile must be underlain by a liner (base) that meets all the specifications of rule 340-104-251(1)(a).

(c) The wastes in the pile must be removed periodically, and the liner must be inspected for deterioration, cracks, or other conditions that may result in leaks. The frequency of inspection will be specified in the

inspection plan required in rule 340-104-015 and must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates, and subsurface stability).

(d) The liner must be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage from equipment used to place waste in or on the pile or to clean and expose the liner surface for inspection.

(e) The pile must have a leachate collection and removal system above the liner that is designed, constructed, maintained, and operated in accordance with rule 340-104-251(1)(b).

(2) If deterioration, a crack, or other condition is identified that is causing or could cause a leak, the owner or operator must:

(a) Notify the Department of the leak in writing within seven days after detecting the condition; and

(b)(A) Repair or replace the liner (base) and obtain a certification from a qualified engineer that, to the best of his knowledge and opinion, the liner (base) has been repaired and leakage will not occur; or

(B) If a detection monitoring program pursuant to rule 340-104-098 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable requirements of Subdivision F of this Division within a period of time specified in the permit.

(3) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this rule are satisfied.

Monitoring and inspection.

340-104-254 (1) During construction and installation, liners (except in the case of existing portions of piles exempt from rule 340-104-251(1)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(b) The presence of liquids in leak detection systems, where installed to comply with rule 340-104-252;

(c) Proper functioning of wind dispersal control systems, where present; and

(d) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

Special requirements for ignitable or reactive waste.

340-104-256 Ignitable or reactive waste must not be placed in a waste pile unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under rule 340-101-021 or -023; and

(b) Rule 340-104-017(2) is complied with; or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

Special requirements for incompatible wastes.

340-104-257 (1) Incompatible wastes, or incompatible wastes and materials must not be placed in the same waste pile, unless rule 340-104-017(2) is complied with.

(2) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks, or surface impoundments must be separated from other materials, or protected from them by means of a dike, berm, wall, or other device.

(3) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with rule 340-104-017(2).

Closure and post-closure care.

340-104-258 (1) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and

equipment contaminated with waste and leachate, and manage them as hazardous waste unless rule 340-101-003(5) applies.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in section (1) of this rule, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (rule 340-104-310).

(3)(a) The owner or operator of a waste pile that does not comply with the liner requirements of rule 340-104-251(1)(a) and is not exempt from them in accordance with rule 340-104-250(3) or -251(2), must:

(A) Include in the closure plan for the pile under rule 340-104-112 both a plan for complying with section (1) of this rule and a contingency plan for complying with section (2) of this rule in case not all contaminated subsoils can be practicably removed at closure; and

(B) Prepare a contingent post-closure plan under rule 340-104-118 for complying with section (2) of this rule in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under rules 340-104-142 and -144 for closure and post-closure care of a pile subject to this section must include the cost of complying with the contingent closure plan and the contingent post-closure plan.

Subdivision M: Land Treatment

Applicability.

340-104-270 The regulations in this Subdivision apply to owners and operators of facilities that treat or dispose of hazardous waste in land treatment facilities, except as rule 340-104-001 provides otherwise.

Treatment program.

340-104-271 (1) An owner or operator subject to this Subdivision must establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The Department will specify in the facility permit the elements of the treatment program, including:

(a) The wastes that are capable of being treated at the unit based on a demonstration under rule 340-104-272;

(b) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with rule 340-104-273(1); and

(c) Unsaturated zone monitoring provisions meeting the requirements of rule 340-104-278.

(2) The Department will specify in the facility permit the hazardous constituents that must be degraded, transformed, or immobilized under this Subdivision. Hazardous constituents are constituents identified in Appendix VIII of Division 101 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) The Department will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be:

- (a) No more than 5 feet from the initial soil surface; and
- (b) More than 3 feet above the seasonal high water table.

Treatment demonstration.

340-104-272 (1) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(2) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under section (1) of this rule, he must obtain a treatment or disposal permit under rule 340-105-063. The Department will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and cleanup activities) necessary to meet the requirements in section (3) of this rule.

(3) Any field test or laboratory analysis conducted in order to make a demonstration under section (1) of this rule must:

(a) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(A) The characteristics of the waste (including the presence of Appendix VIII of Division 101 constituents);

(B) The climate in the area;

(C) The typography of the surrounding area;

(D) The characteristics of the soil in the treatment zone (including depth); and

(E) The operating practices to be used at the unit.

(b) Be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(c) Be conducted in a manner that protects human health and the environment considering:

(A) The characteristics of the waste to be tested;

(B) The operating and monitoring measures taken during the course of the test;

(C) The duration of the test;

(D) The volume of waste used in the test;

(E) In the case of field tests, the potential for migration of hazardous constituents to groundwater or surface water.

Design and operating requirements.

340-104-273 The Department will specify in the facility permit how the owner or operator will design, construct, operate and maintain the land treatment unit in compliance with this rule.

(1) The owner or operator must design, construct, operate and maintain

the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator must design, construct, operate and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under rule 340-104-272. At a minimum, the Department will specify the following in the facility permit:

- (a) The rate and method of waste application to the treatment zone;
 - (b) Measures to control soil pH;
 - (c) Measures to enhance microbial or chemical reactions (e.g., fertilization, tilling, etc.);
 - (d) Measures to control the moisture content of the treatment zone.
- (2) The owner or operator must design, construct, operate and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.
- (3) The owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.
- (4) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.
- (5) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.
- (6) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.
- (7) The owner or operator must inspect the unit weekly and after

storms to detect evidence of:

(a) Deterioration, malfunctions, or improper operation of run-on and run-off control systems; and

(b) Improper functioning of wind dispersal control measures.

Food-chain crops.

340-104-276 The Department may allow the growth of animal feed crops in or on the treatment zone only if the owner or operator satisfies the conditions of this rule. The Department will specify in the facility permit the specific animal feed crops which may be grown.

(Comment: The state program is more stringent than the federal program in that it does not permit crops intended for human consumption to be grown on a land treatment facility.)

(1)(a) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

(A) Will not be transferred to the feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (e.g., by grazing); or

(B) Will not occur in greater concentrations in or on the feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(b) The owner or operator must make the demonstration required under this section prior to the planting of crops at the facility for all constituents identified in Appendix VIII of Division 101 that are

reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(c) In making a demonstration under this section, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(A) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (e.g., pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(B) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods and statistical procedures.

(d) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this section, he must obtain a permit for conducting such activities.

(2) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(a) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(b) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(c) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received

waste at high cadmium application rates and that only animal feed may be grown and in compliance with subsections (2)(a) and (2)(b) of this rule.

Unsaturated zone monitoring.

340-104-278 An owner or operator subject to this Subdivision must establish an unsaturated zone monitoring program to discharge the following responsibilities:

(1) The owner or operator must monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(a) The Department will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under rule 340-104-271(2).

(b) The Department may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under rule 340-104-271(2). PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Department will establish PHCs if he finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation or immobilization of the PHCs will assure treatment at at least equivalent levels for the other hazardous constituents in the wastes.

(2) The owner or operator must install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at

appropriate locations and depths to yield samples that:

(a) Represent the quality of background soil-pore liquid quality and the chemical makeup of soil that has not been affected by leakage from the treatment zone; and

(b) Indicate the quality of soil-pore liquid and the chemical makeup of the soil below the treatment zone.

(3) The owner or operator must establish a background value for each hazardous constituent to be monitored under section (1) of this rule. The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(a) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(b) Background soil-pore liquid values must be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone.

(c) The owner or operator must express all background values in a form necessary for the determination of statistically significant increases under section (6) of this rule.

(d) In taking samples used in the determination of all background values, the owner or operator must use an unsaturated zone monitoring system that complies with subsection (2)(a) of this rule.

(4) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The Department will specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring

in a form necessary for the determination of statistically significant increases under section (6) of this rule.

(5) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical makeup of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

- (a) Sample collection;
- (b) Sample preservation and shipment;
- (c) Analytical procedures; and
- (d) Chain of custody control.

(6) The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under section (1) of this rule below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under section (4) of this rule.

(a) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under section (4) of this rule, to the background value for that constituent according to the statistical procedure specified in the facility permit under this section.

(b) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The Department will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(c) The owner or operator must determine whether there is a

statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The Department will specify a statistical procedure in the facility permit that it finds:

(A) Is appropriate for the distribution of the data used to establish background values; and

(B) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(7) If the owner or operator determines, pursuant to section (6) of this rule, that there is a statistically significant increase of hazardous constituents below the treatment zone, he must:

(a) Notify the Department of his finding in writing within seven days. The notification must indicate what constituents have shown statistically significant increases.

(b) Within 90 days, submit to the Department an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(8) If the owner or operator determines, pursuant to section (6) of this rule, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this section in addition to, or in lieu of, submitting a permit modification application under subsection (7)(b) of this rule, he is not relieved of the requirement to submit a permit modification application within the time specified in

subsection (7)(b) of this rule unless the demonstration made under this section successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this section, the owner or operator must:

(a) Notify the Department in writing within seven days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this section;

(b) Within 90 days, submit a report to the Department demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation.

(c) Within 90 days, submit to the Department an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(d) Continue to monitor in accordance with the unsaturated zone monitoring program established under this rule.

Recordkeeping.

340-104-279 The owner or operator must include hazardous waste application dates and rates in the operating record required in rule 340-104-073.

Closure and post-closure.

340-104-280 (1) During the closure period the owner or operator must:

(a) Continue all operations (including pH control) necessary to

maximize degradation, transformation or immobilization of hazardous constituents within the treatment zone as required under rule 340-104-273(1), except to the extent such measures are inconsistent with subsection (1)(h) of this rule.

(b) Continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under rule 340-104-273(2);

(c) Maintain the run-on control system required under rule 340-104-273(3);

(d) Maintain the run-off management system required under rule 340-104-273(4);

(e) Control wind dispersal of hazardous waste if required under rule 340-104-273(6);

(f) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under rule 340-104-276;

(g) Continue unsaturated zone monitoring in compliance with rule 340-104-278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone; and

(h) Establish a vegetative cover on the portion of the facility being closed at such time the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(2) For the purpose of complying with rule 340-104-115, when closure is completed the owner or operator may submit to the Department certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(3) During the post-closure care period the owner or operator must:

(a) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;

(b) Maintain a vegetative cover over closed portions of the facility;

(c) Maintain the run-on control system required under rule 340-104-273(3);

(d) Maintain the run-off management system required under rule 340-104-273(4);

(e) Control wind dispersal of hazardous waste if required under rule 340-104-273(6);

(f) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under rule 340-104-276; and

(g) Continue unsaturated zone monitoring in compliance with rule 340-104-278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.

(4) The owner or operator is not subject to regulation under sections (1)(h) and (3) of this rule if the Department finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in subsection (4)(c) of this rule. The owner or operator may submit such a demonstration to the Department at any time during the closure or post-closure care periods. For the purposes of this paragraph:

(a) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under rule 340-104-271(2).

(A) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone.

(B) The owner or operator must express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under subsection (4)(c) of this rule.

(b) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of points and at appropriate locations and depths to yield samples that represent the chemical makeup of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(c) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

(A) Is appropriate for the distribution of the data used to establish background values; and

(B) Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(5) The owner or operator is not subject to regulation under Subdivision F of this Division if the Department finds that the owner or operator satisfies section (4) of this rule and if unsaturated zone monitoring under rule 340-104-278 indicates that hazardous constituents

have not migrated beyond the treatment zone during the active life of the land treatment unit.

Special requirements for ignitable or reactive waste.

340-104-281 The owner or operator must not apply ignitable or reactive waste to the treatment zone unless:

(1) The waste is immediately incorporated into the soil so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under rule 340-101-021 or -023; and

(b) Rule 340-104-017(2) is complied with; or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

Special requirements for incompatible wastes.

340-104-282 The owner or operator must not place incompatible wastes, or incompatible wastes and materials, in or on the same treatment zone unless rule 340-104-017(2) is complied with.

Subdivision N: Landfills

Applicability.

340-104-300 The regulations in this Subdivision apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as rule 340-104-001 provides otherwise.

Design and operating requirements.

340-104-301 (1) A landfill (except for an existing portion of a landfill) must have:

(a) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent waste from passing into the liner during the active life of the facility. The liner must be:

(A) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(B) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(C) Installed to cover all surrounding earth likely to be in contact

with the waste or leachate; and

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained and operated to collect and remove leachate from the landfill. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed one foot. The leachate collection and removal system must be:

(A) Constructed of materials that are:

(i) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(ii) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the landfill; and

(B) Designed and operated to function without clogging through the scheduled closure of the landfill.

(2) The owner or operator will be exempted from the requirements of section (1) of this rule if the Department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see rule 340-104-093) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Department will consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and groundwater or surface water; and

(d) All other factors which would influence the quality and mobility

of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(4) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(5) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(6) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(7) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this rule are satisfied.

Double-lined landfills: Exemption from Subdivision F groundwater protection requirements.

340-104-302 (1) The owner or operator of a double-lined landfill is not subject to regulation under Subdivision F of this Division if the following conditions are met:

(a) The landfill (including its underlying liners) must be located entirely above the seasonal high water table.

(b) The landfill must be underlain by two liners which are designed

and constructed in a manner that prevents the migration of liquids into or out of the space between the liners. Both liners must meet all the specifications of rule 340-104-301(1)(a).

(c) A leak detection system must be designed, constructed, maintained and operated between the liners to detect any migration of liquids into the space between the liners.

(d) The pile must have a leachate collection and removal system above the top liner that is designed, constructed, maintained, and operated in accordance with rule 340-104-301(1)(b).

(2) If liquid leaks into the leak detection system, the owner or operator must:

(a) Notify the Department of the leak in writing within seven days after detecting the leak; and

(b)(A) Within a period of time specified in the permit, remove accumulated liquid, repair or replace the liner which is leaking to prevent the migration of liquids through the liner, and obtain a certification from a qualified engineer that, to be best of his knowledge and opinion, the leak has been stopped; or

(B) If a detection monitoring program pursuant to rule 340-104-098 has already been established in the permit (to be complied with only if a leak occurs), begin to comply with that program and any other applicable requirements of Subdivision F of this Division within a period of time specified in the permit.

(c) The Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this rule are satisfied.

Monitoring and inspection.

340-104-303 (1) During construction and installation, liners (except in the case of existing portions of landfills exempt from rule 340-104-301(1)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(b) The presence of liquids in leak detection systems, where installed to comply with rule 340-104-302;

(c) Proper functioning of wind dispersal control systems, where present; and

(d) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

Surveying and recordkeeping.

340-104-309 The owner or operator of a landfill must maintain the

following items in the operating record required under rule 340-104-073;

(1) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(2) The contents of each cell and the approximate location of each hazardous waste type within each cell.

Closure and post-closure.

340-104-310 (1) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(a) Provide long-term minimization of migration of liquids through the closed landfill;

(b) Function with minimum maintenance;

(c) Promote drainage and minimize erosion or abrasion of the cover;

(d) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(e) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) After final closure, the owner or operator must comply with all post-closure requirements contained in rules 340-104-117 to -120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under rule 340-104-117). The owner or operator must:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Maintain and monitor the leak detection system in accordance with

rule 340-104-302, where such a system is present between double liner systems;

(c) Continue to operate the leachate collection and removal system until leachate is no longer detected;

(d) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of Subdivision F of this Division;

(e) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(f) Protect and maintain surveyed benchmarks used in complying with rule 340-104-309.

(3) During the post-closure care period, if liquid leaks into a leak detection system installed under rule 340-104-302, the owner or operator must notify the Department of the leak in writing within seven days after detecting the leak. The Department will modify the permit to require compliance with the requirements of Subdivision F of this Division.

Special requirements for ignitable or reactive waste.

340-104-312 (1) Except as provided in section (2) of this rule, and in rule 340-104-316, ignitable or reactive waste must not be placed in a landfill, unless the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under rule 340-101-021 or -023; and

(b) Rule 340-104-017(2) is complied with.

(2) Ignitable wastes in containers may be landfilled without meeting the requirements of section (1) of this rule, provided that the wastes are

disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

Special requirements for incompatible wastes.

340-104-313 Incompatible wastes, or incompatible wastes and materials, must not be placed in the same landfill cell, unless rule 340-104-017(2) is complied with.

Special requirements for liquid waste.

340-104-314 (1) Bulk or non-containerized liquid waste or waste containing free liquids must not be placed in a landfill, unless:

(a) The landfill has a liner and leachate collection and removal system which meet the requirements of rule 340-104-301(1); or

(b) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically and physically (i.e., by mixing with an absorbent solid), so that free liquids are no longer present.

(2) Containers holding free liquids must not be placed in a landfill unless:

(a) All free-standing liquid: (A) has been removed by decanting, or

other methods; (B) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or (C) has been otherwise eliminated; or

(b) The container is very small, such as an ampule; or

(c) The container is designed to hold free liquids for a use other than storage, such as a battery or capacitor; or

(d) The container is a lab pack as defined in rule 340-104-316 and is disposed of in accordance with rule 340-104-316.

Special requirements for containers.

340-104-315 Unless they are very small, such as an ampule, containers must be either:

(1) At least 90% full when placed in the landfill; or

(2) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

Disposal of small containers of hazardous waste in overpacked drums (lab packs).

340-104-316 Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(1) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type

specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(2) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 and 179) of no more than 110 gallon capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(3) The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with rule 340-104-017(2).

(4) Incompatible wastes, as defined in rule 340-100-010, must not be placed in the same outside container.

(5) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in rule 340-101-023(1)(e), must be treated or rendered non-reactive prior to packaging in accordance with sections (1) through (4) of this rule. Cyanide- and sulfide-bearing waste may be packed in accordance with sections (1) through (4) of this rule without first being treated or rendered non-reactive.

Liquids banned from landfill.

340-104-317 (1) Except as may be permitted by section (3) of this rule or by rules 340-104-314(2)(b) to (d), after January 1, 1985, an owner or operator shall not landfill any liquid waste or the free-liquid portion of any liquid/solid waste mixture containing in excess of 20% free liquid if the waste was initially generated as a liquid or as a liquid/solid

mixture and is identified in section (2) of this rule.

(2)(a) Wastes identified in rules 340-101-033(1) to (3);

(b) Organic pesticides or organic pesticide manufacturing residues identified in rule 340-101-025(1)(a); and

(c) Wastes that are hazardous only because they meet the characteristic of ignitable and contain no Appendix VIII of Division 101 constituent which would reasonably be expected to be present.

(3) The owner or operator may apply for an exemption from section (1) of this rule for a specific waste if he can demonstrate that:

(a) The disposal will not pose a threat to public health or the environment due to the properties or quantity of the waste, characteristics of the landfill, the proposed disposal procedure and other relevant circumstances; and

(b) The waste generator has taken all practicable steps to eliminate or minimize the generation of the waste and to recover, concentrate or render the waste non-hazardous.

(Comment: This rule does not pertain to liquids which become mixed with soil or other debris as the result of a spill.)

Subdivision O: Incinerators

Applicability.

340-104-340 (1) The regulations of this Subdivision apply to owners and operators of facilities that incinerate hazardous waste, except as rule 340-104-001 provides otherwise.

(2) After consideration of the waste analysis included with Part B of the permit application, the Department, in establishing the permit conditions, may exempt the applicant from all requirements of this Subdivision except rule 340-104-341 (Waste analysis) and -351 (Closure);

(a) If the Department finds that the waste to be burned is:

(A) Listed as a hazardous waste in Division 101, Subdivision D, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(B) Listed as a hazardous waste in Division 101, Subdivision D, solely because it is reactive (Hazard Code R) for characteristics other than those listed in rule 340-101-023(1)(d) and (e), and will not be burned when other hazardous wastes are present in the combustion zone; or

(C) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under Division 101, Subdivision C, or

(D) A hazardous waste solely because it possesses any of the reactivity characteristics described by rule 340-101-023(1)(a), (b), (c), (f), (g) and (h), and will not be burned when other hazardous wastes are present in the combustion zone; and

(b) If the waste analysis shows that the wastes contains none of the hazardous constituents listed in Appendix VIII of Division 101, which

would reasonably be expected to be in the waste.

(3) If the waste to be burned is one which is described by paragraphs (2)(a)(A) to (D) of this rule and contains insignificant concentrations of the hazardous constituents listed in Appendix VIII of Division 101, then the Department may, in establishing permit conditions, exempt the applicant from all requirements of this Subdivision, except rule 340-104-341 (Waste analysis) and -351 (Closure), after consideration of the waste analysis included with Part B of the permit application, unless the Department finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(Comment: The Department may require the owner or operator to obtain an Air Contaminant Discharge Permit and such permit may establish standards more stringent than required under this Subdivision.)

Waste analysis.

340-104-341 (1) As a portion of a trial burn plan required by rule 340-105-062, or with Part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by rules 340-105-062(2) or -019. Owners or operators of new hazardous waste incinerators must provide the information required by rules 340-105-062(2) or -019 to the greatest extent possible.

(2) Throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit (under rule 340-104-345(2)).

Principal organic hazardous constituents (POHCs).

340-104-342 (1) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of rule 340-104-343.

(2)(a) One or more POHCs will be specified in the facility's permit, from among those constituents listed in Appendix VIII of Division 101, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(b) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in rule 340-105-062 for obtaining trial burn permits.

Performance standards.

340-104-343 An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under rule 340-104-345, it will meet the following performance standards:

(1) An incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous

constituent (POHC) designated (under rule 340-104-342) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(W_{in} - W_{out})}{W_{in}} \times 100\%$$

Where:

W_{in} = Mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator, and
 W_{out} = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous waste and producing stack emissions of more than 4 pounds per hour of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 4 pounds per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(3) An incinerator burning hazardous waste must not emit particulate matter in excess of 0.08 grains per dry standard cubic foot when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21-Y}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in 40 CFR Part 60, Appendix A (Method 3). The correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Department will select an appropriate correction procedure, to be specified in the facility permit.

Hazardous waste incinerator permits.

340-104-344 (1) The owners or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under rule 340-104-345, except:

(a) In approved trial burns under rule 340-105-062; or

(b) Under exemptions created by rule 340-104-340.

(2) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with Part B of a permit application under rule 340-105-019.

(3) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of this Subdivision, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of rule 340-104-345, sufficient to comply with the following standards:

(a) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in subsection (3)(b) of this rule, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of rule 340-104-343, based on the Department's engineering judgement. The Department may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(b) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of rule 340-104-343 and must be in accordance with the approved trial burn plan;

(c) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Department, the operating requirements must be those most likely to ensure compliance with the performance standards of rule 340-104-343, based on the Department's engineering judgement.

(d) For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in rule 340-105-019(3), as sufficient to ensure compliance with the performance standards of rule 340-104-343.

Operating requirements.

340-104-345 (1) An incinerator must be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in rule 340-104-344(2) and included in Part B of a facility's permit application) to be sufficient to comply with the performance standards of rule 340-104-343.

(2) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of rule 340-104-343) to which the operating

requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

- (a) Carbon monoxide (CO) level in the stack exhaust gas;
- (b) Waste feed rate;
- (c) Combustion temperature;
- (d) An appropriate indicator of combustion gas velocity;
- (e) Allowable variations in incinerator system design or operating procedures; and
- (f) Such other operating requirements as are necessary to ensure that the performance standards of rule 340-104-343 are met.

(3) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with rule 340-104-340) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

(4) Fugitive emissions from the combustion zone must be controlled by:

(a) Keeping the combustion zone totally sealed against fugitive emissions; or

(b) Maintaining a combustion zone pressure lower than atmospheric pressure; or

(c) An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(5) An incinerator must be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under section (1) of this rule.

(6) An incinerator must cease operation when changes in waste feed,

incinerator design, or operating conditions exceed limits designated in its permit.

Monitoring and inspections.

340-104-347 (1) The owner or operator must conduct, as a minimum, the following monitoring while incinerating hazardous waste:

(a) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit must be monitored on a continuous basis.

(b) CO must be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(c) Upon request by the Department, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the performance standards of rule 340-104-343.

(2) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(3) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Department that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(4) This monitoring and inspection data must be recorded and the records must be placed in the operating log required by rule 340-104-073.

Closure.

340-104-351 At closure the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

(Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with rule 340-101-003(5), that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of Divisions 102 to 104.)

Appendix I: Recordkeeping Instructions

The recordkeeping provisions of rule 340-104-073 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping portions of the operating record. See rule 340-104-073(2) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from Division 101 which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in Division 101, Subdivision D, the description also must include the process that produced it (for example, solid filter cake from production of lead pigment, EPA Hazardous Waste Number D008).

Each hazardous waste listed in Division 101, Subdivision D, and each hazardous waste characteristic defined in Division 101, Subdivision C, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1 of

this Appendix;

(3) The method(s) (by handling code(s) as specified in Table 2 of this Appendix) and date(s) of treatment, storage, or disposal.

Table 1

Unit of measure	Symbol ¹	Density
Pounds	P	
Short tons (2000 lb).....	T	
Gallons (U.S.)	G	P/G
Cubic yards	Y	T/Y

¹ Single digit symbols are used here for data processing purposes.

Table 2: Handling Codes for Treatment, Storage, and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. Storage
 - S01 Container (barrel, drum, etc.)
 - S02 Tank
 - S03 Waste pile
 - S04 Surface impoundment
 - S05 Other (specify)

2. Treatment
 - (a) Thermal Treatment
 - T06 Liquid injection incinerator
 - T07 Rotary kiln incinerator
 - T08 Fluidized bed incinerator
 - T09 Multiple hearth incinerator
 - T10 Infrared furnace incinerator
 - T11 Molten salt destructor
 - T12 Pyrolysis
 - T13 Wet Air oxidation
 - T14 Calcination
 - T15 Microwave discharge
 - T16 Cement kiln
 - T17 Lime kiln
 - T18 Other (specify)
 - (b) Chemical Treatment

T19 Absorption mound
 T20 Absorption field
 T21 Chemical fixation
 T22 Chemical oxidation
 T23 Chemical precipitation
 T24 Chemical reduction
 T25 Chlorination
 T26 Chlorinolysis
 T27 Cyanide destruction
 T28 Degradation
 T29 Detoxification
 T30 Ion exchange
 T31 Neutralization
 T32 Ozonation
 T33 Photolysis
 T34 Other (specify)
 (c) Physical Treatment
 (1) Separation of components
 T35 Centrifugation
 T36 Clarification
 T37 Coagulation
 T38 Decanting
 T39 Encapsulation
 T40 Filtration
 T41 Flocculation
 T42 Flotation
 T43 Foaming
 T44 Sedimentation
 T45 Thickening
 T46 Ultrafiltration
 T47 Other (specify)
 (2) Removal of Specific Components
 T48 Absorption-molecular sieve
 T49 Activated carbon
 T50 Blending
 T51 Catalysis
 T52 Crystallization
 T53 Dialysis
 T54 Distillation
 T55 Electrodialysis
 T56 Electrolysis
 T57 Evaporation
 T58 High gradient magnetic separation
 T59 Leaching
 T60 Liquid ion exchange
 T61 Liquid-liquid extraction
 T62 Reverse osmosis
 T63 Solvent recovery
 T64 Stripping
 T65 Sand filter
 T66 Other (specify)
 (d) Biological Treatment
 T67 Activated sludge
 T68 Aerobic lagoon
 T69 Aerobic tank

T70 Anaerobic lagoon
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Tricking filter
T76 Waste stabilization pond
T77 Other (specify)
T78-79 (Reserved)

3. Disposal

D80 Underground injection
D81 Landfill
D82 Land treatment
D83 Ocean disposal
D84 Surface impoundment (to be closed as a landfill)
D85 Other (specify)

Appendix IV: Cochran's Approximation to the Behrens-Fisher

Students' t-test

Using all the available background data (n_B) readings, calculate the background mean (\bar{X}_B) and background variance (s_B^2). For the single monitoring well under investigation (n_M reading), calculate the monitoring mean (X_m) and monitoring variance (s_m^2).

For any set of data ($X_1, X_2 \dots X_n$), the mean is calculated by:

$$\bar{X} = \frac{X_1 + X_2 \dots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 \dots (X_n - \bar{X})^2}{n - 1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The t^* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - \bar{X}_B}{\frac{s_m^2}{n_m} + \frac{s_B^2}{n_B}}$$

If the value of this t-statistic is negative, then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t^* will be compared, necessitates finding t_B and t_m from standard (one-tailed) tables where,

t_B = t-tables with ($n_B - 1$) degrees of freedom, at the 0.05 level of significance.

t_m = t-tables with ($n_m - 1$) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_B and W_m are defined as:

$$W_B = \frac{s_B^2}{n_B} \quad \text{and} \quad W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_B t_B + W_m t_m}{W_B + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase in this specific parameter. If t^* is less than t_c , then conclude that most likely there has not been a change in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase (if the initial t^* had been

negative, this would imply a significant decrease). If t^* is less than t_c , then conclude that there most likely has been no change.

A further discussion of the test may be found in Statistical Methods (6th Edition, Section 4.14) by G. W. Snedecor and W. G. Cochran, or Principles and Procedures of Statistics (1st Edition, Section 5.8) by R. G. D. Steel and J. H. Torrie.

STANDARD T-TABLES 0.05 LEVEL OF SIGNIFICANCE

Degree of freedom	t-values (one-tail)	t-values (two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "Statistical Tables for Biological, Agricultural and Medical Research" (1947, R. A. Fisher and F. Yates)

DIVISION 105

HAZARDOUS WASTE MANAGEMENT

Management Facility Permits

Subdivision A: General

- 340-105-001 Purpose and applicability.
- 340-105-002 & -003 (Reserved)
- 340-105-004 Effect of a permit.

Subdivision B: Permit Application

- 340-105-010 General application requirements.
- 340-105-011 Signatories to permit applications and reports.
- 340-105-012 Confidentiality of information.
- 340-105-013 Contents of Part A of the permit application.
- 340-105-014 Contents of Part B: General requirements.
- 340-105-015 Specific Part B information requirements for containers.
- 340-105-016 Specific Part B information requirements for tanks.
- 340-105-017 Specific Part B information requirements for surface impoundments.
- 340-105-018 Specific Part B information requirements for waste piles.
- 340-105-019 Specific Part B information requirements for incinerators.
- 340-105-020 Specific Part B information requirements for land treatment facilities.
- 340-105-021 Specific Part B information requirements for landfills.

Subdivision C: Permit Conditions

- 340-105-030 Conditions applicable to all permits.
- 340-105-031 Requirements for recording and reporting of monitoring results.
- 340-105-032 Establishing permit conditions.
- 340-105-033 Schedules of compliance.

Subdivision D: Changes to Permits

- 340-105-040 (Reserved)
- 340-105-041 Major modification or revocation and reissuance of permits.
- 340-105-042 Minor modifications of permits.
- 340-105-043 Termination of permits.

Subdivision E: Expiration and Continuation of Permits

- 340-105-050 Duration of permits.
- 340-105-051 Continuation of expiring permits.

Subdivision F: Special Forms of Permits

- 340-105-060 Permits by rule.
- 340-105-061 Emergency permits.
- 340-105-062 Hazardous waste incinerator permits.
- 340-105-063 Permits for land treatment demonstrations using field test or laboratory analysis.
- 340-105-064 Letter of authorization for small-quantity management facilities.

Subdivision G: Fees

- 340-105-070 (Reserved)

Authority: ORS Chapter 468, including 468.020; 459, including 459.440; and 183.

Subdivision A: General

Purpose and applicability.

340-105-001 (1) Coverage. (a) The purpose of this Division is to establish basic permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. These regulations are part of a regulatory scheme implementing Oregon's hazardous waste management program set forth in ORS Chapter 459 and OAR Chapter 340, Divisions 100 to 110.

(b) Technical regulations. The hazardous waste permit program has separate additional regulations that contain technical requirements. These separate regulations are used by the Department to determine what requirements must be placed in permits if they are issued. These separate regulations are located in Division 104 of this Chapter.

(Comment: Although the permit applicant or permittee will interface primarily with the Department as is indicated by these rules, hazardous waste disposal facility permits are technically issued by the Environmental Quality Commission while hazardous waste storage and treatment facility permits are issued by the Department.)

(2) Applicability. The state hazardous waste program requires a permit for the "treatment," "storage" or "disposal" of any "hazardous waste" as identified or listed in Division 101 of this Chapter. The terms "treatment," "storage," "disposal" and "hazardous waste" are defined in rule 340-100-010. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit, and, for any unit which closes after the effective date of these rules, during any post-closure care period required under rule 340-104-117

and during any compliance period specified under rule 340-104-096, including any extension of the compliance period under rule 340-104-096(3).

(a) Specific inclusions. Owners and operators of certain facilities require hazardous waste permits as well as permits under other programs for certain aspects of the facility operation. Hazardous waste permits are required for:

(A) Injection wells that dispose of hazardous waste, and associated surface facilities that treat, store or dispose of hazardous waste (see 40 CFR 270.64). However, the owner and operator with a UIC permit will be deemed to have a hazardous waste permit for the injection well itself if they comply with the requirements of rule 340-105-060(2) (permit-by-rule for injection wells).

(B) Treatment, storage or disposal of hazardous waste at facilities requiring an NPDES permit. However, the owner and operator of a publicly owned treatment works receiving hazardous waste will be deemed to have a hazardous waste permit for that waste if they comply with the requirements of rule 340-105-060(3) (permit-by-rule for POTWs).

(C) Barges or vessels that dispose of hazardous waste by ocean disposal and onshore hazardous waste treatment or storage facilities associated with an ocean disposal operation. However, the owner and operator will be deemed to have a hazardous waste permit for ocean disposal from the barge or vessel itself if they comply with the requirements of rule 340-105-060(1) (permit-by-rule for ocean disposal barges and vessels).

(b) Specific exclusions. The following persons are among those who are not required to obtain a hazardous waste permit:

(A) Generators who accumulate hazardous waste on site for less than 90

days as provided in rule 340-102-034.

(B) Farmers who dispose of hazardous waste pesticides from their own use as provided in rule 340-102-051.

(C) Persons who own or operate facilities solely for the treatment, storage or disposal of hazardous waste excluded from regulations under this Division by rule 340-101-004 or -005 (small generator exemption).

(D) Owners or operators of totally enclosed treatment facilities as defined in rule 340-100-010.

(E) Owners and operators of elementary neutralization units or wastewater treatment units as defined in rule 340-100-010.

(F) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of rule 340-102-030 at a transfer facility for a period of ten days or less.

(G) Persons adding absorbent material to waste in a container and persons adding waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and rules 340-104-017(2), -171 and -172 are complied with.

(c) Further exclusions. (A) A person is not required to obtain a hazardous waste permit for treatment or containment activities taken during immediate response to any of the following situations:

(i) A discharge of a hazardous waste;

(ii) An imminent and substantial threat of a discharge of hazardous waste;

(iii) A discharge of a substance which, when discharged, becomes a hazardous waste.

(B) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this Division for those activities.

(d) Permits for less than an entire facility. The Department may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility.

Effect of a permit.

340-105-004 (1) Compliance with a hazardous waste permit during its term is in addition to compliance, for purposes of enforcement, with ORS Chapter 459 and OAR Chapter 340, Divisions 100 to 110. A permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in rules 340-105-041 and -043.

(2) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(3) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

(4) A permit is personal to the permittee and is non-transferrable.

Subdivision B: Permit Application

General application requirements.

340-105-010 (1) Permit application. Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign and submit an application to the Department as described in this rule. Persons covered by hazardous waste permits-by-rule (rule 340-105-060) need not apply. Procedures for applications, issuance and administration of emergency permits are found exclusively in rule 340-105-061.

(2) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that the owner must also sign the permit application.

(3) Completeness. The Department shall not issue a permit before receiving a complete application for a permit except for permits by rule, or emergency permits. An application for a permit is complete when the Department receives an application form and any supplemental information which are completed to its satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility.

(4) Information requirements. All applicants for hazardous waste permits shall provide information set forth in rule 340-105-013 and applicable rules 340-105-014 to -021 to the Department.

(5) Existing HWM facilities. Owners and operators of existing hazardous waste management facilities must immediately submit both a Part A and Part B permit application to the Department. The Department may allow an owner or operator until November 1, 1984, to complete the Part B

submission.

(6) New HWM facilities. (a) No person shall begin physical construction of a new HWM facility without having submitted Part A and Part B of the permit application and having received a finally effective hazardous waste permit.

(b) An application for a permit for a new HWM facility (including both Part A and Part B) may be filed with the Department any time after promulgation of those standards in Division 104, Subdivision I et seq., applicable to such facility. All applications must be submitted at least 180 days before physical construction is expected to commence.

(7) Reapplication. Any HWM facility with an effective permit shall submit a new application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(8) Recordkeeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under rules 340-105-010(4) and -013 to -021 for a period of at least 3 years from the date the application is signed.

Signatories to permit applications and reports.

340-105-011 (1) Applications. All permit applications shall be signed as follows:

(a) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means (A) a president, secretary, treasurer or vice-president of the corporation in

charge of a principal business function, or any other person who performs similar policy- or decisionmaking functions for the corporation, or (B) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(Comment: The Department does not require specific assignments or delegations of authority to responsible corporate officers identified in rule 340-105-011(1)(a)(A). It will be presumed that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Department to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under 340-105-011(1)(a)(B) rather than to specific individuals.)

(b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(c) For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes: (A) the chief executive officer of the agency, or (B) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(2) Reports. All reports required by permits and other information requested by the Department shall be signed by a person described in section (1) of this rule, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(a) The authorization is made in writing by a person described in section (1) of this rule;

(b) The authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(c) The written authorization is submitted to the Department.

(3) Changes to authorization. If an authorization under section (2) of this rule is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of section (2) of this rule must be submitted to the Department prior to or together with any reports, information or applications to be signed by an authorized representative.

(4) Certification. Any person signing a document under sections (1) or (2) of this rule shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Confidentiality of information.

340-105-012 (1) In accordance with ORS 192.500 and 459.460, any information submitted to the Department pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential, business information," or the equivalent, on each page containing such information. If no claim is made at the time of submission, the Department may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in ORS 192.500 and 459.460.

(2) Claims of confidentiality for the name and address of any permit applicant or permittee will be denied.

(3) Any information submitted to the Department shall be available to the Environmental Protection Agency upon request. If the information has been submitted under a claim of confidentiality, the Department shall make that claim of confidentiality to the Environmental Protection Agency for the requested information. The federal agency shall treat the information that is subject to the confidentiality claim as confidential in accordance with applicable federal law.

Contents of Part A of the permit application.

340-105-013 Part A of the hazardous waste application shall include the following information:

(1) The activities conducted by the applicant which require it to obtain a hazardous waste permit.

(2) Name, mailing address and location, including latitude and

longitude, of the facility for which the application is submitted.

(3) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as federal, state, private, public or other entity.

(5) The name, address and phone number of the owner of the facility.

(6) Whether the facility is located on Indian lands.

(7) An indication of whether the facility is new or existing and whether it is a first or revised application.

(8) For existing facilities, (a) a scale drawing of the facility showing the location of all past, present and future treatment, storage and disposal areas; and (b) photographs of the facility clearly delineating all existing structures, existing treatment, storage and disposal areas, and sites of future treatment, storage and disposal areas.

(9) A description of the processes to be used for treating, storing and disposing of hazardous waste, and the design capacity of these items.

(10) A specification of the hazardous waste listed or designated under Division 101 to be treated, stored or disposed of at the facility, an estimate of the quantity of such wastes to be treated, stored or disposed of annually, and a general description of the processes to be used for such wastes.

(11) A listing of all permits or construction approvals received or applied for under any of the following programs:

(a) Hazardous Waste Management program under RCRA.

(b) UIC program under the SWDA.

(c) NPDES program under the CWA.

(d) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(e) Nonattainment program under the Clean Air Act.

(f) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(g) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(h) Dredge or fill permits under rule 404 of the CWA.

(i) Other relevant environmental permits, including state permits.

(12) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies and drinking water wells listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundary.

(13) A brief description of the nature of the business.

Contents of Part B; general requirements.

340-105-014 (1) Part B of the permit application consists of the general information requirements of this rule, and the specific information requirements in rules 340-105-014 to -021 applicable to the facility. The Part B information requirements presented in rules 340-105-014 to -021 reflect the standards promulgated in Division 104. These information requirements are necessary in order for the Department to determine compliance with the Division 101 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in Part B cannot be provided to the extent required, the Department may make allowance for

submission of such information on a case-by-case basis. Information required in Part B shall be submitted to the Department and signed in accordance with requirements in rule 340-105-011. Certain technical data, such as design drawings and specifications, and engineering studies shall be certified by a registered professional engineer.

(Comment: There is no form for Part B of the application; rather, Part B must be submitted in narrative form and contain the information set forth in the applicable sections of rules 340-105-014 to -021.)

(2) General information requirements. The following information is required for all HWM facilities, except as rule 340-104-001 provides otherwise:

(a) A general description of the facility.

(b) Chemical and physical analyses of the hazardous waste to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store or dispose of the wastes properly in accordance with Division 104 of this Chapter.

(c) A copy of the waste analysis plan required by rule 340-104-013(2) and, if applicable, rule 340-104-013(3).

(d) A description of the security procedures and equipment required by rule 340-104-014, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(e) A copy of the general inspection schedule required by rule 340-104-015(2); Include where applicable, as part of the inspection schedule, specific requirements in rules 340-104-174, -194, -226, -254, -273, -303 and -347.

(f) A justification of any request for a waiver(s) of the preparedness and prevention requirements of Division 104, Subdivision C.

(g) A copy of the contingency plan required by Division 104,

Subdivision D.

(Comment: Include, where applicable, as part of the contingency plan, specific requirements in rule 340-104-227.)

(h) A description of procedures, structures or equipment used at the facility to:

(A) Prevent hazards in unloading operations (for example, ramps, special forklifts);

(B) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

(C) Prevent contamination of water supplies;

(D) Mitigate effects of equipment failure and power outages; and

(E) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing).

(i) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive or incompatible wastes as required to demonstrate compliance with rule 340-104-017 including documentation demonstrating compliance with rule 340-104-017(3).

(j) Traffic patterns, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(k) Facility location information:

(A) and (B) (Reserved);

(C) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance

Administration (FIA) flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating or maintaining the facility to withstand washout from a 100-year flood.

(Comment: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year floodplain elevation would be.)

(D) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(i) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

(ii) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(iii) If applicable, and in lieu of paragraphs (2)(k)(D)(i) and (ii) above, a detailed description of procedures to be followed to remove

hazardous waste to safety before the facility is flooded, including:

(I) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

(II) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under Divisions 104 to 106 or other applicable hazardous waste regulations.

(III) The planned procedures, equipment and personnel to be used and the means to ensure that such resources will be available in time for use.

(IV) The potential for accidental discharges of the wastes during movement.

(E) Existing facilities not in compliance with rule 340-104-018(2) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(l) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with rule 340-104-016. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in rule 340-104-016(1)(c).

(m) A copy of the closure plan and, where applicable, the post-closure plan required by rules 340-104-112 and -118. Include, where applicable, as part of the plans, specific requirements in rules 340-104-178, -197, -228, -258, -280, -310 and -351.

(n) For existing facilities, documentation that a notice has been placed in the deed or appropriate alternate instrument as required by rule 340-104-120.

(o) The most recent closure cost estimate for the facility prepared in accordance with rule 340-104-142 plus a copy of the financial assurance mechanism adopted in compliance with rule 340-104-143.

(p) Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with rule 340-104-144 plus a copy of the financial assurance mechanism adopted in compliance with rule 340-104-145.

(q) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of rule 340-104-147. For a new facility, documentation showing the amount of insurance meeting the specification of rule 340-104-147(1) and, if applicable, rule 340-104-147(2), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in rule 340-104-147(3).

(r) (Reserved).

(s) A topographic map showing a distance of 1,000 feet around the facility at a scale of 1 inch equal to not more than 200 feet. Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 5 feet, if relief is greater than 20 feet, or an interval of 2 feet, if relief is less than 20 feet. Owners and operators of HWM facilities located in mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

(A) Map scale and date.

- (B) 100-year floodplain area.
- (C) Surface waters including intermittent streams.
- (D) Surrounding land uses (residential, commercial, agricultural, recreational).
- (E) A wind rose (i.e., prevailing windspeed and direction).
- (F) Orientation of the map (north arrow).
- (G) Legal boundaries of the HWM facility site.
- (H) Access control (fences, gates).
- (I) Injection and withdrawal wells both on-site and off-site.
- (J) Buildings; treatment, storage or disposal operations; or other structure (recreation areas, runoff control systems, access and internal roads, storm, sanitary and process sewerage systems, loading and unloading areas, fire control facilities, etc.).
- (K) Barriers for drainage or flood control.
- (L) Location of operational units within the HWM facility site, where hazardous waste is (or will be) treated, stored or disposed (include equipment cleanup areas).

(Comment: For large HWM facilities the Department will allow the use of other scales on a case-by-case basis.)

(t) Other information pertinent to the facility as may be requested by the Department.

(3) Additional information requirements. The following additional information regarding protection of groundwater is required from owners or operators of hazardous waste surface impoundments, piles, land treatment units and landfills except as otherwise provided in rule 340-104-090(2):

(a) A summary of the groundwater monitoring data obtained prior to submission of the Part B application, where applicable.

(b) Identification of the uppermost aquifer and aquifers hydraulically

interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area).

(c) On the topographic map required under subsection (2)(s) of this rule, a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under rule 340-104-095, the proposed location of groundwater monitoring wells as required under rule 340-104-097, and, to the extent possible, the information required in subsection (3)(b) of this rule.

(d) A description of any plume of contamination that has entered the groundwater from a regulated unit at the time that the application was submitted that:

(A) Delineates the extent of the plume on the topographic map required under subsection (2)(s) of this rule;

(B) Identifies the concentration of each Appendix VIII of Division 101 constituent throughout the plume or identifies the maximum concentrations of each Appendix VIII constituent in the plume.

(e) Detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of rule 340-104-097.

(f) If the presence of hazardous constituents has not been detected in the groundwater at the time of permit application, the owner or operator must submit sufficient information, supporting data and analyses to establish a detection monitoring program which meets the requirements of rule 340-104-098. This submission must address the following items specified under rule 340-104-098:

(A) A proposed list of indicator parameters, waste constituents or

reaction products that can provide a reliable indication of the presence of hazardous constituents in the groundwater;

(B) A proposed groundwater monitoring system;

(C) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(D) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(g) If the presence of hazardous constituents has been detected in the groundwater at the point of compliance at the time of permit application, the owner or operator must submit sufficient information, supporting data and analyses to establish a compliance monitoring program which meets the requirements of rule 340-104-099. The owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of rule 340-104-100, except as provided in rule 340-104-098(8)(e). To demonstrate compliance with rule 340-104-099, the owner or operator must address the following items:

(A) A description of the wastes previously handled at the facility;

(B) A characterization of the contaminated groundwater, including concentrations of hazardous constituents;

(C) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with rules 340-104-097 and -099;

(D) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in rule 340-104-094(1), including a justification for establishing any alternate concentration limits;

(E) Detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of rule 340-104-097; and

(F) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(h) If hazardous constituents have been measured in the groundwater which exceed the concentration limits established under Table 1 of rule 340-104-094, or if groundwater monitoring conducted at the time of permit application under rules 340-104-090 to -094 at the point of compliance indicates the presence of hazardous constituents from the facility in groundwater over background concentrations, the owner or operator must submit sufficient information, supporting data and analyses to establish a corrective action program which meets the requirements of rule 340-104-100. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the Department that alternate concentration limits will protect human health and the environment after considering the criteria listed in rule 340-104-094(2). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of rule 340-104-099 and subsection (3)(f) of this rule. To demonstrate compliance with rule 340-104-100, the owner or operator must address, at a minimum, the following items:

(A) A characterization of the contaminated groundwater, including concentrations of hazardous constituents;

(B) The concentration limit for each hazardous constituent found in the groundwater as set forth in rule 340-104-094;

(C) Detailed plans and an engineering report describing the corrective action to be taken; and

(D) A description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.

Specific Part B information requirements for containers.

340-105-015 Except as otherwise provided in rule 340-104-170, owners or operators of facilities that store containers of hazardous waste must provide the following additional information:

(1) A description of the containment system to demonstrate compliance with rule 340-104-175. Show at least the following:

(a) Basic design parameters, dimensions and materials of construction.

(b) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

(c) Capacity of the containment system relative to the number and volume of containers to be stored.

(d) Provisions for preventing or managing run-on.

(e) How accumulated liquids can be analyzed and removed to prevent overflow.

(2) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with rule 340-104-175(3), including:

(a) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

(b) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(3) Sketches, drawings or data demonstrating compliance with rule 340-104-176 (location of buffer zone and containers holding ignitable or reactive wastes) and rule 340-104-177(3) (location of incompatible wastes), where applicable.

(4) Where incompatible wastes are stored or otherwise managed in

containers, a description of the procedures used to ensure compliance with rules 340-104-177(1) and (2), and -017(2) and (3).

Specific Part B information requirements for tanks.

340-105-016 Except as otherwise provided in rule 340-104-190, owners or operators of facilities that use tanks to store or treat hazardous waste must provide a description of design and operation procedures which demonstrate compliance with the requirements of rules 340-104-191, -192, -198 and -199 including:

(1) References to design standards or other available information used (or to be used) in design and construction of the tank.

(2) A description of design specifications including identification of construction materials and lining materials (include pertinent characteristics such as corrosion or erosion resistance).

(3) Tank dimensions, capacity and shell thickness.

(4) A diagram of piping, instrumentation and process flow.

(5) Description of feed systems, safety cutoff, bypass systems and pressure controls (e.g., vents).

(6) Description of procedures for handling incompatible ignitable, or reactive wastes, including the use of buffer zones.

Specific Part B information requirements for surface impoundments.

340-105-017 Except as otherwise provided in rule 340-104-001, owners or operators of facilities that store, treat or dispose of hazardous waste in surface impoundments must provide the following additional information:

(1) A list of the hazardous wastes placed or to be placed in each

surface impoundment;

(2) Detailed plans and an engineering report describing how the surface impoundment is or will be designed, constructed, operated and maintained to meet the requirements of rule 340-104-221. This submission must address the following items as specified in rule 340-104-221:

(a) The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by rule 340-104-221(2), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time;

(b) Prevention of overtopping; and

(c) Structural integrity of dikes;

(3) If any exemption from Subdivision F of Division 104 is sought, as provided by rule 340-104-222(1), detailed plans and an engineering report explaining the location of the saturated zone in relation to the surface impoundment, and the design of a double-liner system that incorporates a leak detection system between the liners;

(4) A description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of rule 340-104-226(1) and (2). This information should be included in the inspection plan submitted under rule 340-105-014(2)(e);

(5) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under rule 340-104-226(3). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of

construction in accordance with the plans and specifications;

(6) A description of the procedure to be used for removing a surface impoundment from service, as required under rule 340-104-227(2) and (3). This information should be included in the contingency plan submitted under rule 340-105-014(2)(g);

(7) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under rule 340-104-228(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how rule 340-104-228(2) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under rule 340-105-014(2)(m);

(8) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how rule 340-104-229 will be complied with;

(9) If incompatible wastes, or incompatible wastes and materials, will be placed in a surface impoundment, an explanation of how rule 340-104-230 will be complied with.

Specific Part B information requirements for waste piles.

340-105-018 Except as otherwise provided in rule 340-104-001, owners or operators of facilities that store or treat hazardous waste in waste piles must provide the following additional information:

(1) A list of the hazardous wastes placed or to be placed in each waste pile;

(2) If an exemption is sought to rule 340-104-251, and Subdivision F of Division 104 as provided by rule 340-104-250(3), an explanation of how the standards of rule 340-104-250(3) will be complied with;

(3) Detailed plans and an engineering report describing how the pile is or will be designed, constructed, operated and maintained to meet the requirements of rule 340-104-251. This submission must address the following items as specified in rule 340-104-251:

(a) The liner system (except for an existing portion of a pile). If an exemption from the requirement for a liner is sought as provided by rule 340-104-251(2), the owner or operator must submit detailed plans and engineering and hydrogeologic reports, as applicable, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time;

(b) Control of run-on;

(c) Control of run-off;

(d) Management of collection and holding units associated with run-on and run-off control systems; and

(e) Control of wind dispersal of particulate matter, where applicable;

(4) If an exemption from Subdivision F of Division 104 is sought as provided by rule 340-104-252 or -253, submit detailed plans and an engineering report describing how the requirements of rule 340-104-252(1) or -253(1) will be complied with;

(5) A description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of rules 340-104-254(1) and (2). This information should be included in the inspection plan submitted under rule 340-105-014(2)(e). If an exemption is sought to Subdivision F of Division 104 pursuant to rule 340-104-253, describe in the inspection plan how the inspection requirements of rule 340-104-253(1)(c) will be complied with;

(6) If treatment is carried out on or in the pile, details of the

process and equipment used, and the nature and quality of the residuals;

(7) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of rule 340-104-256 will be complied with;

(8) If incompatible wastes, or incompatible wastes and materials, will be placed in a waste pile, an explanation of how rule 340-104-257 will be complied with;

(9) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under rule 340-104-258(1). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how rules 340-104-310(1) and (2) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under rule 340-105-014(2)(m).

Specific Part B information requirements for incinerators.

340-105-019 Except as rule 340-104-340 provides otherwise, owners and operators of facilities that incinerate hazardous waste must fulfill the requirements of sections (1), (2) or (3) of this rule.

(1) When seeking an exemption under rule 340-104-340(2) or (3) (ignitable, corrosive or reactive wastes only):

(a) Documentation that the waste is listed as a hazardous waste in Subdivision D of Division 101 solely because it is ignitable (Hazard Code I) or corrosive (Hazard Code C) or both; or

(b) Documentation that the waste is listed as a hazardous waste in Subdivision D of Division 101 solely because it is reactive (Hazard Code R)

for characteristics other than those listed in rules 340-101-023(1)(d) and (e), and will not be burned when other hazardous wastes are present in the combustion zone; or

(c) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous waste under Subdivision C of Division 101; or

(d) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in rules 340-101-023(1)(a), (b), (c), (f), (g) or (h), and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(2) Submit a trial burn plan or the results of a trial burn, including all required documentations, in accordance with rule 340-105-062; or

(3) In lieu of a trial burn, the applicant may submit the following information:

(a) An analysis of each waste or mixture of wastes to be burned including:

(A) Heat value of the waste in the form and composition in which it will be burned.

(B) Viscosity (if applicable), or description of physical form of the waste.

(C) An identification of any hazardous organic constituents listed in Appendix VIII of Division 101, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Appendix VIII of Division 101 which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the

Evaluation of Solid Waste, Physical/Chemical Methods" (EPA SW-846, 7/82), or their equivalent.

(D) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (EPA SW-846, 7/82).

(E) A quantification of those hazardous constituents in the waste which may be designated as POHCs based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in rule 340-104-343.

(b) A detailed engineering description of the incinerator, including:

(A) Manufacturer's name and model number of incinerator.

(B) Type of incinerator.

(C) Linear dimension of incinerator unit including cross sectional area of combustion chamber.

(D) Description of auxiliary fuel system (type/feed).

(E) Capacity of prime mover.

(F) Description of automatic waste feed cutoff system(s).

(G) Stack gas monitoring and pollution control monitoring system.

(H) Nozzle and burner design.

(I) Construction materials.

(J) Location and description of temperature, pressure and flow indicating devices and control devices.

(c) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in subsection (3)(a) of this rule. This analysis should specify the POHCs which the applicant has identified in the

waste for which a permit is sought, and any differences from the POHCs in the waste for which burn data are provided.

(d) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(e) A description of the results submitted from any previously conducted trial burn(s) including:

(A) Sampling and analysis techniques used to calculate performance standards in rule 340-104-343.

(B) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement).

(f) The expected incinerator operation information to demonstrate compliance with rule 340-104-343 and -345 including:

(A) Expected carbon monoxide (CO) level in the stack exhaust gas.

(B) Waste feed rate.

(C) Combustion zone temperature.

(D) Indication of combustion gas velocity.

(E) Expected stack gas volume, flow rate and temperature.

(F) Computed residence time for waste in the combustion zone.

(G) Expected hydrochloric acid removal efficiency.

(H) Expected fugitive emission and their control procedures.

(I) Proposed waste feed cutoff limits based on the identified significant operating parameters.

(g) Such supplemental information as the Department finds necessary to achieve the purposes of this paragraph.

(h) Waste analysis data, including that submitted in subsection (3)(a) of this rule, sufficient to allow the Department to specify as permit

Principal Organic Hazardous Constituents (permit POHCs) those constituents for which destruction and removal efficiencies will be required.

(4) The Department shall approve a permit application without a trial burn if it finds that:

(a) The wastes are sufficiently similar; and

(b) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under rule 340-104-345) operating conditions that will ensure that the performance standards in rule 340-104-343 will be met by the incinerator.

Specific Part B information requirements for land treatment facilities.

340-105-020 Except as otherwise provide in rule 340-104-001, owners and operators of facilities that use land treatment to dispose of hazardous waste must provide the following additional information:

(1) A description of plans to conduct a treatment demonstration as required under rule 340-104-272. The description must include the following information:

(a) The wastes for which the demonstration will be made and the potential hazardous constituents in the waste;

(b) The data sources to be used to make the demonstration (e.g., literature, laboratory data, field data or operating data);

(c) Any specific laboratory or field test that will be conducted, including:

(A) The type of test (e.g., column leaching, degradation);

(B) Materials and methods, including analytical procedures;

(C) Expected time for completion;

(D) Characteristics of the unit that will be simulated in the

demonstration, including treatment zone characteristics, climatic conditions and operating practices.

(2) A description of a land treatment program, as required under rule 340-104-271. This information must be submitted with the plans for the treatment demonstration, and updated following the treatment demonstration. The land treatment program must address the following items:

(a) The wastes to be land treated;

(b) Design measures and operating practices necessary to maximize treatment in accordance with rule 340-104-273(1) including:

(A) Waste application method and rate;

(B) Measures to control soil pH;

(C) Enhancement of microbial or chemical reactions;

(D) Control of moisture content;

(e) Provisions for unsaturated zone monitoring, including:

(A) Sampling equipment, procedures and frequency;

(B) Procedures for selecting sampling locations;

(C) Analytical procedures;

(D) Chain of custody control;

(E) Procedures for establishing background values;

(F) Statistical methods for interpreting results;

(G) The justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in rule 340-104-278(1);

(d) A list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to rule 340-104-013;

(e) The proposed dimensions of the treatment zone;

(3) A description of how the unit is or will be designed, constructed, operated and maintained in order to meet the requirements of rule 340-104-273. This submission must address the following items:

(a) Control of run-on;

(b) Collection and control of run-off;

(c) Minimization of run-off of hazardous constituents from the treatment zone;

(d) Management of collection and holding facilities associated with run-on and run-off control systems;

(e) Periodic inspection of the unit. This information should be included in the inspection schedule submitted under rule 340-105-014(2)(e);

(f) Control of wind dispersal of particulate matter, if applicable;

(4) If animal feed crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under rule 340-104-276(1) will be conducted including:

(a) Characteristics of the animal feed crops for which the demonstration will be made;

(b) Characteristics of the waste, treatment zone and waste application method and rate to be used in the demonstration;

(c) Procedures for crop growth, sample collection, sample analysis and data evaluation;

(d) Characteristics of the comparison crop including the location and conditions under which it was or will be grown;

(5) If animal feed crops are to be grown, and cadmium is present in the land-treated waste, a description of how the requirements of rule 340-104-276(2) will be complied with;

(6) A description of the vegetative cover to be applied to closed

portions of the facility, and a plan for maintaining such cover during the post-closure care period, as required under rules 340-104-280(1)(h) and -280(3)(b). This information should be included in the closure plan and, where applicable, the post-closure care plan submitted under rule 340-105-014(2)(m);

(7) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of the requirements of rule 340-104-281 will be complied with;

(8) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how rule 340-104-282 will be complied with.

Specific Part B information requirements for landfills.

340-105-021 Except as otherwise provided in rule 340-104-001, owners and operators of facilities that dispose of hazardous waste in landfills must provide the following additional information:

(1) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;

(2) Detailed plans and an engineering report describing how the landfill is or will be designed, constructed, operated and maintained to comply with the requirements of rule 340-104-301. This submission must address the following items as specified in rule 340-104-301:

(a) The liner system and leachate collection and removal system (except for an existing portion of a landfill). If an exemption from the requirements for a liner and leachate collection and removal system is sought as provided by rule 340-104-301(2), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate

design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituent into the groundwater or surface water at any future time;

(b) Control of run-on;

(c) Control of run-off;

(d) Management of collection and holding facilities associated with run-on and run-off control systems; and

(e) Control of wind dispersal of particulate matter, where applicable;

(3) If an exemption from Subdivision F of Division 104 is sought as provided by rule 340-104-302(1), the owner or operator submit detailed plans and an engineering report explaining the location of the saturated zone in relation to the landfill, the design of a double-liner system that incorporates a leak detection system between the liners, and a leachate collection and removal system above the liners;

(4) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of rules 340-104-303(1) and (2). This information should be included in the inspection plan submitted under rule 340-105-014(2)(e).

(5) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with rule 340-104-310(1), and a description of how each landfill will be maintained and monitored after closure in accordance with rule 340-104-310(2). This information should be included in the closure and post-closure plans submitted under rule 340-105-014(2)(m).

(6) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of rule 340-104-312 will be complied with;

(7) If incompatible wastes, or incompatible wastes and materials, will be landfilled, an explanation of how rule 340-104-313 will be complied

with;

(8) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled, an explanation of how the requirements of rule 340-104-314 will be complied with;

(9) If containers of hazardous waste are to be landfilled, an explanation of how the requirements of rule 340-104-315 or -316, as applicable, will be complied with.

Subdivision C: Permit Conditions

Conditions applicable to all permits.

340-105-030 The following conditions apply to all hazardous waste permits, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit.

(1) Duty to comply. The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See rule 340-105-061.) Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of ORS Chapter 459 and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(2) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(3) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate. In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(5) Proper operation and maintenance. The permittee shall at all

times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) Permit actions. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) Property rights. The permit does not convey any property rights of any sort, or any exclusive privilege.

(8) Duty to provide information. The permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

(9) Inspection and entry. The permittee shall allow the Department, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

(a) Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records

must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required by this permit; and

(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by law, any substances or parameters at any location.

(10) Monitoring and records. (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and, for disposal facilities, for the post-closure care period as well.

(c) Records for monitoring information shall include:

(A) The date, exact place and time of sampling or measurements;

(B) The individual(s) who performed the sampling or measurements;

(C) The date(s) analyses were performed;

(D) The individual(s) who performed the analyses;

(E) The analytical techniques or methods used; and

(F) The results of such analyses.

(11) Signatory requirements. All applications, reports or information submitted to the Department shall be signed and certified (see rule 340-105-011).

(12) Reporting requirements. (a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility.

(b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store or dispose of hazardous waste in the modified portion of the facility, until:

(A) The permittee has submitted to the Department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(B) The Department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit.

(c) Transfers. The permit is personal to the permittee and is non-transferable.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(f) Immediate reporting. (A) The permittee shall immediately report any noncompliance which may endanger health or the environment as soon as he becomes aware of the circumstances, including:

(i) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(ii) Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

(B) The description of the occurrence and its cause shall include:

(i) Name, address and telephone number of the owner or operator;

(ii) Name, address and telephone number of the facility;

(iii) Date, time and type of incident;

(iv) Name and quantity of material(s) involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

(C) A written report shall also be provided within 15 days of the time the permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.

(g) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee must

submit a letter report, including a copy of the manifest, to the Department (see rule 340-104-072).

(h) Unmanifested waste report: This report must be submitted to the Department within 15 days of receipt of unmanifested waste (see rule 340-104-076).

(i) Periodic report: A periodic report must be submitted covering facility activities on an appropriate schedule (see rule 340-104-075).

(j) Other noncompliance. The permittee shall report all instances of noncompliance not reported under subsections (12)(d), (e) and (f) of this rule, at the time monitoring reports are submitted. The reports shall contain the information listed in subsection (12)(f) of this rule.

(k) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

Requirements for recording and reporting of monitoring results.

340-105-031 All permits shall specify:

(1) Requirements concerning the proper use, maintenance and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(2) Required monitoring including type, intervals and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(3) Applicable reporting requirements based upon the impact of the regulated activity and as specified in Division 104. Reporting shall be no less frequent than specified in the above regulations.

Establishing permit conditions.

340-105-032 (1) In addition to conditions required in all permits (rule 340-105-030), the Department shall establish conditions, as required on a case-by-case basis, in permits under rules 340-105-050 (duration of permits), -033 (schedules of compliance) and -031 (monitoring).

(2) Each hazardous waste permit shall include permit conditions necessary to achieve compliance with state statutes and regulations, including each of the applicable requirements specified in Division 104. In satisfying this provision, the Department may incorporate applicable requirements of Division 104 directly into the permit or establish other permit conditions that are based on this Division.

(3) An applicable requirement is a state statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. An applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in rule 340-105-041.

(4) New or reissued permits, and to the extent allowed under rule 340-105-041, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this rule and in rule 340-105-031.

(5) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporation by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

Schedules of compliance.

340-105-033 The permit may, when appropriate, specify a schedule of compliance leading to compliance with state statutes and regulations.

(1) Time for compliance. Any schedules of compliance under this rule shall require compliance as soon as possible.

(2) Interim dates. If a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(a) The time between interim dates shall not exceed 1 year.

(b) If the time necessary for completion of an interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(3) Reporting. The permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Department in writing, of its compliance or noncompliance with the interim or final requirements.

Subdivision D: Changes to Permits

Major modifications or revocation and reissuance of permits.

340-105-041 When the Department receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see rule 340-105-030), receives a request for modification or revocation and reissuance under rule 340-106-005, or conducts a review of the permit file), it may determine whether or not one or more of the causes listed in sections (1) and (2) of this rule for modification, or revocation and reissuance or both exist. If cause exists, the Department may modify or revoke and reissue the permit accordingly, subject to the limitations of section (3) of this rule, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term (see rule 340-106-005(3)(b)). If a permit modification satisfies the criteria in rule 340-105-042 for a minor modification, the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in Division 106 followed.

(1) Causes for modification. The following are causes for modification, but not revocation and reissuance, of permits; the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees:

(a) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are

different or absent in the existing permit.

(b) Information. The Department has received information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance or test methods) and would have justified the application of different permit conditions at the time of issuance.

(c) New regulations. The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

(d) Compliance schedules. The Department determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(e) The Department may also modify a permit:

(A) When modification of a closure plan is required under rule 340-104-112(2) or -118(2).

(B) After the Department receives the notification of expected closure under rule 340-104-113, when the Department determines that extension of the 90- or 180-day periods under rule 340-104-113, modification of the 30-year post-closure period under rule 340-104-117(1), continuation of security requirements under rule 340-104-117(2), or permission to disturb the integrity of the containment system under rule 340-104-117(3) are unwarranted.

(C) When the permittee has filed a request under rule 340-104-147(3) for a variance to the level of financial responsibility or when the Department demonstrate under rule 340-104-147(4) that an upward adjustment of the level of financial responsibility is required.

(D) When the corrective action program specified in the permit under rule 340-104-100 has not brought the regulated unit into compliance with the groundwater protection standard within a reasonable period of time.

(E) To include a detection monitoring program meeting the requirements of rule 340-104-098, when the owner or operator has been conducting a compliance monitoring program under rule 340-104-099 or a corrective action program under rule 340-104-100 and compliance period ends before the end of the post-closure care period for the unit.

(F) When a permit requires a compliance monitoring program under rule 340-104-099, but monitoring data collected prior to permit issuance indicate that the facility is exceeding the groundwater protection standard.

(G) To include conditions applicable to units at a facility that were not previously included in the facility's permit.

(H) When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

(2) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(a) Cause exists for termination under rule 340-105-043, and the Department determines that modification or revocation and reissuance is appropriate.

(3) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

Minor modifications of permits.

340-105-042 Upon the consent of the permittee, the Department may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this rule, without following the procedures of Division 106. Any permit modification not processed as a minor modification under this rule must be made for cause and with Division 106 draft permit and public notice as required in rule 340-105-041. Minor modifications may only:

- (1) Correct typographical errors;
- (2) Require more frequent monitoring or reporting by the permittee;
- (3) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
- (4) (Reserved).
- (5) Change the lists of facility emergency coordinators or equipment in the permit's contingency plan;
- (6) Change estimates of maximum inventory under rule 340-104-112(1)(b);
- (7) Change estimates of expected year of closure or schedules for final closure under rule 340-104-112(1)(d);
- (8) Approve periods longer than 90 days or 180 days under rule 340-104-113(1) and (2);
- (9) Change the ranges of the operating requirements set in the permit to reflect the results in the trial burn, provided that the change is minor;
- (10) Change the operating requirements set in the permit for

conducting a trial burn, provided that the change is minor;

(11) Grant one extension of the time period for determining operational readiness following completion of construction, for up to 720 hours operating time for treatment of hazardous waste;

(12) Change the treatment program requirements for land treatment units under rule 340-104-271 to improve treatment of hazardous constituents, provided that the change is minor;

(13) Change any conditions specified in the permit for land treatment units to reflect the results of field tests or laboratory analyses used in making a treatment demonstration in accordance with rule 340-105-063, provided that the change is minor; and

(14) Allow a second treatment demonstration for land treatment to be conducted when the results of the first demonstration have not shown the conditions under which the waste or wastes can be treated completely as required by rule 340-104-272(1), provided that the conditions for the second demonstration are substantially the same as the conditions for the first demonstration.

Termination of permits.

340-105-043 (1) The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(a) Noncompliance by the permittee with any condition of the permit;

(b) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(c) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit

modification or termination.

(2) The Department shall follow the applicable procedures in Division 106 in terminating any permit under this rule.

Subdivision E: Expiration and Continuation of Permits

Duration of permits.

340-105-050 (1) Hazardous waste permits shall be effective for a fixed term not to exceed 10 years.

(2) Except as provided in rule 340-105-051, the term of a permit shall not be extended by modification beyond the maximum duration specified in this rule.

(3) A permit may be issued for a duration that is less than the full allowable term under this rule.

Continuation of expiring permits.

340-105-051 (1) The conditions of an expired permit continue in force until the effective date of a new permit if:

(a) The permittee has submitted a timely application under rule 340-105-014 and the applicable sections in rules 340-105-015 to -021 which is a complete (under rule 340-105-010(3)) application for a new permit; and

(b) The Department through no fault of the permittee, does not issue a new permit with an effective date under rule 340-106-015 on or before the expiration date of the previous permit (for example, when issuance is impractical due to time or resource constraints).

(2) Effect. Permits continued under this rule remain fully effective and enforceable.

Subdivision F: Special Forms of Permits

Permits by rule.

340-105-060 Notwithstanding any other provision of this Division or Division 106, the following shall be deemed to have a hazardous waste permit if the conditions listed are met:

(1) Ocean disposal barges or vessels. The owner or operator of a barge or other vessel which accepts hazardous waste for ocean disposal, if the owner or operator:

(a) Has a permit for ocean dumping issued under 40 CFR 220 (Ocean Dumping, authorized by the Marine Protection, Research and Sanctuaries Act, as amended, 33 U.S.C. 1420 et seq.);

(b) Complies with the conditions of that permit; and

(c) Complies with the following hazardous waste regulations:

(A) Rule 340-104-011, Identification number;

(B) Rule 340-104-071, Use of manifest system;

(C) Rule 340-104-072, Manifest discrepancies;

(D) Rule 340-104-073(1) and (2)(a), Operating record;

(E) Rule 340-104-075, Periodic report; and

(F) Rule 340-104-076, Unmanifested waste report.

(2) Injection wells. The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(a) Has a permit for underground injection issued under 40 CFR Part 144 or 145 (or state equivalent); and

(b) Complies with the conditions of that permit and the requirements of 40 CFR 144.14 (requirements for wells managing hazardous waste).

(3) Publicly owned treatment works. The owner or operator of a POTW

which accepts for treatment hazardous waste, if the owner or operator:

- (a) Has an NPDES permit;
- (b) Complies with the conditions of that permit; and
- (c) Complies with the following regulations:
 - (A) Rule 340-104-011, Identification number;
 - (B) Rule 340-104-071, Use of manifest system;
 - (C) Rule 340-104-072, Manifest discrepancies;
 - (D) Rule 340-104-073(1) and (2)(a), Operating record;
 - (E) Rule 340-104-075, Periodic report;
 - (F) Rule 340-104-076, Unmanifested waste report; and

(d) If the waste meets all federal, state and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe or similar conveyance.

Emergency permits.

340-105-061 (1) Notwithstanding any other provision of this Division or Division 106, in the event the Department finds an imminent and substantial endangerment to human health or the environment the Department may issue a temporary emergency permit:

- (a) To a non-permitted facility to allow treatment, storage or disposal of hazardous waste; or
- (b) To a permitted facility to allow treatment, storage or disposal of a hazardous waste not covered by an an effective permit.

(2) This emergency permit:

- (a) May be oral or written. If oral, it shall be followed in five days by a written emergency permit;
- (b) Shall not exceed 90 days in duration;

(c) Shall clearly specify the hazardous waste to be received, and the manner and location of their treatment, storage or disposal;

(d) May be terminated by the Department at any time without process if it determines that termination is appropriate to protect human health and the environment;

(e) Shall be accompanied by a public notice published under rule 340-106-011(2) including:

(A) Name and address of the office granting the emergency authorization;

(B) Name and location of the permitted HWM facility;

(C) A brief description of the wastes involved;

(D) A brief description of the action authorized and reasons for authorizing it; and

(E) Duration of the emergency permit; and

(f) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this Division and Division 106.

Hazardous waste incinerator permits.

340-105-062 (1) For the purposes of determining operational readiness following completion of physical construction, the Department must establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The Department may extend the duration of

this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to rule 340-105-042 (Minor modifications of permits).

(a) Applicants must submit a statement, with Part B of the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of rule 340-104-343 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in rule 340-104-345.

(b) The Department will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of rule 340-104-343 based on its engineering judgment.

(2) For the purposes of determining feasibility of compliance with the performance standards of rule 340-104-343 and of determining adequate operating conditions under rule 340-104-345, the Department must establish conditions in the permit for a new hazardous waste incinerator to be effective during the trial burn.

(a) Applicants must propose a trial burn plan, prepared under subsection (2)(b) of this rule with a Part B of the permit application.

(b) The trial burn plan must include the following information:

(A) An analysis of each waste or mixture of wastes to be burned which includes:

(i) Heat value of the waste in the form and composition in which it will be burned.

(ii) Viscosity (if applicable), or description of the physical form of the waste.

(iii) An identification of any hazardous organic constituents listed in Appendix VIII of Division 101 which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Appendix VIII of Division 101 which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for the exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (EPA SW-846, 7/82), or their equivalent.

(iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," or their equivalent.

(B) A detailed engineering description of the incinerator for which the permit is sought, including:

(i) Manufacturer's name and model number of incinerator (if available).

(ii) Type of incinerator.

(iii) Linear dimension of incinerator unit including cross sectional area of combustion chamber.

(iv) Description of auxiliary fuel system (type/feed).

(v) Capacity of prime mover.

(vi) Description of automatic waste feed cutoff system(s).

(vii) Stack gas monitoring and pollution control equipment.

(viii) Nozzle and burner design.

(ix) Construction materials.

(x) Location and description of temperature, pressure and flow indicating and control devices.

(C) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency and planned analytical procedures for sample analysis.

(D) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the Department's decision under subsection (2)(e) of this rule.

(E) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(F) A description of, and planned operating conditions for, any emission control equipment which will be used.

(G) Procedures for rapidly stopping waste feed, shutting down the incinerator and controlling emissions in the event of an equipment malfunction.

(H) Such other information as the Department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this subsection and the criteria in subsection (2)(e) of this rule.

(c) The Department, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.

(d) Based on the waste analysis data in the trial burn plan, the Department will specify as trial Principal Organic Hazardous Constituents (POHCs) those constituents for which destruction and removal efficiencies

must be calculated during the trial burn. These trial POHCs will be specified by the Department based on its estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in Subdivision D of Division 101, the hazardous waste organic constituent or constituents identified in Appendix VII of Division 101 as the basis for listing.

(e) The Department shall approve a trial burn plan if it finds that:

(A) The trial burn plan is likely to determine whether the incinerator performance standard required by rule 340-104-343 can be met;

(B) The trial burn itself will not present an imminent hazard to human health or the environment;

(C) The trial burn will help the Department to determine operating requirements to be specified under rule 340-104-345; and

(D) The information sought in paragraphs (2)(e)(A) and (B) of this rule cannot reasonably be developed through other means.

(f) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(A) A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

(B) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O₂) and hydrogen chloride (HCl).

(C) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs.

(D) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in rule 340-104-343(1).

(E) If the HCl emission rate exceeds 4 pounds per hour, a computation of HCl removal efficiency in accordance with rule 340-104-343(2).

(F) A computation of particulate emissions, in accordance with rule 340-104-343(3).

(G) An identification of sources of fugitive emissions and their means of control.

(H) A measurement of average, maximum and minimum temperatures and combustion gas velocity.

(I) A continuous measurement of carbon monoxide (CO) in the exhaust gas.

(J) Such other information as the Department may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in rule 340-104-343 and to establish the operating conditions required by rule 340-104-345 as necessary to meet that performance standard.

(g) The applicant must submit to the Department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in subsection (2)(f) of this rule. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Department.

(h) All data collected during any trial burn must be submitted to the Department following the completion of the trial burn.

(i) All submissions required by this section must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under rule 340-105-011.

(j) Based on the results of the trial burn, the Department shall set the operating requirements in the final permit according to rule 340-104-

345. The permit modification shall proceed as a minor modification according to rule 340-105-042.

(3) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the Department may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of rule 340-104-345, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Department.

(a) Applicants must submit a statement, with Part B of the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of rule 340-104-343, during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters in rule 340-104-345.

(b) The Department will review this statement and any other relevant information submitted with Part B of the permit application and specify those requirements of this period most likely to meet the performance standards of rule 340-104-343 based on its engineering judgment.

(4) For the purposes of determining feasibility of compliance with the performance standards of rule 340-104-343 and of determining adequate operating conditions under rule 340-104-345, the applicant for a permit to an existing hazardous waste incinerator may prepare and submit a trial burn plan and perform a trial burn in accordance with subsections (2)(b) through (2)(i) of this rule. Applicants who submit trial burn plans and receive

approval before submission of a permit application must complete the trial burn and submit the results, specified in subsection (2)(f) of this rule, with Part B of the permit application. If completion of this process conflicts with the date set for submission of the Part B application, the applicant must contact the Department to establish a later date for submission of the Part B application or the trial burn results. If the applicant submits a trial burn plan with Part B of the permit application, the trial burn must be conducted and the results submitted with a time period to be specified by the Department.

Permits for land treatment demonstrations using field test or laboratory analyses.

340-105-063 (1) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of rule 340-104-272, the Department may issue a treatment demonstration permit. The permit must contain only those requirements necessary to meet the standards in rule 340-104-272(3). The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or laboratory analyses, and design, construction, operation and maintenance of the land treatment unit.

(a) The Department may issue a two-phase facility permit if it finds that, based on information submitted in Part B of the application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(b) If the Department finds that not enough information exists upon which it can establish permit conditions to attempt to provide for

compliance with all of the requirements of Subdivision M, it must issue a treatment demonstration permit covering only the field test or laboratory analyses.

(2) If the Department finds that a phased permit may be issued, it will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration cleanup activities and any other conditions which the Department finds may be necessary under rule 340-104-272(3). The Department will include conditions in the second phase of the facility permit to attempt to meet all Subdivision M requirements pertaining to unit design, construction, operation and maintenance. The Department will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the Part B application.

(a) The first phase of the permit will be effective as provided in rule 340-106-015(2).

(b) The second phase of the permit will be effective as provided in section (4) of this rule.

(3) When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he must submit to the Department a certification, signed by a person authorized to sign a permit application or report under rule 340-105-011, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting such tests or analyses. The owner or operator must also submit all data collected during the field

tests or laboratory analyses within 90 days of completion of those tests or analyses unless the Department approves a later date.

(4) If the Department determines that the results of the field tests or laboratory analyses meet the requirements of rule 340-104-272, it will modify the second phase of the permit or incorporate any requirements necessary for operation of the facility in compliance with Subdivision M of Division 104, based upon the results of the field tests or laboratory analyses.

(a) This permit modification may proceed as a minor modification under rule 340-105-042, provided any such change is minor, or otherwise will proceed as a modification under rule 340-105-041(1)(b).

(b) If no modifications of the second phase of the permit are necessary, or if only minor modifications are necessary and have been made, the Department will give notice of its final decision to the permit applicant and to each person who submitted written comments on the phased permit or who request notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in rule 340-106-015(2).

(c) If modifications under rule 340-105-041(1)(b) are necessary, the second phase of the permit will become effective only after those modification have been made.

Letter of authorization for small-quantity management facilities.

340-105-064 (1) Except as indicated in section (3) of this rule, the Department will issue a letter of authorization to owners or operators of off-site facilities that treat or store more than 200 pounds but less than 2000 pounds of hazardous waste per calendar month if such waste is obtained

only from small-quantity generators (see rule 340-101-005(10)).

(2) The letter of authorization:

(a) Shall be written;

(b) Shall not exceed 5 years in duration;

(c) Shall clearly specify the hazardous wastes to be received, the treatment process, and the disposal of all hazardous products generated by that process;

(d) May require the operator to obtain Department approval prior to receipt of each specific waste;

(e) May require the operator to demonstrate that, due to the type and quantity of waste, its operation and other relevant factors, the facility is not likely to endanger public health or the environment;

(f) May be suspended or revoked at any time if it is determined that such action is appropriate to protect public health or the environment; and

(g) May include any applicable requirements of Division 104.

(3) The Department may require the owner or operator to obtain a hazardous waste permit if it determines that operation of the facility may endanger public health or the environment.

DIVISION 106
HAZARDOUS WASTE MANAGEMENT

Permitting Procedures

- 340-106-001 Purpose.
- 340-106-002 (Reserved)
- 340-106-003 Application for a permit.
- 340-106-004 (Reserved)
- 340-106-005 Modification, revocation and reissuance, or termination of permits.
- 340-106-006 Draft permit.
- 340-106-007 (Reserved)
- 340-106-008 Fact sheet.
- 340-106-009 (Reserved)
- 340-106-010 Public notice of permit actions and public comment period.
- 340-106-011 Public comments and requests for public hearings.
- 340-106-012 Public hearings.
- 340-106-013 (Reserved)
- 340-106-014 Reopening of the public comment period.
- 340-106-015 Issuance and effective date of permit.
- 340-106-016 (Reserved)
- 340-106-017 Response to comments.

Authority: ORS Chapter 468, including 468.020; 459, including 459.440; and 183.

Purpose.

340-106-001 (1) The purpose of this Division is to establish the procedures for issuing, modifying, revoking and reissuing, or terminating all hazardous waste permits other than hazardous waste emergency permits (see rule 340-105-061) and hazardous waste permits by rule (rule 340-105-060).

(Comment: Although the permit applicant or permittee will interface primarily with the Department as is indicated by these rules, hazardous waste disposal facility permits are issued by the Environmental Quality Commission while hazardous waste storage and treatment facility permits are issued by the Department.)

Application for a permit.

340-106-003 (1)(a) Any person who requires a hazardous waste permit shall complete, sign and submit to the Department an application for each permit required under rule 340-105-001. Applications are not required for hazardous waste permits by rule (rule 340-105-060).

(b) The Department shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See rules 340-105-010 and -013.

(c) Permit applications must comply with the signature and certification requirements of rule 340-105-011.

(2) The Department shall cause copies of disposal site applications to be sent to affected state agencies, including the Health Division, the Public Utility Commissioner, the State Fish and Wildlife Commission and the Water Resources Director. Each agency shall respond by making a

recommendation as to whether the permit should be granted. If the Health Division recommends against granting the permit, the permit must be denied. Recommendation from other agencies shall be considered as evidence in determining whether to issue the permit.

(3) The Department shall review for completeness every application for a permit. Each application for a permit will be reviewed for completeness by the Department within 30 days of its receipt. Upon completing the review, the Department shall notify the applicant in writing whether the application is complete. If application is incomplete, the Department shall list the information necessary to make the application complete. When the application is for an existing HWM facility, the Department shall specify in the notice of deficiency a date for submitting the necessary information. The Department shall notify the applicant that the application is complete upon receiving this information. After the application is completed, the Department may request additional information from an applicant but only when necessary to clarify, modify or supplement previously submitted material. Requests for such additional information will not render an application incomplete.

(4) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken.

(5) If the Department decides that a site visit is necessary for any reason in conjunction with the processing of an application, it shall notify the applicant and a date shall be scheduled.

(6) The effective date of an application is the date on which the Department notifies the applicant that the application is complete as provided in section (3) of this rule.

Modification, revocation and reissuance, or termination of permits.

340-106-005 (1) Permits may be modified, revoked and reissued, or terminated either at the request of any affected person (including the permittee) or upon the Department's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in rule 340-105-041 or -043. All requests shall be in writing and shall contain facts or reasons supporting the request.

(2) If the Department decides the request is not justified, it shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment or hearings. Denials by the Department may be appealed to the Commission by a letter briefly setting forth the relevant facts. The Commission may direct the Department to begin modification, revocation and reissuance, or termination proceedings under section (3) of this rule. The appeal shall be considered denied if the Commission takes no action on the letter within 60 days after receiving it. This appeal is a prerequisite to seeking judicial review of Department action in denying a request for modification, revocation and reissuance, or termination.

(3) (a) If the Department tentatively decides to modify or revoke and reissue a permit under rule 340-105-041, it shall prepare a draft permit under rule 340-106-006 incorporating the proposed changes. The Department may request additional information and, in the case of a modified permit, may require the submission of an updated application. In the case of revoked and reissued permits, the Department shall require the submission of a new application.

(b) In a permit modification under this rule, only those conditions to

be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this rule, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(c) "Minor modifications" as defined in rule 340-105-042 are not subject to the requirements of this rule.

(4) If the Department tentatively decides to terminate a permit under rule 340-105-043, it shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under Section rule 340-106-006.

Draft permits.

340-106-006 (1) Once an application is complete, the Department shall tentatively decide whether to prepare a draft permit or to deny the application.

(2) If the Department tentatively decides to deny the permit application, it shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this rule (see section (4) of this rule). If the Department's final decision (rule 340-106-015) is that the tentative decision to deny the permit application was incorrect, it shall withdraw the notice of intent to deny and proceed to prepare a draft permit under section (3) of this rule.

(3) If the Department decides to prepare a draft permit, it shall

prepare a draft permit that contains the following information:

- (a) All conditions under rule 340-105-030 or -032;
 - (b) All compliance schedules under rule 340-105-033;
 - (c) All monitoring requirements under rule 340-105-031; and
 - (d) Standards for treatment, storage and/or disposal and other permit conditions under rule 340-105-030;
- (4) All draft permits prepared under this rule shall be accompanied by a fact sheet (rule 340-106-008), public notice (rule 340-106-010) and made available for public comment (rule 340-106-011). The Department shall give notice of opportunity for a public hearing (rule 340-106-012), issue a final decision (rule 340-106-015) and respond to comments (rule 340-106-017).

Fact sheet.

340-106-008 (1) A fact sheet shall be prepared for every draft permit for a major facility or activity, and for every draft permit which the Department finds is the subject of widespread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Department shall send this fact sheet to the applicant and, on request, to any other person.

(2) The fact sheet shall include, when applicable:

(a) A brief description of the type of facility or activity which is the subject of the draft permit;

(b) The type and quantity of wastes, fluids or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted or discharged.

(c) A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references.

(d) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(e) A description of the procedures for reaching a final decision on the draft permit including:

(A) The beginning and ending dates of the comment period under rule 340-106-010 and the address where comments will be received;

(B) Procedures for requesting a hearing and the nature of that hearing; and

(C) Any other procedures by which the public may participate in the final decision.

(f) Name and telephone number of a person to contact for additional information.

Public notice of permit actions and public comment period.

340-106-010 (1) Scope. (a) The Department shall give public notice that the following actions have occurred:

(A) A permit application has been tentatively denied under rule 340-106-006(2);

(B) A draft permit has been prepared under rule 340-106-006(3);

(C) A hearing has been scheduled under rule 340-106-012;

(b) No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under rule 340-106-005(2). Written notice of that denial shall be given to the requester and to the permittee.

(c) Public notices may describe more than one permit or permit actions.

(2) Timing. (a) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under section (1) of this rule shall allow at least 45 days for public comment.

(3) Methods. Public notice of activities described in subsection (1)(a) of this rule shall be given by the following methods:

(a) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this subsection may waive his or her rights to receive a notice);

(A) The applicant;

(B) Any other agency which the Department knows has issued or is required to issue a permit for the same facility or activity (including EPA);

(C) Federal and state agencies with jurisdiction over fish, shellfish and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservations Officers and other appropriate government authorities, including any affected states;

(D) Persons on a mailing list developed by:

(i) Including those who request in writing to be on the list;

(ii) Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(iii) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as regional- and state-funded newsletters, environmental bulletins or state law journals. (The Department may update the mailing list from time to time by requesting written indication of continued

interest from those listed. The Department may delete from the list the name of any person who fails to respond to such a request.)

(b) Publication of a notice in a daily or weekly major newspaper of general circulation and broadcast over local radio stations.

(c) In a manner constituting legal notice to the public under state law; and

(d) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(E)(i) To any unit of local government having jurisdiction over the area where the facility is proposed to be located; and

(ii) To each state agency having any authority under state law with respect to the construction or operation of such facility.

(4) Contents. (a) All public notices. All public notices issued under this part shall contain the following minimum information:

(A) Name and address of the office processing the permit action for which notice is being given;

(B) Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

(C) A brief description of the business conducted at the facility or activity described in the permit application or the draft permit;

(D) Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet and the application; and

(E) A brief description of the comment procedures required by rules 340-106-011 and -012 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the

public may participate in the final permit decision.

(F) Any additional information considered necessary or proper.

(b) Public notices for hearings. In addition to the general public notice described in subsection (4)(a) of this rule, the public notice of a hearing under rule 340-106-012 shall contain the following information:

(A) Reference to the date of previous public notices relating to the permit;

(B) Date, time and place of the hearing; and

(C) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(5) In addition to the general public notice described in subsection (4)(a) of this rule, all persons identified in paragraphs (3)(a)(A), (B) and (C) of this rule shall be mailed a copy of the fact sheet, permit application and the draft permit.

Public comments and requests for public hearings.

340-106-011 During the public comment period provided under rule 340-106-010, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in rule 340-106-017.

Public hearings.

340-106-012 (1)(a) The Department shall hold a public hearing

whenever it finds, on the basis of requests, a significant degree of public interest in a draft permit(s);

(b) The Department may also hold a public hearing at its discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision;

(c)(A) The Department shall hold a public hearing whenever it receives written notice of opposition to a draft permit and a request for a hearing within 45 days of public notice under rule 340-106-010(2)(a);

(B) Whenever possible, the Department shall schedule a hearing under this rule at a location convenient to the nearest population center to the proposed facility;

(d) Public notice of the hearing shall be given as specified in rule 340-106-010.

(2) Whenever a public hearing is held, the Department shall designate a hearing officer for the hearing who shall be responsible for its scheduling and orderly conduct.

(3) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under rule 340-106-010 shall automatically be extended to the close of any public hearing under this rule. The hearing officer may also extend the comment period by so stating at the hearing.

Reopening of the public comment period.

340-106-014 (1) If any data information or arguments submitted during the public comment period appear to raise substantial new questions

concerning a permit, the Department may take one or more of the following actions:

(a) Prepare a new draft permit, appropriately modified, under rule 340-106-006;

(b) Prepare a fact sheet or revised fact sheet under rule 340-106-008 and reopen the comment period under rule 340-106-014; or

(c) Reopen or extend the comment period under rule 340-106-010 to give interested persons an opportunity to comment on the information or arguments submitted.

(2) Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice under rule 340-106-010 shall define the scope of the reopening.

(3) Public notice of any of the above actions shall be issued under rule 340-106-010.

Issuance and effective date of permit.

340-106-015 After the close of the public comment period under rule 340-106-010 on a draft permit, the Department shall issue a final permit decision. The Department shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedures for appealing a decision on a permit or for contesting a decision to terminate a permit. For the purposes of this rule, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

Response to comments.

340-106-017 (1) At the time that any final permit decision is issued under rule 340-106-015, the Department shall issue a response to comments.

This response shall:

(a) Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(b) Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

(2) The response to comments shall be available to the public.

DIVISION 107: Reserved

DIVISION 108

HAZARDOUS WASTE MANAGEMENT

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.
- 340-108-021 Cleanup report.

Authority: ORS Chapter 468, including 468.020; 459, including 459.440;
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 involving a hazardous waste or hazardous substance.

(2) The regulations of this Division apply to all persons whose actions cause or allow to be caused a hazardous waste or hazardous substance spill or other incident; except that

(3) Spills and other incidents occurring in a hazardous waste treatment, storage or disposal facility shall be managed in accordance with the procedures set forth in Division 104.

(4) Oil spilled in an area that may allow it to reach any waters of the State shall also be managed in accordance with OAR Chapter 340, Division 47.

Definitions.

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

"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.

"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

"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 discharge of which may endanger public health or the environment.

"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.

"Spill" means the accidental spilling, leaking, pumping, pouring, emitting or dumping of hazardous wastes or hazardous substances into or on any land or water.

"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.

(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 110 and such direction as the Department may give.

(Comment: Rule 340-105-001(2)(c) states that a permit is not required for treatment or containment activities taken during immediate response to a spill or other incident.)

(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.

(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 collect, remove or treat the waste or substance immediately, when under an obligation to do so, shall be responsible for the necessary expenses incurred by the State in carrying out a cleanup project or activity authorized by the Department.

(6) If the amount of State-incurred expenses are not paid 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.

Subdivision C: Required Action

Emergency action, reporting.

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

(1) Immediately implement the site modified SPCC plan or other applicable contingency plan.

(Comment: Generators storing hazardous waste for less than 90 days are required to have a contingency plan prepared in accordance with rule 340-102-034.)

(2) If a contingency plan is not required or available, 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 hazardous substance or hazardous waste;

(c)(A) Report the spill or other incident to the Oregon Emergency Management Division (telephone 1-800-452-0311) 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):

<u>Substance or Waste Type</u>	<u>Reportable Quantity (pounds)</u>
Ignitable, rule 340-101-021	200
Corrosive, rule 340-101-022	200
Reactive, rule 340-101-023	200
EP Toxic, rule 340-101-024	10
Pesticide, rule 340-101-025	10
Listed, rule 340-101-031 and -032	10
Listed, rule 340-101-033(1)(a) and (2)(a)	2
Listed, rule 340-101-033(1)(b), (2)(b) and (3)(a)	10
PCB, rule 340-110-001(2)	10

(Comments: (1) "Ignitable" includes the DOT classifications "Flammable," "Oxidizer," and some "Combustible."

(2) The reportable quantities are not meant to include those de minimus losses that normally occur from the use of commercial products or raw materials.)

(B) Transporters must also report spills to the National Response Center (1-800-424-8802) as required by 49 CFR 171.15, and, if a water transporter, as required by 33 CFR 153.203;

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

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

(ii) It occurs on an impervious surface where it is fully contained.

(d) Undertake, in the most practicable manner, the collection, removal or treatment of the hazardous 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.

Cleanup Report

340-108-021 The Department may require the person responsible for a spill or other incident to submit a written report within 15 days 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.)

DIVISION 109
HAZARDOUS WASTE MANAGEMENT

Management of Pesticide Wastes

Subdivision A: General

- 340-109-001 Purpose and applicability.
- 340-109-002 Definitions.

Subdivision B: Pesticides

- 340-109-010 Pesticide residue management.

Subdivision C: Empty Containers

- 340-109-020 Empty container management.

Authority: ORS Chapter 468, including 468.020; 459, including 459.440;
and 183.

Subdivision A: General

Purpose and applicability.

340-109-001 (1) The purpose of this Division is to specify procedures for managing residues and empty containers produced by the use of pesticides.

(2) The requirements of this Division apply to any person (including farmers) who produces pesticide residue or empty pesticide containers except as indicated in sections (3) and (4) of this rule.

(3) Persons producing pesticide wastes identified as hazardous waste in Division 101 are subject to regulation under Divisions 102 to 106 (except farmers who are exempted under rule 340-102-051).

(4) Pesticide residues or empty pesticide containers produced from household use are not regulated.

Definitions.

340-109-002 As used in these rules unless otherwise specified:

"Aeration" means a specific treatment for decontaminating an empty volatile substance container consisting of removing the closure and placing the container in an inverted position for at least 24 hours.

"Beneficial use" means the return of a pesticide residue or empty pesticide container without processing to the economic mainstream as a substitute for raw materials in an industrial process or as a commercial product (e.g., melting a container for scrap metal).

"Department" means the Department of Environmental Quality.

"Empty container" means a container from which:

(1) All the contents have been removed that can be removed using the practices commonly employed to remove materials from that type of container; and

(2)(a) No more than one inch of residue remains on the bottom of the container; or

(b) No more than 3% of the total capacity of the container remains in the container if the container is less than or equal to 110 gallons in size; or

(c) No more than 0.3% of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size; or

(d) If the material is a compressed gas, the pressure in the container is atmospheric.

"Household use" means use in or around households (including single and multiple residences, hotels and motels).

"Jet rinsing" means a specific treatment for an empty container using the following procedure:

(1) A nozzle is inserted into the container, or the empty container is inverted over a nozzle such that all interior surfaces of the container can be rinsed; and

(2) The container is thoroughly rinsed using an appropriate solvent.

"Multiple rinsing" means a specific treatment for an empty container repeating the following procedure a minimum of three times:

(1) An appropriate solvent is placed in the container in an amount equal to at least 10% of the container volume; and

(2) The container is agitated to rinse all interior surfaces; and

(3) The container is opened and drained, allowing at least 30 seconds after drips start.

"Pesticide" means any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling, or mitigating of insects, fungi, weeds, rodents, or predatory animals; including but not limited to defoliant, desiccants, fungicides, herbicides, insecticides, and nematocides as defined by ORS 634.006.

"Pesticide equipment" means any equipment, machinery or device used in the preparation for use or application of pesticides, including but not limited to aircraft, ground spraying equipment, hoppers, tanks, booms and hoses.

"Pesticide residue" means substances produced by the use of pesticides including, but not limited to unused commercial pesticides or spray mixtures, container rinsings and pesticide equipment washings.

"Public-use airport" means an airport open to the flying public which may or may not be attended or have service available.

"Reuse" means the return of a commodity to the economic mainstream for use in the same kind of application as before without change in its identity (e.g., a container used to repackage a pesticide formulation).

Subdivision B: Pesticides

Pesticide residue management.

340-109-010 (1) A person producing pesticide residue shall make every effort to beneficially use or reuse such residue.

(2) A person producing pesticide residue at a public-use airport, pesticide dealership or other permanent base of operation, and who does not beneficially use or reuse such residue, must manage the residue in a facility having a Water Pollution Control Facility (WPCF) permit issued pursuant to OAR Chapter 340, Division 14, or as otherwise authorized by the Department. Such management shall be in conformance with the following performance standards:

(a) Containment by any one or combination of: physical means (e.g., natural or man-made liners), chemical means (e.g., adsorption-absorption layers), or other equivalent means;

(b) Detoxification by any one or combination of: physical means (e.g., solar radiation), chemical means (e.g., hydrolysis), biological means (e.g., microbial degradation), or other equivalent means;

(c) Volume reduction by any one or combination of: evaporation, evapotranspiration, use for new product makeup, or other equivalent means; and

(d) Protection of groundwater and surface waters by any one or combination of: system design, construction materials, or a groundwater monitoring program.

(3) A person producing pesticide residue at a temporary base of operation, and who does not beneficially use or reuse such residue, must manage such residue either:

(a) At a permitted facility;

(b) By spraying on the ground, provided:

(A) The residue is sprayed under pressure through a nozzle which is moving at a sufficient rate of speed so as not to saturate the ground with waste;

(B) The person doing the spraying owns or controls the management of the ground, or receives permission from the manager, owner, or controller of the ground;

(C) The spray site location will not endanger surface water or groundwater, or pose a hazard to humans, wildlife (game and non-game animals) or domestic animals; and

(D) If applied to agriculture land, the pesticide residue will not result in excessive or prohibited residuals in current or subsequent crops.

Subdivision C: Empty Containers

Empty container management.

340-109-020 (1) Empty containers are hazardous waste if they were used in the transportation, storage, or use of a pesticide.

(2) Empty rigid pesticide containers, including but not limited to cans, pails, buckets or drums constructed of metal, plastic, glass, or fiber may be managed as ordinary solid waste if they are decontaminated, verified and altered as follows:

(a) Decontamination consist of removing any residual by:

(A) Jet or multiple rinsing;

(B) Aeration of volatile substances;

(Comment: For purposes of this rule, all fumigants are considered to be volatile.)

(C) Chemical washing methods such as those used to recondition metal drums;

(D) Removing the inner liner that prevented contact of the hazardous substance or hazardous waste with the container and managing the liner as hazardous waste; or

(E) Other methods that have been shown in the scientific literature, or by generator tests, to achieve equivalent removal.

(b) Verification consists of observing no residue on the interior surface of the container, or no turbidity (less than 5 Nephelometric turbidity units) in a sample rinse when a diluent, which does not solubilize the residue, is placed in the container to fill 5% of its volume and agitated for 30 seconds.

(c) Alteration consists of puncturing or removing both ends and crushing the container except that:

(A) 55-gallon or larger containers shall be punctured or have their ends removed but need not be crushed;

(B) Containers to be beneficially used or reused need not be altered if alteration would interfere with such use or reuse; and

(C) Gas cylinders shall be altered by removing the closure valve or valve stem to ensure venting.

(Comment: Extreme caution should be exercised in altering containers having held flammable pesticides or solvents.)

(3) Empty non-rigid pesticide containers, including paper, paper-laminated and paper-laminated foil bags, may be managed as ordinary solid waste if they are disposed as follows:

(a) In a permitted solid waste landfill; or

(b) Burned in an incinerator or boiler which has been permitted by the Department; or

(c) Open burned in less than 50 pound lots on-site on the day of generation or as soon thereafter as feasible provided the site is not a public-use airport, distributorship or other permanent base of operation and the burning does not emit dense smoke, noxious odor or creates a public nuisance. Open burning shall be in compliance with OAR Chapter 340, Division 23, local fire district requirements, and in such a manner as to protect public health and the environment. The ash and foil liners must be buried after burning.

(4) Farmers may bury empty non-rigid or decontaminated rigid pesticide containers on their own property provided:

(a) The containers were generated from their own use; and

(b) The burial site is on flat ground, not in a swale, and at least 500 feet from surface water or any well.

(5) No person shall use or provide for use empty or decontaminated pesticide containers to store food, fiber or water intended for human or animal consumption.

DIVISION 110

HAZARDOUS WASTE MANAGEMENT

Polychlorinated Biphenyls (PCBs)

Subdivision A: General

- 340-110-001 Purpose and applicability.
- 340-110-003 Definitions.

Subdivision B: (Reserved)

Subdivision C: Marking of PCBs and PCB Items

- 340-110-040 Marking requirements.
- 340-110-045 Marking formats.

Subdivision D: Disposal of PCBs and PCB Items

- 340-110-060 Disposal requirements.
- 340-110-065 Storage for disposal.
- 340-110-070 Incineration.
- 340-110-075 PCB landfills.

- 340-110-079 Decontamination.

Subdivisions E - I: (Reserved)

Subdivision J: Records and Reports

- 340-101-080 Records and monitoring.

Authority: ORS Chapter 468, including 468.020 and 468.900 to .921;
459, including 459.440; and 183.

Subdivision A: General

Purpose and applicability.

340-110-001 (1) The purpose of this Division is to establish requirements for the storage, disposal and marking prior to disposal of PCBs and PCB items.

(2) This Division applies to all persons who dispose of PCBs or PCB items. Unless it is otherwise specifically provided, the terms PCB and PCBs are used in this rule to refer to any chemical substances and combinations of substances that contain 50 ppm (on a dry weight basis) or greater of PCBs, as defined in rule 340-110-003, including any byproduct, intermediate or impurity manufactured at any point in a process. Any chemical substance and combinations of substances that contain less than 50 ppm PCBs because of any dilution, shall be included as PCB and PCBs unless otherwise specifically provided. Substances that are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances or combination of substances, including impurities and byproducts.

(3) These regulations are in addition to and do not preempt any local, state or federal statutes or regulations.

Definitions.

340-110-003 For the purpose of this Division:

"Capacitor" means a device for accumulating and holding a charge

of electricity and consisting of conducting surfaces separated by a dielectric. Types of capacitors are as follows:

(1) "Small capacitor" means a capacitor which contains less than 3 lbs. of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 100 cubic inches may be considered to contain less than 3 lbs. of dielectric fluid and a capacitor whose total volume is more than 200 cubic inches must be considered to contain more than 3 lbs. of dielectric fluid. A capacitor whose total volume is between 100 and 200 cubic inches may be considered to contain less than 3 lbs. of dielectric fluid if the total weight of the capacitor is less than 9 lbs.

(2) "Large high voltage capacitor" means a capacitor which contains 3 lbs. or more of dielectric fluid and which operates at 2000 volts (a.c. or d.c.) or above.

(3) "Large low voltage capacitor" means a capacitor which contains 3 lbs. or more of dielectric fluid and which operates below 2000 volts (a.c. or d.c.).

"Department" means the Department of Environmental Quality.

"Disposal" means intentionally or accidentally to discard, throw away or otherwise complete or terminate the useful life of PCBs and PCB items. Disposal includes spills, leaks and other discharges of PCBs as well as actions related to containing, transporting, destroying, degrading, decontaminating or confining PCBs and PCB items.

"Incinerator" means an engineered device using controlled flame combustion to thermally degrade PCBs and PCB items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns and high temperature boilers.

"Leak" or "leaking" means any instance in which a PCB article, PCB

container or PCB equipment has any PCBs on any portion of its external surface.

"Mark" means the descriptive name, instructions, cautions or other information applied to PCBs and PCB items, or other objects subject to these regulations.

"Marked" means the marking of PCB items and PCB storage areas and transport vehicles by means of applying a legible mark by painting, fixation of an adhesive label or by any other method that meets the requirements of these regulations.

"Mixture" means any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in part, the result of a chemical reaction; except that such term does include any combination which occurs, in whole or in part, as a result of a chemical reaction if none of the chemical substances comprising the combination is a new chemical substance and if the combination could have been manufactured for commercial purposes without a chemical reaction at the time the chemical substances comprising the combination were combined.

"Municipal solid wastes" means garbage, refuse, sludges, wastes and other discarded materials resulting from residential and nonindustrial operations and activities, such as household activities, office functions and commercial housekeeping wastes.

"PCB" and "PCBs" means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. (See rule 340-110-001(2), for applicable concentrations of PCBs. PCB and PCBs as contained in PCB items are defined in this rule.)

"PCB article" means any manufactured article, other than a PCB Container, that contains PCBs and whose surface(s) has been in direct

contact with PCBs. "PCB article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB article.

"PCB article container" means any package, can, bottle, bag, barrel, drum, tank or other device used to contain PCB articles or PCB equipment, and whose surface(s) has not been in direct contact with PCBs.

"PCB container" means any package, can, bottle, bag, barrel, drum, tank or other device that contains PCBs or PCB articles and whose surface(s) has been in direct contact with PCBs.

"PCB equipment" means any manufactured item, other than a PCB container or a PCB article container, which contains a PCB article or other PCB equipment, and includes microwave ovens, electronic equipment and fluorescent light ballasts and fixtures.

"PCB item" is defined as any PCB article, PCB article container, PCB container or PCB equipment, that deliberately or unintentionally contains or has as a part of it any PCB or PCBs at a concentration of 50 ppm or greater.

"PCB landfill" means a landfill at which protection against risk of injury to health or the environment from migration of PCBs to land, water or the atmosphere is provided from PCBs and PCB items deposited therein by locating, engineering and operating the landfill as specified in rule 340-110-075.

"PCB transformer" means any transformer that contains 500 ppm PCB or greater.

"PCB-contaminated electrical equipment" means any electrical equipment, including but not limited to transformers (including those used in railway locomotives and self-propelled cars), capacitors, circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), electromagnets and cable, that contain 50 ppm or greater PCB, but less than 500 ppm PCB. Oil-filled electrical equipment other than circuit breakers, reclosers and cable whose PCB concentration is unknown must be assumed to be a PCB-contaminated electrical equipment.

"Person" means the United States, the state or a public or private corporation, local government unit, public agency, individual, partnership, association, firm, trust, estate or any other legal entity.

"Storage for disposal" means temporary storage of PCBs that have been designated for disposal.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (e.g., trailer, railroad freight car) is a separate transport vehicle.

"Waste oil" means used products primarily derived from petroleum, which include, but are not limited to, fuel oils, motor oils, gear oils, cutting oils, transmission fluids, hydraulic fluids and dielectric fluids.

Subdivision C: Marking of PCBs and PCB Items

Marking requirements.

340-110-040 (1) Each of the following items, when removed from service for disposal, shall be marked as illustrated in Figure 1 of rule 340-110-045(1): The mark illustrated in Figure 1 is referred to as M_L throughout this Subdivision.

- (a) PCB containers (see also section (3) of this rule);
 - (b) PCB transformers (marking of PCB-contaminated electrical equipment is not required);
 - (c) PCB large high voltage capacitors;
 - (d) Equipment containing a PCB transformer or a PCB large high voltage capacitor;
 - (e) PCB large low voltage capacitors;
 - (f) Electric motors using PCB coolants (see also section (3) of this rule);
 - (g) Hydraulic systems using PCB hydraulic fluid (see also section (3) of this rule);
 - (h) Heat transfer systems (other than PCB transformers) using PCBs (see also section (3) of this rule);
 - (i) PCB article containers containing articles or equipment that must be marked under subsections (1)(a) through (h) above;
 - (j) Each storage area used to store PCBs and PCB items for disposal.
- (2) Each transport vehicle shall be marked on each end and side with M_L as described in rule 340-110-045(1) if it is loaded with PCB containers that contain more than 99.4 lbs. of PCBs in the liquid phase or with one or more PCB transformers (see also section (3) of this rule);
- (3) PCB items in subsections (1)(a), (f), (g) and (h) containing PCBs

in concentrations of 50 to 500 ppm and applicable transport vehicles in section (2) of this rule loaded with PCB containers that contain more than 99.4 lbs. of liquid PCBs shall also be marked with mark M_L as described in rule 340-110-045(1).

(4) Where mark M_L is specified but the PCB article or PCB equipment is too small to accommodate the smallest permissible size of mark M_L , mark M_S as described in rule 340-110-045(2) may be used instead of mark M_L .

(5) All marks required by this Subdivision must be placed in a position on the exterior of the PCB items or transport vehicles so that the marks can be easily read by any persons inspecting or servicing the marked PCB items or transport vehicles.

Marking formats.

340-110-045 (1) Large PCB Mark - M_L . Mark M_L shall be as shown in Figure 1, letters and striping on a white or yellow background, and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB article, PCB equipment or PCB container. The size of the mark shall be at least 6 inches on each side. If the PCB article or PCB equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 2 inches on each side.

(2) Small PCB Mark - M_S . Mark M_S shall be as shown in Figure 2, letters and striping on a white or yellow background, and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB article, PCB equipment or PCB container. The mark shall be a rectangle 1 inch by 2 inches. If the PCB article or PCB equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 0.4 by 0.8 inches.

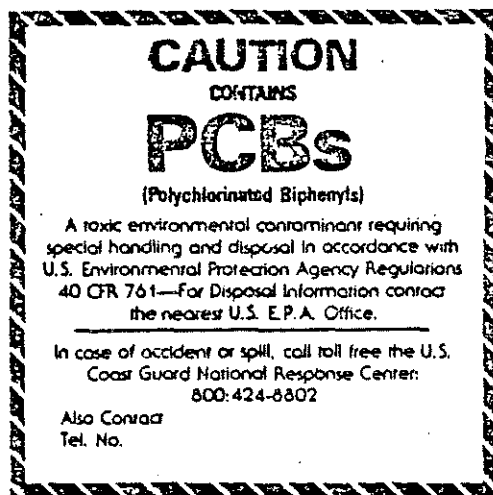


Figure 1

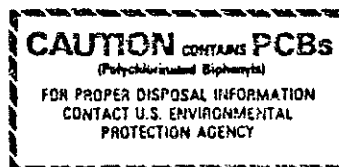


Figure 2

Subdivision D: Disposal of PCBs and PCB Items

(Comment: This Subdivision does not require removal of PCBs and PCB items from service and disposal earlier than would normally be the case. However, when PCBs and PCB items are removed from service and disposed of, disposal must be undertaken in accordance with these regulations. PCBs and PCB items landfilled prior to February 17, 1978 (the date the federal PCB regulations were initially adopted), are not required to be removed for disposal. However, if such PCBs and PCB items are removed from a disposal site, they must be disposed of in accordance with this Subdivision.)

Disposal requirements.

340-110-060 (1) PCBs. (a) Except as provided in subsections (1)(b), (c), (d) and (e) of this rule, PCBs must be disposed of in an incinerator which complies with rule 340-110-070.

(b) Mineral oil dielectric fluid from PCB-contaminated electrical equipment containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, must be disposed of in one of the following:

(A) In an incinerator that complies with rule 340-110-070;

(B) In a PCB landfill that complies with rule 340-110-075 if information is provided to the owner or operator of the chemical waste landfill that shows that the mineral oil dielectric fluid does not exceed 500 ppm PCB and is not an ignitable waste as described in rule 340-110-075(2)(h)(C);

(C) In a high efficiency boiler provided that:

(i) The boiler complies with the following criteria:

(I) The boiler is rated at a minimum of 50 million Btu/hour;

(II) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least 3% when PCBs are being burned;

(III) If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least 3% when PCBs are being burned;

(IV) The mineral oil dielectric fluid does not comprise more than 10% (on a volume basis) of the total fuel feed rate;

(V) The mineral oil dielectric fluid is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut down operations);

(VI) The owner or operator of the boiler:

(a) Continuously monitors and records the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning mineral oil dielectric fluid; or

(b) If the boiler will burn less than 30,000 gallons of mineral oil dielectric fluid per year, measures and records the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning mineral oil dielectric fluid.

(VII) The primary fuel feed rates, mineral oil dielectric fluid feed rates, and total quantities of both primary fuel and mineral oil dielectric fluid fed to the boiler are measured and recorded at regular intervals of no longer than 15 minutes while burning mineral oil dielectric fluid.

(VIII) The carbon monoxide concentration and the excess oxygen percentage are checked at least once every hour that mineral oil dielectric fluid is burned. If either measurement falls below the levels specified in this rule, the flow of mineral oil dielectric fluid to the boiler shall

be stopped immediately.

(ii) Thirty days before any person burns mineral oil dielectric fluid in the boiler, the person gives written notice to the Department and that the notice contains the following information:

(I) The name and address of the owner or operator of the boiler and the address of the boiler;

(II) The boiler rating in units of Btu/hour;

(III) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when mineral oil dielectric fluid is burned; and

(IV) The type of equipment, apparatus and procedures to be used to control the feed of mineral oil dielectric fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack.

(iii) When burning mineral oil dielectric fluid, the boiler must operate at a level of output no less than the output at which the measurements required under sub-subparagraph (1)(b)(C)(i)(III) of this rule were taken.

(iv) Any person burning mineral oil dielectric fluid in a boiler obtains the following information and retains the information for five years at the boiler location:

(I) The data required to be collected under sub-subparagraphs (1)(b)(C)(i)(VI) and (VII) of this rule; and

(II) The quantity of mineral oil dielectric fluid burned in the boiler each month;

(D) In a facility that is permitted in accordance with rule 340-110-060(5). For the purpose of burning mineral oil dielectric fluid, an

applicant under rule 340-110-060(5) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in paragraph (1)(b)(C) of this rule, or a rule 340-110-070 permitted incinerator.

(c) Liquids, other than mineral oil dielectric fluid, containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, shall be disposed of:

(A) In an incinerator that complies with rule 340-110-070;

(B) In a PCB landfill that complies with rule 340-110-075 if information is provided to the owner or operator of the chemical waste landfill that shows that the waste does not exceed 500 ppm PCB and is not an ignitable waste as described in rule 340-110-075(2)(h)(C);

(C) In a high efficiency boiler provided that:

(i) The boiler complies with the following criteria:

(I) The boiler is rated at a minimum of 50 million Btu/hour;

(II) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least 3% when PCBs are being burned;

(III) If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and and the excess oxygen is at least 3% when PCBs are being burned;

(IV) The waste does not comprise more than 10% (on a volume basis) of the total fuel feed rate;

(V) The waste is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut down operations);

(VI) The owner or operator of the boiler must:

(a) Continuously monitor and record the carbon monoxide concentration

and excess oxygen percentage in the stack gas while burning waste fluid;
or

(b) If the boiler will burn less than 30,000 gallons of waste fluid per year, measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning waste fluid;

(VII) The primary fuel feed rates, waste fluid feed rates, and total quantities of both primary fuel and waste fluid fed to the boiler must be measured and recorded at regular intervals of no longer than 15 minutes while burning waste fluid; and

(VIII) The carbon monoxide concentration and the excess oxygen percentage are checked at least once every hour that the waste is burned. If either measurement falls below the levels specified in this rule, the flow of waste to the boiler shall be stopped immediately.

(ii) Prior to any person burning these liquids in the boiler, approval must be obtained from the Department and any persons seeking such approval must submit to the Department a request containing at least the following information:

(I) The name and address of the owner or operator of the boiler and the address of the boiler;

(II) The boiler rating in units of Btu/hour;

(III) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when low concentration PCB liquid is burned; and

(IV) The type of equipment, apparatus and procedures to be used to control the feed of waste fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack.

(V) The type of waste to be burned (e.g., hydraulic fluid, contaminated fuel oil, heat transfer fluid, etc.);

(VI) The concentration of PCBs and of any other chlorinated hydrocarbon in the waste and the results of analyses using the American Society of Testing and Materials (ASTM) methods as referenced: Carbon and hydrogen content using ASTM D-3178, nitrogen content using ASTM E-258, sulfur content using ASTM D-2784, D-1266 or D-129, chlorine content using ASTM D-808, water and sediment content using ASTM D-2709 or D-1796, ash content using ASTM D-482, calorific value using ASTM D-240, carbon residue using either ASTM D-2158 or D-524, and flash point using ASTM D-93;

(VII) The quantity of wastes estimated to be burned in a 30-day period;

(VIII) An explanation of the procedures to be followed to ensure that burning the waste will not adversely affect the operation of the boiler such that combustion efficiency will decrease.

(iii) On the basis of the information in subparagraph (1)(c)(C)(ii) of this rule and any other available information, the Department may, at its discretion, find that the alternate disposal method will not present an unreasonable risk of injury to health or the environment and approve the use of the boiler;

(iv) When burning PCB wastes, the boiler must operate at a level of output no less than the output at which the measurements required under sub-subparagraph (1)(c)(C)(ii)(III) of this rule were taken; and

(v) Any person burning liquids in boilers permitted in subparagraph (1)(c)(C)(iii) of this rule, must obtain the following information and retain the information for five years at the boiler location:

(I) The data required to be collected in sub-subparagraphs (1)(c)(C)(i)(VI) and (VII) of this rule;

(II) The quantity of low concentration PCB liquid burned in the boiler each month;

(III) The analysis of the waste required by sub-subparagraph (1)(c)(C)(ii)(VI) of this rule taken once a month for each month during which low concentration PCB liquid is burned in the boiler.

(D) In a facility that is permitted in accordance with rule 340-110-060(5). For the purpose of burning liquids, other than mineral oil dielectric fluid, containing 50 ppm or greater PCB, but less than 500 ppm PCB, an applicant under rule 340-110-060(5) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in paragraph (1)(b)(C) of this rule, or a rule 340-110-070 incinerator.

(d) Any non-liquid PCBs in the form of contaminated soil, rags or other debris shall be disposed of:

(A) In an incinerator which complies with rule 340-110-070; or

(B) In a PCB landfill which complies with rule 340-110-075.

(Comment: Except as provided in rule 340-110-075(2)(h)(B), liquid PCBs shall not be processed into non-liquid forms to circumvent the high temperature incineration requirements of rule 340-110-060(1).

(e) All dredged materials and municipal sewage treatment sludges that contain PCBs shall be disposed of:

(A) In an incinerator which complies with rule 340-110-070;

(B) In a PCB landfill which complies with rule 340-110-075; or

(C) Upon application, using a disposal method to be approved by the Department. Applications for disposal in a manner other than prescribed in paragraph (A) or (B) of this subsection above must be made in writing to the Department. The application must contain information that, based on technical, environmental and economic considerations, indicates that

disposal in an incinerator or chemical waste landfill is not reasonable and appropriate, and that the alternate disposal method will provide adequate protection to health and the environment. The Department may request other information that it believes to be necessary for evaluation of the alternate disposal method. Any approval by the Department shall be in writing and may contain any appropriate limitations on the approved alternate method for disposal. In addition to these regulations, the Department shall consider other applicable guidelines, criteria and regulations to ensure that the discharges of dredged material and sludges that contain PCBs and other contaminants are adequately controlled to protect the environment. The person to whom such approval is issued must comply with all limitations contained in the approval.

(f) When storage is desired prior to disposal, PCBs shall be stored in a facility which complies with rule 340-110-065.

(2) PCB articles. (a) Transformers. (A) PCB transformers shall be disposed of in accordance with either of the following:

(i) In an incinerator that complies with rule 340-110-070; or

(ii) In a PCB landfill which complies with rule 340-110-075; Provided, that the transformer is first drained of all free flowing liquid, filled with solvent, allowed to stand for at least 18 hours and then drained thoroughly. PCB liquids that are removed shall be disposed of in accordance with section (1) of this rule. Solvents may include kerosene, xylene, toluene and other solvents in which PCBs are readily soluble. Precautionary measures should be taken, however, that the solvent flushing procedures is conducted in accordance with applicable safety and health standards as required by federal or state regulations.

(B) PCB-contaminated transformers shall be disposed of by draining all free flowing liquid from the transformer and disposing of the liquid in

accordance with subsection (1)(b) of this rule. The disposal of the drained transformer is not regulated by this rule.

(b) PCB capacitors. (A) The disposal of any capacitor shall comply with all requirements of this Subdivision unless it is known from label or name plate information, manufacturer's literature (including documented communications with the manufacturer), or chemical analysis that the capacitor does not contain PCBs.

(B) Any person may dispose of PCB small capacitors as municipal solid waste, unless that person is subject to the requirements of paragraph (2)(b)(D) of this rule.

(C) Any PCB large high or low voltage capacitor which contains 500 ppm or greater PCBs, owned by any person, shall be disposed of in an incinerator that complies with rule 340-110-070.

(D) Any PCB small capacitor owned by any person who manufactures or at any time manufactured PCB capacitors or PCB equipment and acquired the PCB capacitors in the course of such manufacturing shall be disposed of in an incinerator which complies with rule 340-110-070.

(E)(i) Notwithstanding the disposal requirements imposed by paragraph (C) or (D) of this subsection, PCB capacitors may be disposed of in PCB chemical waste landfills that comply with rule 340-110-075 if the EPA publishes a notice in the Federal Register declaring that those landfills are available for such disposal.

(ii) Prior to such disposal, the PCB capacitors shall be placed in one of the Department of Transportation specification containers identified in rule 340-110-065(3)(f) or in containers that comply with 49 CFR 178.118 (specification 17H containers). Large PCB capacitors which are too big to fit inside one of these containers shall be placed in a container with strength and durability equivalent to the DOT specification containers. In

all cases, interstitial space in the container shall be filled with sufficient absorbent material (such as sawdust or soil) to absorb any liquid PCBs remaining in the capacitors.

(c) PCB hydraulic machines. PCB hydraulic machines such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the liquid is disposed of in accordance with the provisions of section (1) of this rule. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a solvent containing less than 50 ppm PCB (see transformer solvents comment in subparagraph (2)(a)(A)(ii) of this rule) and the solvent disposed of in accordance with section (1) of this rule.

(d) PCB-contaminated electrical equipment. All PCB-contaminated electrical equipment except capacitors shall be disposed of by draining all free flowing liquid from the electrical equipment and disposing of the liquid in accordance with subsection (1)(b) or (c) of this rule. The disposal of the drained electrical equipment is not regulated by this rule. Capacitors that contain between 50 and 500 ppm PCBs shall be disposed of in an incinerator that complies with rule 340-110-070 or in a PCB landfill that complies with rule 340-110-075.

(e) Other PCB articles. (A) PCB articles with a PCB concentration of 500 ppm or greater must be disposed of:

(i) In an incinerator that complies with rule 340-110-070; or

(ii) In a PCB landfill that complies with rule 340-110-075, provided that all free-flowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the PCB landfill and that the drained liquids are disposed of in an incinerator that complies with rule 340-110-070.

(B) PCB articles with a PCB concentration between 50 and 500 ppm must be disposed of by draining all free flowing liquid from the article and disposing of the liquid in accordance with subsection (1)(b) or (c) of this rule. The disposal of the drained article is not regulated by this rule.

(f) Storage of PCB articles. Except for a PCB article described in paragraph (2)(b)(B) of this rule and hydraulic machines that comply with the municipal solid waste disposal provisions described in subsection (2)(c) of this rule, any PCB article shall be stored in accordance with rule 340-110-065 prior to disposal.

(3) PCB containers. (a) Unless decontaminated in compliance with rule 340-110-079 or as provided in subsection (3)(b) of this rule, a PCB container shall be disposed of:

(A) In an incinerator which complies with rule 340-110-070; or

(B) In a PCB landfill that complies with rule 340-110-075; provided that if there are PCBs in a liquid state, the PCB container shall first be drained and the PCB liquid disposed of in accordance with section (1) of this rule.

(b) Any PCB container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the PCB container shall first be drained and the PCB liquid disposed of in accordance with section (1) of this rule.

(c) Prior to disposal, a PCB container shall be stored in a facility which complies with rule 340-110-065.

(4) Spills. (a) Spills, leaks and other uncontrolled discharges of PCBs constitute the disposal of PCBs.

(b) PCBs resulting from the cleanup and removal of spills, leaks or

other uncontrolled discharges, must be stored and disposed of in accordance with section (1) of this rule.

(5) Any person who is required to incinerate any PCBs and PCB items under this Subdivision and who can demonstrate that an alternate method of destroying PCBs and PCB items exists and that this alternative method can achieve a level of performance equivalent to rule 340-110-070 incinerators or high efficiency boilers as provided in paragraphs (1)(b)(D) and (1)(c)(D) of this rule, may submit a written request to the Department for an exemption from the incineration requirements of rule 340-110-070. The applicant must show that his method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. On the basis of such information and any available information, the Department may, at its discretion, permit the use of the alternate if it finds that the alternate disposal methods provides PCB destruction equivalent to disposal in a rule 340-110-070 incinerator and will not present an unreasonable risk of injury to health or the environment. The permit shall be issued in accordance with Division 106 and may contain such conditions and provisions as the Department deems appropriate. The person to whom such waiver is issued must comply with all limitations contained in the permit.

(6) Testing procedures. (a) Owners or users of mineral oil dielectric fluid electrical equipment may use the following procedures to determine the concentration of PCBs in the dielectric fluid:

(A) Dielectric fluid removed from mineral oil dielectric fluid electrical equipment may be collected in a common container, provided that no other chemical substances or mixtures are added to the container. This common container option does not permit dilution of the collected oil. Mineral oil that is assumed or known to contain at least 50 ppm PCBs must not be mixed with mineral oil that is known or assumed to contain less than

50 ppm PCBs to reduce the concentration of PCBs in the common container. If dielectric fluid from untested, oil-filled circuit breakers, reclosers or cable is collected in a common container with dielectric fluid from other oil-filled electrical equipment, the entire contents of the container must be treated as PCBs at a concentration of at least 50 ppm, unless all of the fluid from the other oil-filled electrical equipment has been tested and shown to contain less than 50 ppm PCBs.

(B) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common containers or the individual electrical equipment to determine the PCB concentration. Except, that if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this Subdivision. For purposes of this paragraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with American Society of Testing and Materials method D-923-81 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.

(b) Owners or users of waste oil may use the following procedures to determine the PCB concentration of waste oil:

(A) Waste oil from more than one source may be collected in a common container, provided that no other chemical substances or mixtures, such as non-waste oils, are added to the container.

(B) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common container or individual containers to determine the PCB concentration,

except that if any PCBs at a concentration of 500 ppm or greater have been added to the container then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this Subdivision. For purposes of this paragraph, representative samples of waste oil are either samples taken in accordance with American Society of Testing and Materials method D-923 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.

(7) Waste oil. The use of waste oil that contains any detectable concentration of PCB as a sealant, coating or dust control agent is prohibited. Prohibited uses include, but are not limited to, road oiling, general dust control, use as a pesticide or herbicide carrier and use as a rust preventative on pipes.

Storage for disposal.

340-110-065 (1) Any PCB article or PCB container stored for disposal shall be removed from storage and disposed of as required by Subdivision D within one year from the date when it was first placed into storage.

(2) Except as provided in section (3) of this rule, owners or operators of any facilities used for the storage of PCBs and PCB items designated for disposal shall comply with the following requirements:

(a) The facilities shall meet the following criteria:

(A) Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB items;

(B) An adequate floor which has continuous curbing with a minimum six inch high curb. The floor and curbing must provide a containment volume

equal to at least two times the internal volume of the largest PCB article or PCB container stored therein or 25% of the total internal volume of all PCB articles or PCB containers stored therein, whichever is greater;

(C) No drain valves, floor drains, expansion joints, sewer lines or other openings that would permit liquids to flow from the curbed area;

(D) Floors and curbing constructed of continuous smooth and impervious materials, such as Portland cement concrete or steel, to prevent or minimize penetration of PCBs; and

(E) Not located at a site that is below the 100-year flood water elevation.

(3)(a) The following PCB items may be stored temporarily in an area that does not comply with the requirements of section (2) of this rule for up to thirty days from the date of their removal from service, provided that a notation is attached to the PCB item or a PCB container (containing the item) indicating the date the item was removed from service:

(A) Non-leaking PCB articles and PCB equipment;

(B) Leaking PCB articles and PCB equipment if placed in a non-leaking PCB container that contains sufficient sorbent materials to absorb any liquid PCBs remaining in the the PCB items;

(C) PCB containers containing non-liquid PCBs such as contaminated soil, rags and debris; and

(D) PCB containers containing liquid PCBs at a concentration between 50 and 500 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with 40 CFR Part 112. In addition, each container must bear a notation that indicates that the liquids in the drum do not exceed 500 ppm PCB.

(b) Non-leaking and structurally undamaged PCB large high voltage capacitors and PCB-contaminated electrical equipment that have not been

drained of free flowing dielectric fluid may be stored on pallets next to a storage facility that meets the requirements of section (2) of this rule. PCB-contaminated electrical equipment that has been drained of free flowing dielectric fluid is not subject to the storage provisions of rule 340-110-065. Storage under this subsection will be permitted only when the storage facility has immediately available unfilled storage space equal to 10% of the volume of capacitors and equipment stored outside the facility. The capacitors and equipment temporarily stored outside the facility shall be checked for leaks weekly.

(c) Any storage area subject to the requirements of section (2) or subsection (3)(a) of this rule shall be marked as required by rule 340-110-040(1)(j).

(d) No item of movable equipment that is used for handling PCBs and PCB items in the storage facilities and that comes in direct contact with PCBs shall be removed from the storage facility area unless it has been decontaminated as specified in rule 340-110-079.

(e) All PCB articles and PCB containers in storage shall be checked for leaks at least once every 30 days. Any leaking PCB articles and PCB containers and their contents shall be transferred immediately to properly marked non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up, using sorbents or other adequate means, and the PCB-contaminated materials and residues shall be disposed of in accordance with rule 340-110-060(1)(d).

(f) Except as provided in subsection (3)(g) of this rule, any container used for the storage of liquid PCBs shall comply with the Shipping Container Specification of the Department of Transportation (DOT), 49 CFR 178.80 (specification 5 container without removable head), 178.82 (Specification 5B container without removable head), 178.102 (Specification

6D overpack with Specification 2S (178.35) or 2SL (178.35a) polyethylene containers) or 178.116 (Specification 17E container). Any container used for the storage of non-liquid PCBs shall comply with the specifications of 49 CFR 178.80 (Specification 5 container), 178.82 (Specification 5B container) or 178.115 (Specification 17C container). As an alternate, container larger than those specified in DOT Specifications 5, 5B or 17C may be used for non-liquid PCBs if the containers are designed and constructed in a manner that will provide as much protection against leaking and exposure to the environment as the DOT Specification containers, and are of the same relative strength and durability as the DOT Specification containers.

(g) Storage containers for liquid PCBs can be larger than the containers specified in subsection (3)(f) of this rule provided that:

(A) The containers are designed, constructed and operated in compliance with Occupational Safety and Health Standards, 29 CFR 1910.106, Flammable and combustible liquids. Before using these containers for storing PCBs, the design of the containers must be reviewed to determine the effect on the structural safety of the containers that will result from placing liquids with the specific gravity of PCBs into the containers (see 29 CFR 1910.106(b)(1)(f)).

(B) The owners or operators of any facility using containers described in paragraph (3)(g)(A) of this rule shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in 40 CFR Part 112. In complying with 40 CFR Part 112, the owner or operator shall read "oil(s)" as "PCB(s)" whenever it appears.

(h) PCB articles and PCB containers shall be dated on the article or container when they are placed in storage. The storage shall be managed so that the PCB articles and PCB containers can be located by the date they entered storage. Storage containers provided in subsection (3)(g) of this rule shall have a record that includes for each batch of PCBs the quantity of the batch and date the batch was added to the container. The record shall also include the date, quantity and disposition of any batch of PCBs removed from the container.

(i) Owners or operators of storage facilities shall establish and maintain records as provided in rule 340-110-080.

Incineration.

340-110-070 (1) Liquid PCBs. An incinerator used for incinerating PCBs shall be permitted by the Department pursuant to section (4) of this rule. The incinerator shall meet all of the requirements specified in subsections (1)(a) through (i) of this rule, unless a waiver from these requirements is obtained pursuant to subsection (4)(e) of this rule. In addition, the incinerator shall meet any other requirements which may be prescribed pursuant to subsection (4)(d) of this rule.

(a) Combustion criteria shall be either of the following:

(A) Maintenance of the introduced liquids for a 2-second dwell time at 1200° C (\pm 100° C) and 3% excess oxygen in the stack gas; or

(B) Maintenance of the introduced liquids for a 1 1/2-second dwell time at 1600° C (\pm 100° C) and 2% excess oxygen in the stack gas.

(b) Combustion efficiency shall be at least 99.9% computed as follows:

C_{CO_2} = concentration of carbon dioxide

C_{CO} = concentration of carbon monoxide

(c) The rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes.

(d) The temperatures of the incineration process shall be continuously measured and recorded. The combustion temperature of the incineration process shall be based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings.

(e) The flow of PCBs to the incinerator shall stop automatically whenever the combustion temperature drops below the temperatures specified in subsection (1)(a) of this rule.

(f) Monitoring of stack emission products shall be conducted:

(A) When an incinerator is first used for the disposal of PCBs under the provisions of this regulation;

(B) When an incinerator is first used for the disposal of PCBs after the incinerator has been modified in a manner which may affect the characteristics of the stack emission products; and

(C) At a minimum such monitoring shall be conducted for the following parameters: (i) O_2 ; (ii) CO; (iii) CO_2 ; (iv) Oxides of nitrogen (NO_x); (v) Hydrochloric Acid (HCl); (vi) Total chlorinated organic content (RCI); (vii) PCBs; and (viii) Total particulate matter.

(g) At a minimum monitoring and recording of combustion products and incineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs: (A) O_2 ; (B) CO; (C) CO_2 . The monitoring for O_2 and CO shall be continuous. The monitoring for CO_2 shall be periodic, at a frequency specified by the Department.

(h) The flow of PCBs to the incinerator shall stop automatically when

any one or more of the following conditions occur unless a contingency plan is submitted by the incinerator owner or operator and permitted by the Department and the contingency plan indicates what alternative measures the incinerator owner or operator would take if any of the following conditions occur:

(A) Failure of monitoring operations specified in subsection (1)(g) of this rule;

(B) Failure of the PCB feed rate and quantity measuring and recording equipment specified in subsection (1)(c) of this rule; or

(C) Excess oxygen falls below the percentage specified in subsection (1)(a) of this rule.

(i) Water scrubbers shall be used for HCl control during PCB incineration and shall meet any performance requirements specified by the Department. Scrubber effluent shall be monitored and shall comply with applicable effluent or pretreatment standards, and any other state and federal laws and regulations. An alternate method of HCl control may be used if the alternate method has been approved by the Department. (The HCl neutralizing capability of cement kilns is considered to be an alternate method.)

(2) Non-liquid PCBs. An incinerator used for incinerating non-liquid PCBs, PCB articles, PCB equipment or PCB containers shall be permitted by the Department pursuant to section (4) of this rule. The incinerator shall meet all of the requirements specified in subsections (2)(a) and (b) of this rule unless a waiver from these requirements is obtained pursuant to subsection (4)(e) of this rule. In addition, the incinerator shall meet any other requirements that may be prescribed pursuant to subsection (4)(d) of this rule.

(a) The mass air emissions from the incinerator shall be no greater

than 0.001 g PCB/kg of the PCB introduced into the incinerator.

(b) The incinerator shall comply with the provisions of subsections (1)(b), (c), (d), (f), (g), (h)(A) and (B), and (i) of this rule.

(3) Maintenance of data and records. All data and records required by this rule shall be maintained in accordance with rule 340-110-080.

(4) Incinerators permits. Prior to the incineration of PCBs and PCB items, the owner or operator of an incinerator shall obtain a permit from the Department. The permit shall be obtained in the following manner:

(a) Initial report. The owner or operator shall submit to the Department an initial report which contains:

(A) The location of the incinerator;

(B) A detailed description of the incinerator including general site plans and design drawings of the incinerator;

(C) Engineering reports or other information on the anticipated performance of the incinerator;

(D) Sampling and monitoring equipment and facilities available;

(E) Waste volumes expected to be incinerated;

(F) Any local, state or federal permits or approvals; and

(G) Schedules and plans for complying with the permit requirements.

(b) Trial burn. (A) Following receipt of the report described in subsection (4)(a) of this rule, the Department shall determine if a trial burn is required and notify the person who submitted the report whether a trial burn of PCBs and PCB items must be conducted. The Department may require the submission of any other information that the Department finds to be reasonably necessary to determine the need for a trial burn. Such other information shall be restricted to the types of information required in paragraphs (4)(a)(A) through (G) of this rule.

(B) If the Department determines that a trial burn must be held, the

person who submitted the report described in subsection (4)(a) of this rule shall submit to the Department a detailed plan for conducting and monitoring the trial burn. At a minimum, the plan must include:

- (i) Date trial burn is to be conducted;
- (ii) Quantity and type of PCBs and PCB items to be incinerated;
- (iii) Parameters to be monitored and location of sampling points;
- (iv) Sampling frequency and methods and schedules for sample analyses;

and

(v) Name, address and qualifications of persons who will review analytical results and other pertinent data, and who will perform a technical evaluation of the effectiveness of the trial burn.

(C) Following receipt of the plan described in paragraph (4)(b)(B) of this rule, the Department may approve the plan, require additions or modifications to the plan, or disapprove the plan. If the plan is disapproved, the Department will notify the person who submitted the plan of such disapproval, together with the reasons why it is disapproved. That person may thereafter submit a new plan in accordance with paragraph (4)(b)(B) of this rule. If the plan is approved (with any additions or modifications which the Department may prescribe), the Department will notify the person who submitted the plan of the approval. Thereafter, the trial burn shall take place at a date and time to be agreed upon between the Department and the persons who submitted the plan.

(c) Other information. In addition to the information contained in the report and plan described in subsections (4)(a) and (b) of this rule, the Department may require the owner or operator to submit any other information that the Department finds to be reasonably necessary to determine whether an incinerator permit shall be approved.

(d) Contents of permit. (A) Except as provided in subsection (4)(e)

of this rule, the Department need not permit an incinerator for the disposal of PCB and PCB items unless it finds that the incinerator meets all of the requirements of sections (1) and/or (2) of this rule.

(B) In addition to the requirements of sections (1) and/or (2) of this rule, the Department may include in a permit any other requirements that the Department finds are necessary to ensure that operation of the incinerator does not present an unreasonable risk of injury to health or the environment from PCBs. Such requirements may include a fixed period of time for which the permit is valid.

(e) Waivers. An owner or operator of the incinerator may submit evidence to the Department that operation of the incinerator will not present an unreasonable risk of injury to health or the environment from PCBs, when one or more of the requirements of sections (1) and/or (2) of this rule are not met. On the basis of such evidence and any other available information, the Department may in its discretion find that any requirement of sections (1) and (2) is not necessary to protect against such a risk, and may waive the requirements in any permit for that incinerator. Any finding and waiver under this subsection must be stated in writing and included as part of the permit.

(f) Persons permitted. A permit will designate the persons who own and who are authorized to operate the incinerator, and will apply only to such persons, except as provided in subsection (4)(h) of this rule.

(g) Permitting procedures. The procedures of Division 106 of this Chapter will be followed in issuing a PCB incinerator permit.

(h) Transfer of property. Any person who owns or operates a permitted PCB incinerator must notify the Department at least 30 days before transferring ownership in the incinerator or the property it stands upon, or transferring the right to operate the incinerator. The transferor must

also submit to the Department, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's incinerator permit; however, the Department will require the transferee to apply for a new PCB incinerator permit. The transferee must abide by the transferor's approval until the Department issues a new permit to the transferee.

PCB landfills.

340-110-075 (1) General. A landfill used for the disposal of PCBs and PCB items shall be permitted by the Department pursuant to section (3) of this rule. The landfill shall meet all of the requirements specified in section (2) of this rule, unless a waiver from these requirements is obtained pursuant to subsection (3)(d) of this rule. In addition, the landfill shall meet any other requirements that may be prescribed pursuant to subsection (3)(c) of this rule.

(2) Technical requirements. Requirements for landfills used for the disposal of PCBs and PCB items are as follows:

(a) Soils. The landfill site shall be located in thick, relatively impermeable formations such as large-area clay pans. Where this is not possible, the soil shall have a high clay and silt content with the following parameters:

(A) In-place soil thickness, 4 feet or compacted soil liner thickness, 3 feet;

(B) Permeability (cm/sec), equal to or less than 1×10^{-7} ;

(C) Percent soil passing No. 200 Sieve, >30;

(D) Liquid Limit, >30; and

(E) Plasticity Index, >15.

(b) Synthetic membrane liners. Synthetic membrane lines shall be used when, in the judgment of the Department, the hydrologic or geologic conditions at the landfill require such a liner in order to provide at least a permeability equivalent to the soils in subsection (2)(a) of this rule. Whenever a synthetic liner is used at a landfill site, special precautions shall be taken to ensure that its integrity is maintained and that it is chemically compatible with PCBs. Adequate soil underlining and soil cover shall be provided to prevent excessive stress on the liner and to prevent rupture of the liner. The liner must have a minimum thickness of 30 mils.

(c) Hydrologic conditions. The bottom of the landfill shall be above the historical high groundwater table as provided below. Floodplains, shorelands and groundwater recharge areas shall be avoided. There shall be no hydraulic connection between the site and standing or flowing surface water. The site shall have monitoring wells and leachate collection. The bottom of the landfill liner system or natural in-place soil barrier shall be at least fifty feet from the historical high water table.

(d) Flood protection. (A) If the landfill site is below the 100-year floodwater elevation, the operator shall provide surface water diversion dikes around the perimeter of the landfill site with a minimum height equal to two feet above the 100-year floodwater elevation.

(B) If the landfill site is above the 100-year floodwater elevation, the operators shall provide diversion structures capable of diverting all of the surface water runoff from a 24-hour, 25-year storm.

(e) Topography. The landfill site shall be located in an area of low to moderate relief to minimize erosion and to help prevent landslides or slumping.

(f) Monitoring systems. (A) Water sampling. (i) For sites receiving

PCBs, the groundwater and surface water from the disposal site area shall be sampled prior to commencing operations under an approval provided in section (3) of this rule for use as baseline data.

(ii) Any surface watercourse designated by the Department using the authority provided in paragraph (3)(c)(B) of this rule shall be sampled at least monthly when the landfill is being used for disposal operations.

(iii) Any surface watercourse designated by the Department using the authority provided in paragraph (3)(c)(B) of this rule shall be sampled for a time period specified by the Department on a frequency of no less than once every six months after final closure of the disposal area.

(B) Groundwater monitoring wells. (i) If underlying earth materials are homogenous, impermeable and uniformly sloping in one direction, only three sampling points shall be necessary. These three points shall be equally spaced on a line through the center of the disposal area and extending from the area of highest water table elevation to the area of the lowest water table elevation on the property.

(ii) All monitoring wells shall be cased and the annular space between the monitor zone (zone of saturation) and the surface shall be completely backfilled with Portland cement or an equivalent material and plugged with Portland cement to effectively prevent percolation of surface water into the well bore. The well opening at the surface shall have a removable cap to provide access and to prevent entrance of rainfall or stormwater runoff. The well shall be pumped to remove the volume of liquid initially contained in the well before obtaining a sample for analysis. The discharge shall be treated to meet applicable state or federal discharge standards or recycled to the chemical waste landfill.

(C) Water analysis. As a minimum, all samples shall be analyzed for the following parameters, and all data and records of the sampling and

analysis shall be maintained as required in rule 340-110-080(4)(a).

Sampling methods and analytical procedures for these parameters shall comply with those specified in "Test Methods for Evaluating Solid Waste," 2nd Ed., EPA SW-846, 7/82.

(i) PCBs.

(ii) pH.

(iii) Specific conductance.

(iv) Chlorinated organics.

(g) Leachate collection. A leachate collection monitoring system shall be installed above the landfill liner. Leachate collection systems shall be monitored monthly for quantity and physiochemical characteristics of leachate produced. The leachate should be either treated to acceptable limits for discharge in accordance with a state permit or disposed of by another state-approved method. Water analysis shall be conducted as provided in paragraph (2)(f)(C) of this rule. Acceptable leachate monitoring/collection systems shall be any of the following design, unless a waiver is obtained pursuant to subsection (3)(d) of this rule.

(A) Simple leachate collection. This system consists of a gravity flow drainfield installed above the waste disposal facility liner. This design is recommended for use when semi-solid or leachable solid wastes are placed in a lined pit excavated into a relatively thick, unsaturated, homogenous layer of low permeability soil.

(B) Compound leachate collection. This system consists of a gravity flow drainfield installed above the waste disposal facility liner and above a secondary installed liner. This design is recommended for use when semi-liquid or leachable solid wastes are placed in a lined pit excavated into relatively permeable soil.

(C) Suction lysimeters. This system consists of a network of porous

ceramic cups connected by hoses or tubing to a vacuum pump. The porous ceramic cups or suction lysimeters are installed along the sides and under the bottom of the waste disposal facility liner. This type of system works best when installed in a relatively permeable unsaturated soil immediately adjacent to the bottom and/or sides of the disposal facility.

(h) PCB landfill operations. (A) PCBs and PCB items shall be placed in a landfill in a manner that will prevent damage to containers or articles. Other wastes placed in the landfill that are not chemically compatible with PCBs and PCB items including organic solvents shall be segregated from the PCBs throughout the waste handling and disposal process.

(B) An operation plan shall be developed and submitted to the Department for approval as required in section (3) of this rule. This plan shall include detailed explanations of the procedures to be used for recordkeeping, surface water handling procedures, excavation and backfilling, waste segregation burial coordinates, vehicle and equipment movement, use of roadways, leachate collection systems, sampling and monitoring procedures, monitoring wells, environmental emergency contingency plans and security measures to protect against vandalism and unauthorized waste placements. Division 104 is a useful reference in preparation of this plan. If the facility is to be used to dispose of liquid waste containing between 50 ppm and 500 ppm PCB, the operations plan must include procedures to determine that liquid PCBs to be disposed of at the landfill do not exceed 500 ppm PCB and measures to prevent the migration of PCBs from the landfill. Bulk liquids not exceeding 500 ppm PCBs may be disposed of provided such waste is pretreated and/or stabilized (e.g., chemically fixed, evaporated, mixed with dry inert absorbent) to reduce its liquid content or increase its solid content so that a non-

flowing consistency is achieved to eliminate the presence of free liquids prior to final disposal in a landfill. Containers of liquid PCBs with a concentration between 50 and 500 ppm PCB may be disposed of if each container is surrounded by an amount of inert sorbent material capable of absorbing all of the liquid contents of the container.

(C) Ignitable waste shall not be disposed of in a PCB landfill. Liquid ignitable wastes are wastes that have a flash point less than 60° C (140° F) as determined by the following method or an equivalent method: Flash point of liquids shall be determined by a Pensky-Martens Closed Cup Tester, using the protocol specified in ASTM Standard D-93-79 or D-93-80, or the Setaflash Closed Tester using the protocol specified in ASTM Standard D-3278-78.

(D) Records shall be maintained for all PCB disposal operations and shall include information on the PCB concentration in liquid wastes and the three dimensional burial coordinates for PCBs and PCB items. Additional records shall be developed and maintained as required in rule 340-110-080.

(i) Supporting facilities. (A) A six foot woven mesh fence, wall or similar device shall be placed around the site to prevent unauthorized persons and animals from entering.

(B) Roads shall be maintained to and within the site which are adequate to support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions.

(C) The site shall be operated and maintained in a manner to prevent safety problems or hazardous conditions resulting from spilled liquids and windblown materials.

(3) Approval of PCB landfills. Prior to the disposal of any PCBs and PCB Items in a PCB landfill, the owner or operator of the landfill shall obtain a permit from the Department. The permit shall be obtained in the

following manner:

(a) Initial report. The owner or operator shall submit to the Department an initial report which contains:

(A) The location of the landfill;

(B) A detailed description of the landfill including general site plans and design drawings;

(C) An engineering report describing the manner in which the landfill complies with the requirements for PCB landfills specified in section (2) of this rule;

(D) Sampling and monitoring equipment and facilities available;

(E) Expected waste volumes of PCBs;

(F) General description of waste materials other than PCBs that are expected to be disposed of in the landfill;

(G) Landfill operations plan as required in section (2) of this rule;

(H) Any local, state or federal permits or approvals; and

(I) Any schedules or plans for complying with the permit requirements.

(b) Other information. In addition to the information contained in the report described in subsection (3)(a) of this rule, the Department may require the owner or operator to submit any other information that it finds to be reasonably necessary to determine whether a PCB landfill permit should be approved. Such other information shall be restricted to the types of information required in paragraphs (3)(a)(A) through (I) of this rule.

(c) Contents of permit. (A) Except as provided in subsection (3)(d) of this rule, the Department need not permit a PCB landfill for the disposal of PCB and PCB items unless he finds that the PCB landfill meets

all of the requirements of section (2) of this rule.

(B) In addition to the requirements of section (2) of this rule, the Department may include in a permit any other requirements that it finds are necessary to ensure that operation of the PCB landfill does not present an unreasonable risk of injury to health or the environment from PCBs. Such provisions may include a fixed period of time for which the permit is valid. The permit may also include a stipulation that the operator of the PCB landfill report to the Department any instance when PCBs are detectable during monitoring activities conducted pursuant to subsection (2)(f) of this rule.

(d) Waivers. An owner or operator of a PCB landfill may submit evidence to the Department that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs when one or more of the requirements of section (2) of this rule are not met. On the basis of such evidence and any other available information, the Department may, at its discretion, find that any requirement of section (2) of this rule is not necessary to protect against such a risk and may waive the requirements in any permit for that landfill. Any finding and waiver under this subsection must be stated in writing and included as part of the permit.

(e) Persons permitted. A permit will designate the persons who own and who are authorized to operate the PCB landfill, and will apply only to such persons, except as provided in subsection (3)(g) of this rule.

(f) Permitting procedures. The procedures of Division 106 of this Chapter will be followed in issuing a PCB landfill permit.

(g) Transfer of property. Any person who owns or operates a permitted PCB landfill must notify the Department at least 30 days before transferring ownership in the property or transferring the right to conduct

the PCB landfill operation. The transferor must also submit to the Department, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's PCB landfill permit; however, the Department will require the transferee to apply for a new PCB landfill permit. In the latter case, the transferee must abide by the transferor's permit until the Department issues a new permit to the transferee.

Decontamination.

340-110-079 (1) Any PCB container to be decontaminated shall be decontaminated by flushing the internal surfaces of the container three times with a solvent containing less than 50 ppm PCB. The solubility of PCBs in the solvent must be 5% or more by weight. Each rinse shall use a volume of the normal diluent equal to approximately 10% of the PCB container capacity. The solvent may be reused for decontamination until it contains 50 ppm PCB. The solvent shall then be disposed of as a PCB in accordance with rule 340-110-060(1). Non-liquid PCBs resulting from the decontamination procedures shall be disposed of in accordance with the provisions of rule 340-110-060(1)(d).

(2) Movable equipment used in storage areas shall be decontaminated by swabbing surfaces that have contacted PCBs with a solvent meeting the criteria of section (1) of this rule.

(Comment: Precautionary measures should be taken to ensure that the solvent meets safety and health standards as required by applicable federal and state regulations.)

Subdivision J: Records and Reports

Records and monitoring.

340-110-080 (1) PCBs and PCB items projected for disposal. Every owner or operator of a facility storing at one time at least 99.4 pounds of PCBs contained in PCB container(s) or one or more PCB transformers, or 50 or more PCB large high or low voltage capacitors shall develop and maintain records on the disposition of PCBs and PCB items. These records shall form the basis of an annual document prepared for each facility by July 1 covering the previous calendar year. Owners or operators with one or more facilities that store PCBs and PCB items in the quantities described above may maintain the records and documents at one of the facilities that is normally occupied for 8 hours a day, provided the identity of this facility is available at each facility storing PCBs and PCB items. The records and documents shall be maintained for at least five years after the facility ceases storing PCBs and PCB items in the prescribed quantities. The following information for each facility shall be included in the annual document:

(a) The dates when PCBs and PCB items are removed from service, are placed into storage for disposal, and are placed into transport for disposal. The quantities of the PCBs and PCB items shall be indicated using the following breakdown:

(A) Total weight in pounds of any PCBs and PCB items in PCB containers including the identification of container contents such as liquids and capacitors;

(B) Total number of PCB transformers and total weight in pounds of any PCBs contained in the transformers; and

(C) Total number of PCB large high or low voltage capacitors.

(b) For PCBs and PCB items removed from service, the location of the initial disposal or storage facility and the name of the owner or operator of the facility.

(Comment: This section is primarily aimed at users of PCBs and PCB items.)

(2) Disposal and storage facilities. Each owner or operator of a facility (including high efficiency boiler operations) used for the storage or disposal of PCBs and PCB items shall, by each July 1, prepare and maintain a document that includes the information required in subsections (2)(a) through (d) of this rule for PCBs and PCB items that were handled at the facility during the previous calendar year. The document shall be retained at each facility for at least 5 years after the facility is no longer used for the storage or disposal of PCBs and PCB items except that in the case of PCB landfills, the document shall be maintained at least 20 years after the PCB landfill is no longer used for the disposal of PCBs and PCB items. The documents shall be available at the facility for inspection by authorized representatives of the Department. If the facility ceases to be used for PCB storage or disposal, the owner or operator of such facility shall notify the Department within 60 days that the facility has ceased storage or disposal operations. The notice shall specify where the documents that are required to be maintained by this section are located. The following information shall be included in each document:

(a) The date when any PCBs and PCB items were received by the facility during the previous calendar year for storage or disposal, and identification of the facility and the owner or operator of the facility from whom the PCBs were received;

(b) The date when any PCBs and PCB items were disposed of at the

disposal facility or transferred to another disposal or storage facility, including the identification of the specific types of PCBs and PCB items that were stored or disposed of;

(c) A summary of the total weight in pounds of PCBs and PCB articles in containers and the total weight of PCBs contained in PCB transformers, that have been handled at the facility during the previous calendar year. This summary shall provide totals of the above PCBs and PCB items which have been:

(A) Received during the year;

(B) Transferred to other facilities during the year; and

(C) Retained at the facility at the end of the year. In addition, the contents of PCB containers shall be identified. When PCB containers and PCBs contained in a transformer are transferred to other storage or disposal facilities, the identification of the facility to which such PCBs and PCB items were transferred shall be included in the document.

(d) Total number of any PCB articles or PCB equipment not in PCB containers, received during the calendar year, or remaining on the facility site at the end of the calendar year. The identification of the specific types of PCB articles and PCB equipment received, transferred or remaining on the facility site shall be indicated. When PCB articles and PCB equipment are transferred to other storage or disposal facilities, the identification of the facility to which the PCB articles and PCB equipment were transferred must be included.

(Comment: Any requirements for weights in pounds of PCBs may be calculated values if the internal volume of containers and transformers is known and included in the reports, together with any assumptions on the density of the PCBs contained in the containers or transformers.)

(3) Incineration facilities. Each owner or operator of a PCB

incinerator facility shall collect and maintain for a period of 5 years from the date of collection the following information, in addition to the information required in section (2) of this rule:

(a) When PCBs are being incinerated, the following continuous and short-interval data:

(A) Rate and quantity of PCBs fed to the combustion system as required in rule 340-110-070(1)(c);

(B) Temperature of the combustion process as required in rule 340-110-070(1)(d); and

(C) Stack emission product to include O₂, CO and CO₂ as required in rule 340-110-070(1)(g).

(b) When PCBs are being incinerated, data and records on the monitoring of stack emission as required in rule 340-110-070(1)(f).

(c) Total weight in pounds of any solid residues generated by the incineration of PCBs and PCB items during the calendar year, the total weight in pounds of any solid residues disposed of by the facility in PCB landfills, and the total weight in pounds of any solid residues remaining on the facility site.

(d) When PCBs and PCB items are being incinerated, additional periodic data shall be collected and maintained as specified by the Department pursuant to rule 340-110-070(4)(d).

(e) Upon any suspension of the operation of any incinerator pursuant to rule 340-110-070(1)(h), the owner or operator of such an incinerator shall prepare a document. The document shall, at a minimum, include the date and time of the suspension and an explanation of the circumstances causing the suspension of operation. The document shall be sent to the Department within 30 days of any such suspension.

(4) PCB landfill facilities. Each owner or operator of a PCB landfill

facility shall collect and maintain until at least 20 years after the PCB landfill is no longer used for the disposal of PCBs the following information in addition to the information required in section (2) of this rule:

(a) Any water analysis obtained in compliance with rule 340-110-075(2)(f)(C); and

(b) Any operations records including burial coordinates of wastes obtained in compliance with rule 340-110-075(2)(h)(B).

(5) High efficiency boiler facilities. Each owner or operator of a high efficiency boiler used for the disposal of liquids between 50 and 500 ppm PCB shall collect and maintain for a period of 5 years the following information, in addition to the information required in section (2) of this rule:

(a) For each month PCBs are burned in the boiler the carbon monoxide and excess oxygen data required in rule 340-110-060(1)(b)(C)(i)(VIII) and (1)(c)(C)(i)(VIII).

(b) The quantity of PCBs burned each month as required in rule 340-110-060(1)(b)(C)(i)(VII) and (1)(c)(C)(i)(VII).

(c) For each month PCBs (other than mineral oil dielectric fluid) are burned, chemical analysis data of the waste as required in rule 340-110-060(1)(c)(C)(ii)(VI).

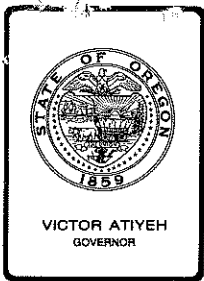
(6) Retention of special records by storage and disposal facilities. In addition to the information required to be maintained under sections (2) to (5) of this rule, each owner or operator of a PCB storage or disposal facility (including high efficiency boiler operations) shall collect and maintain for the time period specified in section (2) of this rule the following data:

(a) All documents, correspondence and data that have been provided to

the owner or operator of the facility by any local, state or federal government agency and that pertain to the storage or disposal of PCBs and PCB items at the facility.

(b) All documents, correspondence and data that have been provided by the owner or operator of the facility to any local, state or federal government agency and that pertain to the storage or disposal of PCBs and PCB items at the facility.

(c) Any applications and related correspondence sent by the owner or operator of the facility to any local, state or federal authorities in regard to wastewater discharge permits, solid waste permits, building permits or other permits or authorizations such as those required by rules 340-110-070(4) and -075(3).



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. I, April 6, 1984 EQC Meeting

Informational Report: Uncontrolled (Abandoned) Hazardous
Waste Disposal Site Survey - Progress Report IV.

Background

This report updates the Department's efforts to identify, inspect and evaluate uncontrolled (abandoned) hazardous waste disposal sites in Oregon. Previous reports were published on February 1, 1980; March 1, 1981; and August 27, 1982.

In 1979, the Department and the Environmental Protection Agency (EPA) began surveying uncontrolled (abandoned) hazardous waste sites in Oregon. The objective of the investigations was to determine if hazardous waste was disposed of at a site, the amount disposed of, and whether the waste posed a threat to public health or the environment. The sites were selected based upon information found in consultant reports, from environmental inspections done by the Department, from a list of companies that notified the EPA of the existence of sites, and from information solicited from the public.

The survey is about chemical waste disposal sites and not about sites that may contain radioactive wastes. Radioactive wastes are regulated by the Oregon State Health Division and the Oregon Department of Energy.

Results

One-hundred-eleven sites have been subjects of preliminary investigations. As discussed later in this report, an additional 44 preliminary investigations will start in 1984. To date, the Department has completed 85 site investigations (see Attachment I) which are currently being reviewed by the EPA for completeness. New information received caused four previously closed site investigations to be reopened (McCormick & Baxter, Portland; Dant & Russell, Portland; St. John's Landfill, Portland; and Martin Marietta, The Dalles). Deschutes Valley Sanitation, Inc., a defunct industrial waste disposal site, was added to the survey.



Contains
Recycled
Materials

Twenty-six site investigations are continuing, seven in the Doane Lake study area:

1. Allied Plating, Portland
2. Bloomberg Road Landfill, Eugene
3. Dant & Russell, Portland
4. Deschutes Valley Sanitation, Inc., Terrebonne
5. Georgia Pacific, Coos Bay
6. Georgia Pacific, Toledo (new solid waste site)
7. Georgia Pacific, Toledo (old burning site)
8. Gilmore Steel, Portland (Doane Lake)
9. Gould, Inc., Portland (Doane Lake)
10. Industrial Air Products, Portland (Doane Lake)
11. Koppers, Co., Portland (Doane Lake)
12. Lawrence David Co., Eugene
13. Martin Marietta, The Dalles
14. McCall Oil & Chemical Corp., Astoria
15. McCormick & Baxter, Portland
16. Northwest Natural Gas, Portland (Doane Lake)
17. Nu-Way Oil, Portland
18. Pennwalt, Portland (Doane Lake)
19. Rhone-Poulenc, Portland (Doane Lake)
20. Shell Oil Company, Portland
21. Southern Pacific Railroad Co., Eugene
22. St. John's Landfill
23. Umatilla Army Depot, Hermiston
24. Union Pacific, Bridal Veil
25. United Chrome Products, Inc., Corvallis
26. Weyerhaeuser Company, North Bend.

Progress has been made at several sites. Gould, Inc., Portland, where 10,000 lead-contaminated battery cases were disposed of, is being cleaned up. The lead dust and slag from the empty battery cases will be removed and sent to a smelter for reuse. The cleaned cases will be recycled or burned as a fuel. Following this Phase I cleanup, the company will analyze the soil to determine the amount of lead remaining at the site. Additional remedial cleanup may or may not be required.

Rhone-Poulenc, Portland, a manufacturer of agricultural chemicals, is monitoring the shallow groundwater beneath the plant. Tests of the groundwater show that chlorinated phenols from past herbicide manufacturing contaminated the shallow groundwater. The company plans to remove the phenols at the plant site by recovering and treating the contaminated shallow groundwater.

Precision Castparts, Inc., Portland, a metal parts investment casting firm, voluntarily removed 635 drums of corrosive hazardous wastes from the defunct Deschutes Valley Sanitation industrial waste disposal site located

near Terrebonne in Central Oregon. Still to be removed are 5,600 gallons of ink sludge contaminated by lead, and 161 drums of low-level radioactive waste. The Oregon State Health Division is directing the removal of the radioactive drums. Cleanup should be completed by June 1984.

McCormick and Baxter, a wood treating company in Portland, installed four groundwater monitoring wells to sample the shallow groundwater beneath a closed surface impoundment at their plant site. After discovering heavy metals and chlorinated phenols in the groundwater, the company notified the DEQ and hired a consulting firm to determine the extent of the contamination. Once the extent of contamination is known, a remedial action plan will be developed.

The Department asked Dant and Russell, North Plains, to install groundwater monitoring wells at the firm's wood processing site. The wells are needed to evaluate the presence and levels of suspected wood treating chemicals in the groundwater.

At the St. Johns Landfill, the Department determined that additional groundwater monitoring wells are needed to better assess the groundwater quality in the deeper zones.

Martin Marietta, an aluminum reduction plant in The Dalles, hired a consulting firm to evaluate the extent of cyanide contaminated groundwater beneath the company's solid waste disposal site. The consulting firm is working on a plan to eliminate the source of contamination and to evaluate the need for additional remedial action.

For years, United Chrome, a chrome plating facility near Corvallis, discharged chromium waste into a seepage bed located near the plant. Analysis of the soil and groundwater in 1983 showed high levels of chromium contamination. The EPA is conducting a Remedial Investigation and Feasibility Study of the site this spring. The study will focus on the nature and extent of the pollution problem and recommend cleanup alternatives.

Superfund

On December 3, 1980, Congress passed the Comprehensive Environmental Response Compensation and Liability Act, commonly known as Superfund. The Act states that if an imminent hazard to the environment or to people's health is identified, immediate removal or planned remedial action may be taken at a site by using money from Superfund. Responsible party cleanups are also possible under Superfund, assuming there is timely action by the state and the responsible party.

In 1982, the Department responded to a request from the EPA to submit candidate sites for entry on the National Priorities List (NPL). The NPL is a national Superfund list of over 400 hazardous waste sites that qualify

for Superfund money. The objective of the national Superfund list is to:

1. Identify for the states and the public those hazardous waste sites which appear to warrant remedial action.
2. Prioritize sites for use of Superfund money to implement remedial action if a responsible party cannot be found or is uncooperative.

In July 1982, based on their hazard ranking score, Gould, Inc., Portland, and Teledyne Wah Chang, Albany, were placed on the national Superfund list. In a subsequent August 1983 update of the list, United Chrome Products, Inc., Corvallis, was added. The next national update of the Superfund list is scheduled for early summer 1984. The Department is evaluating its recent work to determine if any additional candidate sites should be nominated for inclusion on the Superfund list.

Future Action

The Department will continue to work on the specific projects identified earlier in this report, and with the EPA on the Superfund sites to pursue cleanup as needed. In addition, the Department intends to begin evaluating the 44 new sites listed in Attachment II. The Department is able to do this assessment work because of a special one-year grant from the EPA. The work began in February 1984. The Department expects to publish the results of the work in March 1985.

Conclusion

To date, eight sites have been identified which will likely require some form of remedial action (Gould, Rhone-Poulenc, Precision Castparts, McCormick and Baxter, Dant and Russell, St. Johns Landfill, Martin Marietta and United Chrome). As described earlier, remedial action is occurring, or additional investigation and/or testing is being done at those sites. So far, no federal Superfund money has been spent on remedial action in Oregon, although three sites have been placed on the Superfund list and are eligible for federal funding. Assuming the responsible parties continue to cooperate and do the required remedial actions in a timely manner, federal Superfund money may not be required, even though available. Before federal money can be spent for remedial action, the state would have to agree to provide a 10 percent match (50 percent if the land on which a site is situated is publicly owned). Oregon's 10 percent match would have to be provided by a special appropriation of the legislature.

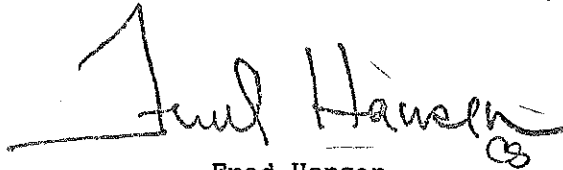
Attachment III lists all of the sites investigated and the status of the work done at each site through 1983. For further information concerning this report, please contact Richard Reiter or Gary Calaba at 229-5913. In addition, if anyone has any information on a site they believe the

Department should be investigating, please contact Richard Reiter or Gary Calaba, 229-5913 or write the Department of Environmental Quality, Hazardous Waste Section, P.O. Box 1760, Portland, OR 97207.

Director's Recommendation

It is recommended that the Commission approve the following course of action to be pursued by the Department:

1. Continue investigating uncontrolled (abandoned) hazardous waste disposal sites and initiate remedial action where necessary.
2. Submit candidate sites to the EPA for entry on the national Superfund list.

A handwritten signature in black ink that reads "Fred Hansen". The signature is written in a cursive style with a large, stylized "F" and "H". There is a small mark resembling a heart or a flourish at the end of the signature.

Fred Hansen

- Attachment(s) I: Completed DEQ Site Investigations Currently under Review by the EPA
II: Sites Scheduled to be Surveyed in 1984
III: Status of Work Completed at each Uncontrolled (abandoned) Site

Gary Calaba:b
229-6534
March 23, 1984
ZB2912

COMPLETED
DEQ SITE INVESTIGATIONS
CURRENTLY UNDER REVIEW BY THE EPA

1. A. B. Plating, Portland
2. Ace Galvanizing, Portland
3. Airport Glue Waste Disposal, Josephine County
4. Alexander Paper Stock, Portland
5. Alkali Lake Disposal Site, Lakeview
6. American Can Co., Salem
7. American Timber and Trading Company, Portland
8. Anodizing, Inc., Portland
9. Associated Chemists, Inc. Portland
10. Bethel-Danebo Landfill, Eugene
11. Boise Cascade, Elgin
12. Boise Cascade, Valsetz
13. Borden Chemical Company, Springfield
14. Brown's Island Landfill, Salem
15. Caron Chemical Corp., Monmouth
16. Cascade Plating Co., Eugene
17. Champion International, Hood River
18. Champion International, Lebanon
19. Charles H. Lilly Co., Portland
20. Chempro of Oregon, Portland
21. Chem-Security Chemical Waste Landfill, Arlington
22. Chevron Asphalt, Portland
23. Chevron Chemical Co., Milwaukie
24. Coffin Butte Landfill, Corvallis-Albany
25. Crosby and Overton, Portland
26. Day Island Landfill, Eugene
27. Drum Recovery, Portland
28. Farmcraft, Inc., Tigard
29. Frank's Sanitary Service, Sherwood
30. Frontier Leather, Sherwood
31. Globe Union, Canby
32. Griffen Brothers, Inc., Portland
33. Hercules, Inc., Portland
34. ICN/United Medical Lab, Portland
35. Ideal Basic Inc., Gold Hill
36. International Paper Co., Gardiner
37. J. H. Baxter and Co., Eugene
38. J. H. Baxter and Co., The Dalles
39. John C. Taylor Lumber Sales, Sheridan
40. Johnson Creek Blvd. and Crosswhite St. Landfill, Portland
41. Koppers Company, Wauna
42. Krishell Laboratories, Portland

43. L. D. MacFarland, Eugene
44. Lakeview, Oregon Dump Site
45. Lavelle (King Road) Landfill, Milwaukie
46. Liquid Air, Inc., Medford
47. Miller Products Co., Portland
48. Milwaukie Dumping Area, Milwaukie
49. Monsanto, Eugene
50. Norris Paint and Varnish Company, Salem
51. North Wasco Co. Landfill, The Dalles
52. Northwest Printed Circuits, Medford
53. Noslers Bullets, Bend
54. Nurnberg Scientific Company, Portland
55. OECO Corporation, Portland
56. Oregon City Gravel Pit
57. Oregon Technical Products, Grants Pass
58. Owens Illinois, Portland
59. Pacific Carbide and Alloy Co., Portland
60. Parrott Mountain Landfill, Sherwood
61. Permapost Products Company, Hillsboro
62. Reynolds Metal Company, Troutdale
63. Reichhold Chemicals, Inc., St. Helens
64. Rossman Landfill, Oregon City
65. Scappoose Dumping Area, Scappoose
66. Short Mountain Landfill, Eugene
67. Sinclair & Valentine formerly Martin Marietta, Portland
68. South Willamette Street Landfill, Eugene
69. Spe-de-way Paint Stain Company, Portland
70. States Industries, Inc., Eugene
71. Stauffer Chemical, Portland
72. Tektronix, Inc., Beaverton
73. Teledyne Wah Chang, Albany
74. 38th & Hilyard, Eugene
75. Texaco Terminal, Portland
76. Union Pacific Railroad, Hermiston
77. United Foam Corporation, Portland
78. U.S. Railway Manufacturing, Springfield
79. Uranium Mill, Lakeview
80. Van Waters and Rogers, Portland
81. Whiteson Landfill, McMinnville
82. Widing-Transportation Co., Portland
83. Wilbur-Ellis Company, Portland
84. Winter Products Company, Portland
85. Zehrung Corp., Portland

SITES SCHEDULED TO BE SURVEYED
IN 1984

1.	Ace Sanitary Service	Portland
2.	Appollo Metal Finishing	Portland
3.	Auto Chlor	Eugene
4.	Baron Blakeslee	Portland
5.	Boeing of Portland	Portland
6.	Borden	Portland
7.	Borden	La Grande
8.	Brand S	Corvallis
9.	Capital Chrome	Salem
10.	Chapman Chemical	Portland
11.	Chem Central	Portland
12.	Chevron (Willbridge)	Portland
13.	Columbia American Plating Co.	Portland
14.	D & D Septic Service	Grants Pass
15.	Eastside Plating	Portland
16.	Evans Products	Corvallis
17.	Farmers' Supply Cooperative	Ontario
18.	FMC (Ag. Div.)	Hood River
19.	FMC (Ag. Div.)	Medford
20.	Gilsonite	Portland
21.	Great Western	Tigard
22.	Hewlett Packard	Corvallis
23.	Klix Chemical	Portland
24.	Magnus Company	Portland
25.	Mammal Survey and Control Service	Portland
26.	Master Chemical	Portland
27.	McKenzie Chrome Plating	Springfield
28.	Merlin Landfill	Grants Pass
29.	Metal Finishing Contractors	Portland
30.	Mogul Corp.	Portland
31.	Mt. Hood Chemical	Portland
32.	Old Plant Site Area	Jacksonville
33.	Pacific Resins	Eugene
34.	Paramount Pest Control	Portland
35.	Precision Equipment	Portland
36.	Richhold Chemical	White City
37.	Rodda Paint	Portland
38.	The Gibson-Homans Co.	Portland
39.	Time Oil	Portland
40.	U.S. Plating	Eugene
41.	Valley Plating	Eugene
42.	Western Farms	Athens
43.	Western Farms	Dufur
44.	Wilbur Ellis	Hood River

STATUS OF WORK COMPLETED
AT EACH UNCONTROLLED (ABANDONED) SITE

<u>Disposal Site</u>	<u>Page</u>
A.B. Plating, Portland	9
Ace Galvanizing, Portland	36
Airport Glue Waste Disposal, Josephine Co.	39
Alexander Paper Stock, Portland	27
Alkali Lake Disposal Site, Lakeview	7
Allied Plating, Portland	15
American Can Co., Salem	59
American Timber and Trading Company, Portland	6
Anodizing, Inc., Portland	47
Associated Chemists, Inc., Portland	16
Bethel-Danebo Landfill, Eugene	17
Bloomberg Road Landfill, Eugene	49
Boise Cascade, Elgin	68
Boise Cascade, Valsetz	60
Borden Chemical Company, Springfield	18
Brown's Island Landfill, Salem	51
Caron Chemical Corp., Monmouth	45
Cascade Plating Co., Eugene	59
Champion International, Hood River	64
Champion International, Lebanon	63
Charles H. Lilly Co., Portland	12
Chempro of Oregon, Portland	14
Chem-Security Chemical Waste Landfill, Arlington	18
Chevron Asphalt, Portland	1
Chevron Chemical Co., Milwaukie	16
Coffin Butte Landfill, Corvallis-Albany	19
Crosby and Overton, Portland	30
Dant and Russell, North Plains	1
Day Island Landfill, Eugene	50
Deschutes Valley Sanitation, Terrebonne	69
Drum Recovery, Portland	28
Farmcraft, Inc., Tigard	24
Frank's Sanitary Service, Sherwood	60
Frontier Leather, Sherwood	40
Georgia Pacific, Coos Bay	66
Georgia Pacific (two sites) Toledo	60

Gilmore Steel, Portland	55
Globe Union, Canby	36
Gould, Inc., formerly N.L. Industries, Portland	53
Griffen Brothers, Inc., Portland	20
Hercules, Inc., Portland	2
ICN/United Medical Lab, Portland	46
Ideal Basic Ind., Gold Hill	66
Industrial Air Products, Portland	54
International Paper Co., Gardiner	65
J. H. Baxter and Co., Eugene	3
J. H. Baxter and Co., The Dalles	4
John C. Taylor Lumber Sales, Sheridan	4
Johnson Creek Blvd. and Crosswhite St. Landfill, Portland	8
Koppers Company, Portland	54
Koppers Company, Wauna	5
Krishell Laboratories, Portland	21
L. D. MacFarland, Eugene	3
Lakeview, Oregon Dumpsite	57
Laurence David Co., Eugene	69
Lavelle (King Road) Landfill, Milwaukie	8
Liquid Air, Inc., Medford	7
Martin Marietta, The Dalles	13
McCall Oil & Chemical Corp., Astoria	61
McCormick and Baxter, Portland	6
Miller Products Co., Portland	11
Milwaukie Dumping Area, Milwaukie	37
Monsanto, Eugene	22
Norris Paint and Varnish Company, Salem	22
North Wasco Co. Landfill, The Dalles	65
Northwest Natural Gas, Portland	55
Northwest Printed Circuits, Medford	43
Noslars Bullets, Bend	9
NuWay Oil, Portland	31
Nurnberg Scientific Company, Portland	12
OECO Corporation, Portland	23
Oregon City Gravel Pit	56
Oregon Technical Products, Grants Pass	27
Owens Illinois, Inc., Portland	61
Pacific Carbide and Alloy Co., Portland	2
Parrott Mountain Landfill, Sherwood	10
Pennwalt, Portland	53
Permapost Products Company, Hillsboro	14
Reynolds Metal Company, Troutdale	44
Reichhold Chemicals, Inc., St. Helens	24
Rhone-Poulenc, Portland	52
Rossman Landfill, Oregon City	48
Scappoose Dumping Area, Scappoose	38
Shell Oil Co., Portland	62
Short Mountain Landfill, Eugene	21

Sinclair and Valentine (formerly Martin Marietta), Portland . .	61
South Willamette Street Landfill, Eugene	41
Southern Pacific, Eugene	67
Spe-de-way Paint Stain Company, Portland	29
St. Johns Landfill, Portland	35
States Industries, Inc., Eugene	59
Stauffer Chemical, Portland	33
Tektronix, Inc., Beaverton	11
Teledyne Wah Chang, Albany	13
38th & Hilyard, Eugene	68
Texaco Terminal, Portland	62
Umatilla Army Depot, Hermiston	58
Union Pacific Railroad, Bridal Veil	62
Union Pacific Railroad, Hermiston	5
United Chrome Products, Inc., Corvallis	34
United Foam Corporation, Portland	20
U.S. Railway Manufacturing, Springfield	63
Uranium Mill, Lakeview	25
Van Waters and Rogers, Portland	10
Weyerhaeuser Co., North Bend	67
Whiteson Landfill, McMinnville	64
Widing Transportation Co., Portland	32
Wilbur-Ellis Company, Portland	26
Winter Products Company, Portland	23
Zehrunge Corp., Portland	42

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Dant & Russell, Inc. 7755 W. Hillcrest North Plains, OR ----- Wood Processing	on-site and possibly at company's Vadis pole yard. ----- off-site (St. Johns Land- fill) ----- off-site (Arlington Disposal Site)	sludge lagoon ----- Municipal land- fill ----- chemical waste landfill	pentachloro- phenol; creosote; heavy metals ----- Industrial sludge (10 truckloads) ----- industrial sludge (periodic shipments as needed)	inorganic and organic toxic materials	Sludge currently being hauled to hazardous waste manage- ment facility	Investigation reopened. Groundwater sampling necessary	File search; telephone contact. On-site inspection; surface water sampling.
Chevron Asphalt Co. Standard Oil of California 5501 NW Front Portland, OR ----- asphalt manufacturer	off-site (St. Johns landfill)	municipal landfill	process sludge contaminated with oil	Industrial sludge con- taminated with oil	1. No accumu- lation of un- controlled chemicals on- site 2. Process sludge disposed of at St. Johns landfill	No imminent health hazard of environ- mental problems identified. Un- controlled site investigation closed	file search; telephone conversation

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Pacific Carbide & Alloys Co. 9901 N. Hurst Av. Portland, OR ----- Manufacturer of quiclcline and calcium carbide	on-site	settling pond	calcium hydrate; calcium carbon- ate; carbon (10,000 cubic yards per year)	corrosive	1. No accum- lation of un- controlled chemicals on- site. 2. Waste lime sludges are marketed as agricultural soil condi- tioners.	No imminent health hazard or environ- mental problems identified. Uncontrolled site investi- gation closed	file search; site visit; sample collection
Hercules, Inc. 3366 NW Yeon Ave. Portland, OR ----- Manufacturer of coating agents for paper Industry	off-site	contract with Crosby & Overton	settleable solids con- taining resins, fatty acids, wax, emulsifiers and starch	industrial sludge	1. No accum- lation of un- controlled chemicals on-site. 2. Industrial sludge disposed of off-site via contract with Crosby & Overton.	1. No imminent health hazard or environmental problem identi- fied on-site. 2. Uncontrolled site investi- gation closed.	file search; telephone conversation

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
J.H. Baxter & Co. 85 Baxter Street Eugene, OR	off-site Bethel-Danebo landfill	municipal landfill	pentachloro- phenol; creosote (up to 25,000 gallons per year)	organic toxic materials	1. No accumula- tions of un- controlled chemical on-site 2. Wastes cur- rently disposed of at Arlington Disposal Site	1. No imminent health hazard or environ- mental problems identified on- site. 2. Uncontrolled site investi- gation closed.	personal interview
wood preserving	off-site Arlington dis- posal site	chemical waste landfill					
	off-site	contract with Roto-Rooter or other pumper					
L.D. McFarland Company Highway 99N Eugene, OR	on-site	land spreading for dust control	pentachloro- phenol contam- inated sludge (3000 gallons per year)	organic toxic material	1. No accumu- lation of un- controlled chemicals on- site. 2. Negligible levels of penta- chlorophenol in soil and surface runoff water	1. No imminent hazard or en- vironmental problems identified. 2. Uncontrolled site investi- gation closed.	personal interview; site visit; sample collection
wood preserving							

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
John C. Taylor Lumber Sales, Inc. (dba Sheridan Pressure Treated Lumber) Rock Creek Rd. off of Business Hwy 18 Sheridan, OR ----- wood preserving	on-site	storage in drums	pentachloro- phenol; creosote; arsenic, copper and ammonium salts (15-55 gallon drums per year)	organic and inorganic toxic materi- als	1. No accumu- lation of un- controlled chemicals on- site. 2. Drummed waste shipped to Arlington; dis- posal site or firm in Kelso, Washington.	1. No imminent health hazard or environmental problems identi- fied on-site. 2. Uncontrolled site investi- gation closed.	file search; telephone conversation
	off-site Arlington dis- posal site	chemical waste landfill	same as above				
	off-site Kelso, Washington	unknown at this time	same as above				
J.H. Baxter & Co. East of City The Dalles, OR ----- wood preserving	on-site	accidental spillage	pentachloro- phenol; creosote	organic toxic materials	no accumulation of uncontrolled chemical on-site	No imminent health hazard or environmental problems identified. Uncontrolled site investi- gation closed.	file search; telephone conversation

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Union Pacific Railroad Hinkle Rail Yards Hermiston, OR ----- railroad switch- ing and mainten- ance yard	on-site	land spreading	waste oil (80,000 gallons per year)	industrial sludge	1. No accumu- lation of un- controlled chemicals on- site. 2. Land spread- ing of waste oil discontinued in 1976.	No imminent health hazard or environmental problems identi- fied. Uncontrol- led site investi- gation closed	file search; site visit
Koppers, Wauna Wauna, OR ----- wood preserving	on-site	liquid waste recycled	pentachloro- phenol; creosote; copper, chrome, and arsenic salts	organic and inorganic toxic materials	1. Plant perma- nently closed in 1962. 2. Former site now part of Crown Zeller- bach paper mill site.	1. No imminent health hazard or environmental problems identified. Uncontrolled site investi- gation closed.	telephone conversation

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
McCormick and Baxter 6900 N. Edgewater Street Portland, OR	off-site Arlington disposal site	chemical waste landfill	pentachloro- phenol; creosote; copper, chrome and salts; boric acid; isopropyl ether liquid butane	organic and inorganic toxic materials	1. Wastes currently hauled to Arlington disposal site. 2. A closed, covered surface impoundment containing sludge has been identified on-site. 3. Pentachlorophenol and arsenic found in ground and surface waters.	Investigation reopened. Firm hired private consultant for groundwater investigations and preparing remedial action plan.	file search; telephone conversation. Groundwater monitoring
wood preserving	On-site	Surface impoundment					
American Timber & Trading Co. (Now Columbia Woodworking Co.) 6432 NE Columbia Blvd. Portland, OR	on-site	disposal wells	pentachlorophenol; creosote; copper, chrome and arsenic salts	organic and inorganic toxic materials	1. Plant operated from 1962-1970. 2. Plant disposed of liquid wastes into disposal wells. 3. Former plant site now under warehouse with an address of 6510 Columbia Blvd.	1. No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed	telephone conversation; site visit; sample collection
wood preserving							

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Alkali Lake 60 miles north of Lakeview, OR ----- chemical waste landfill	on-site	shallow disposal trenches	residue from the manufacture of pesticides, primarily 2,4,D (23,500-55 gallon drums)	organic toxic materials	1. All drums were buried under state supervision in Nov-Dec. 1976. 2. Twice a year monitoring on and off-site is continuing by DEQ. 3. Site current- ly owned by State of Oregon. 4. This was a one time cor- rective disposal program.	1. Twice a year monitoring on and off-site con- tinuing. 2. No imminen health hazard or environmental problem identi- fied at this time. Un- controlled site investigation closed.	file search sampling.
Liquid Air, Inc. 320 N. Pacific Hwy. Medford, OR ----- acetylene manufacturer	on-site	surface impoundment	slaked lime (4 to 5 tons per month)	corrosive material	1. No accumula- tion of uncon- trolled chem- icals on-site. 2. Slaked lime has an agricul- tural use, how- ever, Medford Valley's soils are already alkaline.	1. No imminent health hazard or environmental problem identi- fied. 2. Uncontrolled site Investigation closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Johnson Creek Blvd. and Crosswhite Street Landfill Johnson Creek Blvd. and Crosswhite Street Portland, OR ----- Demolition Landfill	on-site	building demolition waste land clearing debris; and industrial wastes from Precision Castparts.	Sodium hydroxide; potassium hydroxide, kolene and alcohol wastes.	flammable and corrosive wastes	1. No accumulation of uncontrolled chemicals on-site. 2. Landfill is filled to capacity and warehouse has been built on-site. 3. Relative to building demolition waste and land clearing debris, the waste from Precision Castparts was incidental in terms of volume.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit
Lavelle Landfill King Road Milwaukie, Oregon ----- Demolition Landfill	on-site	building demolition waste; land clearing debris; and industrial waste from Precision Castparts	sodium hydroxide; potassium hydroxide; kolene and alcohol wastes	flammable and corrosive wastes	1. No accumulation of uncontrolled chemicals on-site. 2. Landfill is filled to capacity and was covered with two (2) feet of dirt. 3. Relative to building demolition waste and land clearing debris, the waste from Precision Castparts was incidental in terms of volume.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
A B Plating 6724 N.E. 46th Ave. Portland, OR ----- Metal plating	on-site	Cesspool	sodium hydroxide; sodium hydroxide sludge; chromic acid and muriatic acid.	corrosive and toxic metal wastes	1. No accumula- tion of uncon- trolled chemicals identified. 2. Small quanti- ties of drippings and splashings are disposed of in cesspool. 3. No recorded wells within one mile of site. Groundwater es- timated at 40 to 50 feet.	1. No imminent health hazard or environmental problems identified. 2. Current and future waste disposed prac- tices will be evaluated under hazardous waste disposal re- quirements. 3. Uncontrolled site Investigation closed.	site visit
Noslars Bullets, Inc. 61396 Parrell Road Bend, Oregon ----- Manufacturers of ammunition	on-site	shallow hand-dug disposal pits	formerly $\text{Na}_2\text{Cr}_2\text{O}_7$ (80 gallons per year); currently H_2SO_4 (200 gallons per year)	toxic and corrosive liquid wastes	1. No accumula- tion of uncon- trolled chemicals on-site. 2. Small amount of spent acid disposed of in shallow pits (20 inches deep) 3. No visual evidence of env- ironmental prob- lem as a result of these prac- tices.	1. No imminent health hazard or environmental problem iden- tified. 2. Uncontrolled site Investiga- tion closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Parrott Mountain Landfill Parrott Mountain Road 2 miles southwest of Sherwood, OR ----- septic tank waste; industrial waste.	on-site	evaporation/ seepage surface impoundment lagoons	septic tank sludge; chemical toilet sludge; pesticide manu- facturing residue.	organic and toxic organic sludges	1. No accumula- tion of uncon- trolled chemicals identified on-site. 2. Pesticide manufacturing residues removed from site by court order. 3. Septic tank and chemical toilet sludge has dried up and is covered over.	1. No imminent health hazard or environmental problem identi- fied. 2. Uncontrolled site Investigation closed.	file search; telephone contacts; site visit
Van Waters and Rogers 3950 N.W. Yeon Portland, OR ----- distributor of commercial and industrial chem- icals and recycler of chlorinated solvents.	off-site (Arlington Disposal site)	chemical waste landfill	spilled products; spill contamin- ated soil; and still bottoms (sludges) from chlorinated solvent recovery process.	organic and inorganic toxic material	1. No accumula- tion of uncon- trolled chemicals identified. 2. Spill clean- up and chlorin- ated solvent st- ill bottom sludges shipped to Arlington.	1. No imminent health hazard or environmental problem identified. 2. Site to be licensed by state of Oregon as haz- ardous waste treatment facil- ity. 3. Uncontrolled site Investigation closed.	file search; site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Miller Products Company Foot of S.W. Caruthers Portland, OR Defunct manufacturer of lime-sulfur and formulator of pesticides	on-site	settling pond	lime-sulfur sludge	corrosive industrial sludge	1. No accumula- tion of uncon- trolled chem- icals on-site. 2. Plant closed in 1960 at this location. 3. Land where plant was located is now part of freeway system.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site Investiga- tion closed.	file search; site visit
Tektronix, Inc. N.W. Milliken Way Beaverton, OR electronics manufacturing	on-site off-site (Grabhorn Mountain Landfill) off-site (Arlington Disposal Site)	evaporation pond/ landfill demolition landfill chemical waste landfill	zinc; cadmium; nickel; copper; chrome; (56,000 gallons of sludge per year)	inorganic toxic materials	1. No accumula- tion of uncon- trolled chemicals on-site. 2. Three sites have been used for landfilling of industrial sludge containing heavy metals. 3. Sludge is pretreated prior to landfilling to reduce heavy metals to environ- mentally safe level.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site Investigation closed.	file search; site visit; sample collection.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Charles H. Lilly Co. (Miller Products Co.) 7737 N.E. Killings- worth Portland, OR ----- formulator of commercial fertilizer and pesticide products	on-site	concrete pit with approxi- mate dimensions of 150' by 6' by 5' deep	DDT powder (2000 lbs) DDT liquid (200 gallons) miscellaneous quantities of chlordane, lindane, kelthane, etc. as they may have been mixed with DDT product	organic toxic materials	1. One time disposal as a result of the ban on DDT. 2. Department of Agriculture and Department of Environ- mental Quality had reviewed burial site in 1977. 3. Current pesticide con- taminated wastes are hailed to Arlington dis- posal site.	1. Permanent record of one time disposal needs to be created. 2. No imminent health hazard or environmental problems identi- fied. 3. Uncontrolled site investi- gation closed.	file search; telephone conversation
	off-site Arlington dis- posal site	chemical waste landfill	miscellaneous discontinued pesticide products (50,000 pounds)				
Nurnberg Scien- tific Company 3237 N. Williams Portland, OR ----- Defunct distributor of laboratory chemicals	on-site	filled in basement	fire damaged laboratory chemicals (unknown quantity of chemicals not salvageable)	miscellaneous acids; bases; oxidizers; flammables; cyanide	following major fire (1967) at- tempts were made to salvage as many chemicals as possible. Remainder of chemicals were buried in base- ment along with charred remains of building. Debris leveled & covered with dirt.	1. Permanent record of this information needs to be created. 2. No imminent health hazard or environmental problems identi- fied. Un- controlled site investigation closed.	file search; telephone conversation; site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Teledyne Wah Chang Teledyne Industries, Inc. 1600 Old Salem, Road Albany, OR ----- manufacturer of non-ferrous metals	off-site Coffin Butte landfill	municipal landfill	stainless steel liners and furnace shield with adhering masses of zir- conium and magnesium;	pyrophoric materials;	1. No accumula- tion of uncon- trolled chemi- cals on-site. 2. Pyrophoric, reactive and flammable material dis- posed of in several area landfills. 3. Excavation of previously dis- posed of materia could result in spontaneous combustion or explosion.	1. Permanent record of off- site disposal information needs to be created. 2. No imminent health hazard or environmental problems identi- fied. Un- controlled site investigation closed. 3. Oregon State Health Division studying radio- active waste disposal sites.	file search
	off-site Roche Road landfill	demolition landfill	zirconium and magnesium; zirconium fines; metal chlorides, chlorinator residues, filter residues and used carbo- column materials;	reactive materials;			
	off-site Albany landfill	municipal land- fill (now closed)	flammable liquids	flammable materials; low level radioactive wastes			
	off-site Arlington dis- posal site	chemical waste landfill					
Martin Marietta Aluminum Co. 3313 West 2nd The Dalles, OR ----- manufacturer of aluminum	on-site	industrial landfill	potliners; carbon blocks; sludge from air scrubbers; leachate contaminated by cyanide	Industrial sludge. Toxic.	Surface water and groundwater contaminated by cyanide.	Investigation reopened; firm hired consulting company to eval- uate situation & develop remedial action plan.	file search; telephone conversation. Site visit groundwater monitoring

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Chempro 11535 N. Force St Portland, OR	on-site	sludge lagoon	process sludge contaminated with oil	industrial sludge con- taminated with oil	1. No accumu- lation of un- controlled chemicals on-site	1. No imminent health hazard or environmental problems identified.	file search; telephone conversation
Reprocessor of waste oil	off-site (Pasco, Washing- ton)	chemical waste landfill	oily sludge		2. Oily sludge currently being hailed to Arlington dis- posal site	2. Reference to Pasco, Washing- ton site referred to EPA for followup.	sample collection
	off-site (Arlington disposal site)	chemical waste landfill	oily sludge		3. Samples were taken 4/2/81 from run-off pond and under- neath tanks. Results show no contamination.	3. Uncontrolled site investi- gation closed. 4. The chemical reprocessing industry as an industrial category may receive further EPA review.	
Permapost Products Company 25600 SW Tualatin Valley Hwy Hillsboro, OR	on-site	short-term holding/recircu- lation lagoon and long-term storage/ evaporation lagoon	pentachloro- phenol; creo- sote; copper, chrome and arsenic salts	organic and inorganic toxic materials	1. No accumu- lation of un- controlled chem- icals identified.	1. No imminent health hazard or environmental problems identi- fied. Uncontrol- led site investi- gation closed.	file search; telephone conversation; site visit; sample collection
wood preserving	off-site (Vancouver, Washington)	metal container recycling firm	metal containers that contained copper, chrome and arsenic salts		2. Violations of state water pol- lution control facilities permi- occurring.	2. Compliance program initi- ated. Company currently in- stalling pollu- tion control and prevention equipment.	

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Allied Plating 8135 NE Union Portland, OR metal plating	on-site	evaporative/ seepage lagoon	cyanide; copper nickel; chrome; (up to 150 gallons per minute)	inorganic toxic materials	1. No known accumulation of uncontrolled chemicals on- site. 2. Because of expanding pro- duction capacity lagoon becoming inadequate. 3. State Water Pollution Control Facility Permit applied for. 4. Wastewater analysis indi- cates concentra- tion of Cu, Ni, Cr, Cy, and pH below levels for HW classifica- tion. 5. Groundwater contains chromium and cyanide.	1-Uncontrolled site investi- gation continuing 2.Groundwater monitoring well installed. 3. Company's bankrupt, business closed.	-file search; telephone conversation; site visit -groundwater monitoring

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Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Chevron Chemical Company 2300 S.E. Harvester Drive Milwaukie, Oregon ----- Blend and pack- age dry (powder) pesticide mixtures.	off-site (landfill near Yakima, Wash- ington.)	industrial landfill.	spilled pesti- cide product; damaged con- tainers.	organic and inorganic toxic materials.	1. No accum- ulation of un- controlled chemicals iden- tified. 2. Plant clean- up wastes ship- ped to landfill near Yakima, Washington.	1. No imminent health hazard or environmental problem identi- fied. 2. Uncontrolled site Investigation closed.	telephone conversation; site visit.
Associated Chemists, Inc. 4401 S.E. Johnson Creek Blvd. Portland, OR ----- Formulating and packaging cleaning compounds, paints, solvents and fungicides.	off-site (Arlington disposal site)	chemical waste landfill	paint sludge (2-3, 55 gallon drums per month)	industrial sludge	1. No accumul- ation of uncon- trolled chemicals identified. 2. Sludge cur- rently being hailed to Arlington.	1. No imminent health hazard or environmental problems iden- tified. 2. Uncontrolled site Investigation closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Bethel-Danebo Landfill West 11th and Bellline Road Eugene, Oregon ----- former municipal/ industrial landfill.	on-site	Municipal/indus- trial disposal site that is filled to capacity.	Domestic gar- bage; building demolition waste; land clearing debris; wood waste; miscellaneous industrial/ commercial waste	organic and inorganic mixed wastes.	1. Former gravel pit filled with municipal and industrial wastes. 2. Potential exists for local groundwater contamination due to degrad- ation of municipal/ industrial wastes. 3. No evidence of hazardous wastes having been disposed of. 4. No accumulation of uncontrolled chemicals identified.	1. No imminent health hazard or environ- mental problems identified. 2. Uncontrol- led site investigation closed.	file search; site visit.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Chem- Security Systems Inc. Star Route Arlington, Oregon ----- chemical waste landfill known as Arlington Disposal Site	on-site	Disposal trenches for sludges and solids; evaporation ponds for liquids; land treatment facility for oily wastes and covered storage for liquid PCBs.	Ignitable, corrosive, reactive and toxic waste according to Oregon's hazardous waste definitions. (approximately 1,000,000 cubic feet per year)	organic and inorganic toxic wastes.	1. No accumulation of uncontrolled chemical on site. 2. Site approved and licensed by state of Oregon. 3. Site in compliance with license conditions.	1. No imminent health hazards or environmental problem identified. 2. Uncontrolled site investigation closed.	file search; site visit.
Borden Chemical Co. 470 South Second St. Springfield, Oregon ----- Manufacturer of urea and phenol for- maldehyde resins for wood products industry.	off-site (prior to 1976 Lane County landfills) ----- (since 1976 Arlington Disposal Site)	Municipal Landfill ----- chemical waste landfill	Industrial sludge from pretreatment holding ponds.	industrial organic sludge.	1. No accumulation of uncontrolled chemicals identified. 2. Industrial sludge from pretreatment holding basins formerly hauled to local municipal landfills. 3. Industrial sludge now hauled to Arlington Disposal site.	1. No imminent health hazards or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Coffin Butte Landfill Albany, Oregon	on-site	municipal/ industrial disposal site	domestic garbage; land clearing debris; miscellaneous industrial/commercial wastes	organic and inorganic mixed wastes; previously pyrophoric wastes; previously low level radioactive wastes	<p>1. No accumulations of uncontrolled chemicals on-site.</p> <p>2. Potential exists for local groundwater contamination due to degradation of municipal/industrial wastes.</p> <p>3. Pyrophoric wastes from Teledyne Wah Chang, Albany are no longer accepted (Wah Chang now manages these wastes on-site).</p> <p>4. Low level radioactive wastes are no longer accepted. These wastes are hauled by Wah Chang to the Hanford Disposal Site in Washington.</p>	<p>1. Site licensed by state of Oregon. Periodic inspections conducted.</p> <p>2. No imminent health hazard or environmental problems identified.</p> <p>3. Uncontrolled site investigation closed.</p> <p>4. Permanent record (i.e., deed restriction, restrictive covenant, etc.) regarding disposal of pyrophoric and low level radioactive materials needed.</p>	file search; site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Griffin Brothers, Inc. 1806 S.E. Holgate Portland, Oregon ----- Formulator of sanitary main- tenance products including: liquid detergents, bacteriacides, floor waxes, floor finishes and janitorial supplies.	off-site (St. Johns Landfill)	municipal waste landfill	General office and business refuse (no industrial or hazardous wastes.)	none	1. No accumu- lation of uncon- trolled chemical identified.	1. No imminent health hazard or environmental problem iden- tified. 2. Uncontrolled site Investigation closed.	site visit
United Foam Corp. 3900 N.E. 158th Portland, Oregon ----- manufacturer of polyurethane foam	off-site (Arlington Disposal Site)	chemical waste landfill	Methylene chloride; glycol; toluene disocyanate	toxic organic materials	1. No accum- ulation of un- controlled chemicals identified. 2. Manufacturing wastes placed in 55 gallon metal drums prior to shipment to Arlington.	1. No imminent health hazard or environmental problem iden- tified. 2. Uncontrolled site Investigation closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Short Mountain Landfill Goshen, Oregon (operated by Lane County) ----- Municipal/ industrial landfill	on-site	Municipal/ industrial landfill	domestic garbage building demo- lition wastes; land clearing debris; commercial and general bus- iness refuse	organic and inorganic mixed wastes	1. No accumula- tion of uncon- trolled chemicals identified. 2. Active site operating under permit from state of Oregon. 3. Leachate control system installed to prevent contam- ination of local ground and sur- face waters.	1. No imminent health hazard or environmental problem identi- fied. 2. Uncontrolled site Investigation closed.	file search; site visit
Krishell Labora- tories 1735 S.E. Powell Portland, Oregon ----- Defunct pesticide formulator	off-site (St. John's Landfill)	Municipal/ Industrial disposal site	general office and commercial manufacturing refuse (No known disposal of hazardous waste)	None	1. No accumula- tion of uncon- trolled chemical identified on site of former plant. 2. Plant was demolished and new commercial warehouse constructed.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site Investigation closed.	file search; telephone contact; site visit

'UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY'

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
OEEO Corporation 712 S.E. Hawthorne Portland, Oregon ----- Manufactures transformers and power supplies for missiles and aircraft	on-site ----- off-site (St. Johns Landfill)	Recovery and reuse ----- Municipal waste landfill	cleaning solvents ----- epoxy resins, non-solvent liquid waste solutions	Non-hazardous general manu- facturing refuse	1. No accumula- tions of uncon- trolled chem- icals identified. ----- 2. Cleaning solvents are recovered for reuse. ----- 3. General manufacturing refuse hauled to St. Johns Landfill.	1. No imminent health hazard or environmental problems identified. ----- 2. Uncontrolled site Investiga- tions closed.	site visit
Winter Products Company ----- 3604 S.W. Macadam Avenue ----- Portland, Oregon ----- Manufacture furniture hardware	off-site (St. Johns Landfill) ----- off-site (Arlington Disposal Site)	Municipal/ industrial disposal site ----- chemical waste landfill	Contaminated acid cleaner and plating rinse- water sludge (2000 gallons per year); brass plating bath solution sludge (4000 gallons per year).	Inorganic toxic materials	1. No accumula- tion of uncon- trolled chemicals identified. ----- 2. Prior to 1976 contaminated sludges were disposed of at St. Johns land- fill. ----- 3. Currently, contaminated sludges are hauled to Arlington.	1. No imminent health hazard or environmental problem identified. ----- 2. Uncontrolled site Investiga- tion closed.	telephone conversation; site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Reichhold Chemicals, Inc. North Columbia River Highway Box 810 St. Helens, Oregon ----- Manufacturer of anhydrous ammonia, prilled urea, and liquid fertilizers.	on-site	above ground storage	spent catalysts, spent silica gel and activated carbon	None- inert materials	1. No accumulation of uncontrolled chemicals identified.	1. No imminent health hazard or environmental problems identified.	site visit
	off-site (Arlington Disposal Site)	chemical waste landfill	sludges accumulated during manufacturing process (1500 gallons per year)	toxic organic sludge	2. Inert materials stored on-site are not considered potential problem.	2. Uncontrolled site Investigation closed.	
	off-site (Chem-Pro)	Recovery of useable oil	Waste oils	organic waste	3. Organic sludges are hauled to Arlington. 4. Waste oils are sent to Chem-Pro for recovery and reuse.		
Farmcraft, Inc. 8900 S.W. Commercial Street Tigard, Oregon ----- formulator of agricultural fertilizers and pesticides.	none	Decontaminated empty containers are reused/ recycled.	Not applicable.	Not applicable	1. No accumulation of uncontrolled chemicals identified. 2. Empty containers are reused/ recycled.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site Investigation closed.	Site visit.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Uranium Mill Lakeview, Oregon ----- former uranium smelter	on-site	piles and sur- face lagoons	tailings left over from uranium recov- ery process	low level radioactivity; fine dust	<p>1. No accumu- lation of uncon- trolled chemicals identified.</p> <p>2. The tailings and some lagoons were stabilized with earth cover.</p> <p>3. Some lagoons are still un- covered and occasionally cause localized dust problems.</p> <p>4. Oregon Health Division contin- ues to monitor site and wells by sampling ground- water.</p>	<p>1. No imminent health hazard or environmental problem identi- fied.</p> <p>2. Uncontrolled site Investigation closed.</p>	file search

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Wilbur-Ellis Company 1220 N.W. Marshall Portland, OR Warehouse and distribution center for farm chemical and fertilizer products.	off-site (St. Johns Landfill) ----- off-site (Arlington Disposal Site)	Municipal/ industrial disposal site chemical waste landfill	In-plant spills	Organic and inorganic toxic materials	1. No accumula- tion of uncon- trolled chemical identified. 2. Prior to 1976 spilled materials were disposed of with general plant refuse at St. Johns Landfill. 3. Currently spilled mater- ials are picked up, packed in drums and sent to Arlington.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site Investiga- tion closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Alexander Paper Stock (formerly Resource Recovery By- products) 701 North Hunt Portland, Oregon ----- Recycling paper products'	off-site (St. Johns landfill)	municipal disposal site	miscellaneous contaminants coming in with waste paper	none	1. No accum- ulation of uncontrolled chemicals identified. 2. Facility de- signed to recov- er materials such as wood or paper for their reuse or energy value.	1. No imminent health hazard or environmental problems iden- tified. 2. Uncontrolled site investiga- tion closed.	file search; site visit.
Oregon Technical Products 1636 N.W. Washing- ton Blvd. Grants Pass, Oregon ----- Assembly of airborne electronic radar ports.	off-site (Grants Pass Fire Department) ----- off-site (Grants Pass Highway Depart- ment) ----- off-site (Airport Glue Waste Disposal Site)	used for training fire fighters ----- used for equipment cleaning purposes ----- industrial sludge lagoon	solvents (14 gallons per month) ----- solvents (14 gallons per month) ----- paint sludge from spray booth (350 gallons per month)	organic flammable materials ----- organic flammable materials ----- industrial sludge	1. No accumula- tion of uncontrol- led chemicals id- entified. 2. flammable solvents reused by Grants Pass Fire or Highway Departments. 3. Paint sludges disposed of at Josephine County Airport glue waste lagoon.	1. No imminent health hazard or environmental problem identified. 2. EPA conduc- ting separate investigation of Josephine County Airport glue waste lagoon 3. Uncontrolled site Investigation closed.	site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Drum Recovery 112th & Holman Portland, OR	off-site (Arlington disposal site)	chemical waste landfill	miscellaneous inorganic/ organic liquids and solids	ignitable; corrosive; and toxic industrial inorganic and organic chemicals.	1. New company leasing office facilities from ICN/UML at 112th & Holman. 2. Primary business at this time is regis- tered transpor- ter of hazardous waste. 3. Proposed operator of hazardous waste collection site at 112th & Holman. 4. Proposed operator of hazardous waste treatment facil- ities at 112th & Holman.	1. No imminent health hazard or environmental problems identi- fied. 2. Transportation business and proposed facili- ties currently regulated by state and federal hazar- dous waste management regulations. 3. Uncontrolled site investiga- tion closed.	Site visit
----- 1. Transporter of hazardous wastes (registered with Oregon PUC and EPA) 2. Proposed operator of hazardous waste collection site. 3. Proposed operator of hazardous waste treatment facility.	(Wes-Con disposal site)	chemical waste landfill					

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Spe-de-way Paint Stain Co. & Sol-Pro 8000 NE 14th Pl. Portland, OR ----- Spe-de-way manufactures paints and lacquers. Sol-Pro is a reprocessor of chlorinated and non-chlorinated waste solvents.	off-site (Arlington disposal site) (Wes-Con disposal site)	chemical waste landfill chemical waste landfill	miscellaneous organic liquids and solids	ignitable and toxic organic chemicals	1. No accumula- tion of uncon- trolled chemicals on site. 2. Company receives waste solvents from other businesses for treatment. Following treat- ment, chemicals are returned to businesses for reuse. 3. Wastes removed during treatment are drummed and shipped to Arlington or Wes-Con disposal sites.	1. No imminent health hazard or environmental problems identi- fied. 2. Treatment facilities are regulated by both federal and state hazardous waste management regulations. 3. Uncontrolled site Investigation closed. 4. Plant re- located to State of Washington.	file search; site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Crosby and Overton 5420 N. Lagoon Av. Portland, OR industrial tank cleaning and servicing	on-site	temporary storage in steel tanks	ship bilge water (oil-water mixture)	organic and inorganic toxic materials; liquids and sludges contam- inated with oil; industrial sludges	1. No accumula- tion of uncon- trolled chemicals on site. 2. Temporary storage of oil- water mixtures at Time Oil is practiced. 3. Direct hauling to recycle facilities or authorized dis- posal sites is practiced for most customer- derived wastes.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site Investigation closed.	site visit
	off-site recycle plants	recycling	varies by customer				
	off-site Arlington disposal site	chemical waste landfill	varies by customer				
	off-site St. Johns Landfill	municipal landfill	varies by customer				

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Nuway Oil 7039 NE 46th Portland, OR	on-site	settling lagoon	1. Clay sludge contaminated with oil (up to 70 tons per year) 2. acid sludge contaminated with oil (up to 90,000 gallons per year)	1. Industrial sludge con- taminated with oil. 2. Corrosive material	1. No imminent health hazard or environmental problems iden- tified. 2. Clay sludge was disposed of on-site. 3. Acid sludge used for road base in Eastern Oregon and Washington. 4. Clay & acid sludges once disposed of at St. Johns landfill.	1. Waste con- fined to disposal site. 2. Uncontrolled site investiga- tion continuing	file search; telephone conversation; site visit; sample collection, additional sampling may be necessary.
rerefiner of used motor oil	off-site (St. Johns landfill)	municipal landfill	clay and acid sludges				
	off-site (miscellaneous holes-North Portland)	filling in of depressions in North Portland	clay sludge				
	off-site (Eastern Oregon and Washington)	Used for road base material	acid sludge				

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Widing Transportation Co., Inc. 10145 N. Portland Road Portland, OR ----- transporter of commodities in- cluding hazardous materials and hazardous wastes	on-site	6-cell aeration/ gravity settling basin and 4-acre settling pond	liquids and sludges from cleaning inside of bulk carrier transport trucks (50,000 gallons of water con- taminated with urea and phenol formaldehyde glue resins, surfactants, oil, black liquor, & defoamer)	1. Organic and inorganic toxic materials 2. Sludges contaminated with oil. 3. Corrosive.	1. No accumula- tion of uncon- trolled chemicals on- site. 2. Following pretreatment some contamin- ated sludge stored on-site. 3. Following pretreatment some contamin- ated sludges hailed to Arlington dis- posal site.	1. Evaluation of water and sediments in 4-acre settling pond continuing to determine chemical con- taminants. 2. The facility is now under a State license to operate. Ability to evaluate and regulate the site has been estab- lished. 3. Uncontrolled site investigation closed.	file search; telephone conversation; site visit; sample collection
	off-site (Arlington dis- posal site)	chemical waste landfill	liquids and sludges as de- scribed above (periodic ship- ments as needed)				

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Stauffer Chemical Corp. 4429 N. Suttle Rd. Portland, OR	On-site	Settling pond	alum sludge (900 tons/yr.)	Corrosive, organic, toxic material.	1. Shallow ground water contamin- ation detected in on-site monitoring wells adjacent to oxidation lagoon; quantities are small.	1. Uncontrolled site investiga- tion closed.	File search, sample collections, site visit.
Mfg. of aluminum sulfate & formulato of commerical pesticide products.	On-site	Oxidation lagoon	Pesticide contam- inated wash water (2300 lbs/yr.)		2. Pesticide con- taminated wastes currently hauled to Wes-Con dis- posal site, ID.	2. Sampling has indicated there are some h.w. on site but in low levels.	
	On-site	Chemical waste landfill	Pesticide contam- inated liquid & solid (100-200 tons)		3. Alum sludge currently hauled to St. John's landfill.	3. Impact does not affect bene- ficial uses.	
	Off-site St. John's land- fill	Municipal land- fill	Alum sludge		4. No good record exist relative to on- site chemical waste landfill.		
	Off-site Wes-Con Idaho disposal site.	Chemical waste landfill (20-30 tons/yr.)	Pesticide con- taminated waste.		5. No connection between shallow aquifer & deeper aquifer, the aquifer of concern demonstrated. All water users in the area supplied by municipal water system		

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
United Chrome Products, Inc. Corvallis Airport Industrial Park	on-site	dry well	sludge contain- ing chrome (1000 gallons per year)	inorganic toxic material	1. Unknown quantity of process waste- water and sludge disposed of down seep- age bed. 2. Soil and groundwater contaminated by chromium.	1. Placed on National Prior- ities List. 2. Remedial action plan being developed.	file search; telephone conversation. Site visit groundwater monitoring
Corvallis, OR ----- metal plating	off-site Coffin Butte Landfill	municipal landfill	same as above				

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
St. Johns Landfill 9393 N. Columbia Blvd. Portland, Oregon ----- Municipal/ industrial disposal site	on-site	municipal/ industrial landfill	5000 55-gallon drums of pesti- cide manufactur- ing residue Miscellaneous industrial solid waste, industrial sludges, and oily waste	organic and inorganic toxic materials	1. No accumula- tion of uncon- trolled chemi- cals on-site. 2. Besides household and commercial refuse, site has received miscellaneous industrial solid waste and industrial sludges over the years. 3. First set of monitoring re- sults from wells near pesticide disposal area showed no pesti- cide contamina- tion. 4. Second set of monitoring results from perimeter wells showed no pesticide contamination. 5. Groundwater monitoring net- work being eva- luated to deter- mine if addi- tional sampling points are needed.	1. Evaluation of historical and recent monitor- ing data being undertaken. 2. No imminent health hazard or environmental problem sus- pected at this time. 3. Uncontrolled site investiga- tions reopened.	Industrial file searches; telephone contact; site visit; sample collection

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Pacific States alias Ace Galvanizing 805 NW 15th Portland, OR ----- metal plating	on-site ----- off-site farm land in WA.	disposal well/ city sewer ----- land spreading	Liquid waste high in zinc & iron. Sludge containing zinc.	Inorganic toxic material.	1. No accumula- tion of un- controlled chemicals on-site 2. Disposal well may have been used for dis- posal of waste water. 3. Land in WA. may have been used for land spreading of sludge contain- ing zinc.	Evaluation of disposal well indicated sump was lined. No identification of lands in WA. Uncontrolled site investigation closed.	File search; site visit. Telephone contacts could be made.
Globe Union, Inc. 800 NW Third Canby, OR 97013 ----- Manufacturer of batteries	On-site	Evaporation/ seepage surface impoundment	In-plant spills containing lead sulfate and lead hydroxide (5000 gallons per spill maximum)	Inorganic toxic material	1. No accumula- tion of uncon- trolled chemicals identified. 2. Unlined evaporation/ seepage pond used to contain in-plant spills. 3. All wells sampled showed no detectable levels of lead.	1. No imminent health hazard or environmental problem identi- fied. 2. Impact of seepage on local groundwater table has been evaluated. 3. Uncontrolled site investiga- tion closed.	Site visit samples taken

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Milwaukie Dumping area	Various locations none pinpointed.	Landspreading, landfilling, open pits, etc.	Industrial waste from McCormick and Baxter	Sludge and general manufac- turing refuse	<p>1. Contact with alleged generator (McCormick and Baxter) and transporter (The Schultz Company) did not pinpoint this site.</p> <p>2. Records related to septic tank sludge show they were hauled to Columbia Blvd. sewage treatment plant.</p> <p>3. Records related to general solid waste show they were hauled to either the St. Johns or Rossman's municipal landfill.</p> <p>4. A specific site could not be pinpointed. Likely, no one site was used more than once.</p>	<p>1. No imminent health hazard or environmental problem identified.</p> <p>2. Further evaluation of records to try & pinpoint all possible disposal sites has been done.</p> <p>3. Uncontrolled site investigation closed.</p>	telephone contacts EPA field investigation team tried to track down a specific site.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Scappoose dumping area	Various locations none pinpointed.	Landspreading landfill, open pits, etc.	Industrial waste from McCormick and Baxter	Sludge and general manufac- turing refuse	1. Contact with alleged genera- tor (McCormick and Baxter, Portland) and transporter (The Schultz Company) did not pinpoint this site. 2. Records related to septic tank sludge show they were hauled to Columbia Blvd. sewage treatment plant. 3. Records related to general solid waste show they were hauled to either the St. Johns or Ross- man's municipal landfills.	1. No imminent health hazard or environmental problem identi- fied. 2. Further evaluation of records to try to pinpoint all possible disposa sites needed. 3. Uncontrolled site investigation closed.	telephone contacts EPA field investi- gation team tried to track down a specific site.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Airport Glue Waste Disposal Site Josephine County Airport Merlin, Oregon ----- Industrial Disposal Lagoon	on-site	four shallow evaporation/ seepage ponds.	phenolic glue waste solids; septic tank pumpings; chemical toilet pumpings; paint and ink sludges and oils.	Industrial and domestic sewage sludges.	1. Unsealed ponds, potential exists for sur- face and ground- water contamin- ation. 2. All waste sludge delivered to site in bulk. (i.e. no drum disposal.) 3. Visual evi- dence exists of previous surface overflows into roadside ditches 4. Initial sampling of drinking water wells in the area showed no contamination. 5. Further sampling of drink- ing water wells in the area show- ed no contamination.	1. No imminent health hazard or environmental problem identi- fied. 2. Samples of ad- jacent deep, drinking water wells showed no contamination. 3. Identified companies and their waste. 4. The site is permanently closed and covered. Waste material has been land farmed for disposal. 5. Uncontrolled site investiga- tion closed.	file search; site visit; sample collec- tion and analysis. -domestic wells sampled for cyanide

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
FRONTIER LEATHER 1210 E. Pacific Sherwood, OR	On-site	Landspreading, burial in shallow trenches or above ground storage in piles.	Beamhouse clari- fier sludge con- taining sodium sulfide, lime & sodium sulfhy- drate (800 lbs. per day);primary clarifier sludge containing tri- valent chrome (1200 lbs. per day);leather splints and flush- ings and trimmings solvents?	Organic and in- organic indus- trial sludges	1. No accumu- lation of un- controlled chemicals identi- fied. 2. Beamhouse sludge disposed of on-site by landspreading. 3. Primary clari- fier sludge dis- posed of at Rossman's. 4. Leather splints are being stored on-site. 5. Flushings and trimmings are being picked up by a rendering plant.	1. No imminent health hazard or environmental problems identi- fied. 2. Analysis of contaminants in beamhouse and primary clari- fier sludge done. 3. EPA has ex- empted tanning industry since original material is Cr t3. 4. Uncontrolled site investiga- tion closed.	File search; site visit, samples taken.
Leather tanner	off-site (Newberg land-fill, Newberg) (Rossman's land- fill, OR. City)	Municipal dis- posal site Municipal dis- posal site					

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
South Willamette Street Landfill 52nd and Willamette Street Eugene, Oregon ----- Former municipal/ industrial disposal site	on-site	Municipal/ industrial landfill	domestic garbage; building demolition waste; land clearing debris; commercial and general business refuse	organic and inorganic mixed waste	1. Former landfill where open burning was normal operating practice. 2. Landfill only being used for land clearing debris at this time. 3. Some drums containing unknown materials on-site.	1. No imminent health hazard or environmental problems identified. 2. Samples collected and contents of drums determined. Lane County ensures proper disposal. 3. Uncontrolled site Investigation closed.	site visit samples taken

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Zehrun Corporation 2201 N.W. 20th Portland, Oregon Formulator of shellacs, solvent alcohols, primers and wood preservatives.	on-site	underground storage tanks	paint mix tank wash water and solvent alcohol.	industrial sludge and flammable organic material	1. No accumula- tion of uncon- trolled chemicals on-site.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investiga- tion closed.	site visit
		Incidental Insecticide dust accumulation beneath warehouse floor	Insecticide dusts (rotenone B and 2,4,D	organic toxic material	2. Unknown (but presumed small) quantity of insecticide dust has		
	off-site (St. Johns Landfill)	municipal/ industrial disposal site	pentachlorophen- ol and/or shellac spill cleanup	organic toxic material	3. Spill clean- up debris hailed to St. Johns Landfill. 4. Outlet to wastewater sump determined to be city sewer.		

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Northwest Printed Circuits 2655 SE Pacific Highway Medford, OR	off-site (Arlington disposal site)	chemical waste landfill	nitric acid (24 drums/yr) sodium per- sulfate (12 drums/yr)	corrosive sludge contain- ing copper	1. No accumula- tion of uncont- rolled chemicals on site. 2. Some drummed corrosive wastes currently being shipped to Arlington disposal site.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site Investigation closed.	site visit
manufacturer of printed circuit boards for electronic industry	off-site (various suppliers such as Van Waters & Rogers, Great Western Chemical, Island Chemical, etc.)	Return to vendor for reuse, recycling or resale for secondary use	Various solvents such as tri- chloroethylene, methylene chloride and ethylene glycol (700 drums/yr)	flammable or toxic organic solvents	3. Organic solvents being returned to vendors for reuse, recycling or subsequent resale.		
	off-site (Medford sewage treatment plant)	municipal wastewater treatment plant	Various etchant liquid industrial wastes (alkaline etchant, elect- roless copper and sodium persulfate)	corrosive industrial wastewater	4. Certain treated indus- trial waste- waters dis- charged to Medford sewage treatment plant.		

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Reynolds Metals Company Sundial Road Troutdale, Oregon	off-site (Reynolds Metal, Longview)	recovery of cryolite, land disposal of residual product	potliner (430 tons/month)	low level of cyanide may be present in potliner	1. No accumula- tion of uncon- trolled chemicals on site.	1. No imminent health hazard or environmental problem identified.	site investigation samples taken.
primary aluminum reduction plant	off-site (Arlington)	chemical waste landfill	sludge contain- ing coal for pitch from wet electrostatic precipitator (20 drums/day)	organic industrial sludge	2. Potliner used to be stored on-site. Accumulation of potliner trans- ported to Longview when cryolite recov- ery process installed. 3. Organic sludges from air control systems put in drums and hailed to Arlington disposal site.	2. Ground water samples in vicinity of Sundial Road plant were checked & found no detectable levels of cyanide. Uncontrolled site Investigation closed.	

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Caron Chemical Corp. 8600 Suver Road Monmouth, Oregon	off-site (Arlington disposal site)	chemical waste landfill	still bottoms from reprocessing of waste solvents	ignitable	1. Treatment and collection facilities are both inactive at this time.	1. No imminent health hazard or environmental problems identified.	file search; site visit
1. Reprocessor of chlorinated/ nonchlorinated solvents (indef- initely closed at this time). 2. Hazardous waste collection site (license temporarily sus- pended for non- compliance at this time).			miscellaneous chemicals, including PCB solids, received through collec- tion site.	ignitable, corrosive or toxic inorganic and organic chemicals.	2. Approximately 2000 drums of mixed inorganic/ organic chemicals were on-site. 3. Sufficient funds did not exist in the business to re- move all chemi- cals to a secure disposal site. 4. Company working with original genera- tors did secure their assistance in removing existing accu- mulation of chemical wastes.	2. Sold reprocessing equipment 3. Efforts completed to secure genera- tor assistance in removing accumulated wastes. 4. Accumulated waste removed and disposed of properly. 5. Uncontrolled site investiga- tion closed.	

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
ICN/United Medical Lab 222 N. Vincent Covina, CA (Plant Site: 11104 NE Holman Portland, OR) ----- defunct clinical lab	historical disposal prac- tices included some cyanide on site and other material off-site.	Dry well and haul to municipal landfill.	Laboratory chemicals including low level radioactive wastes. Small quantities.	Ignitable; corrosive; toxic; radioactive	1. Facility purchased in 1978 by ICN and closed shortly thereafter. 2. State Health Division investi- gated disposal of low level radioactive materials sub- sequent to closure and have found no problems. 3. 50 drums of unknown chemicals were stored be- hind one of the clinical lab buildings.	1. No imminent health hazard or environmental problems identified. 2. Identifica- tion and proper disposal of 50 drums of chemicals has been done. 3. EPA contractor finished investi- gation of the site. 4. Uncontrolled site investigation closed.	Site visit, samples taken.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Anodizing, Inc. 2005 NE Columbia Blvd. Portland, Oregon ----- aluminum anodizing	on-site	surface impoundment	industrial wastewater treatment system sludge	Industrial sludge (primarily aluminum sulfate)	1. No accumula- tion of uncontrolled chemicals on site. 2. Industrial wastewater treatment system closed down in early 1980 - wastewater discharged to Portland sewer system. 3. Surface impoundments no longer in use - accumulated sludge from treatment still remains in impoundment.	1. No imminent health hazard or environmental problems identified. 2. Samples of accumulated sludge taken for analysis and show no high levels of contamination. 3. Uncontrolled site investigation closed.	file search; site visit; sample collection

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Rossman Landfill Holcomb & Washington Sts. Oregon City, OR ----- municipal waste landfill	on-site	municipal waste landfill.	residential, commercial, business and industrial garbage and refuse.	potential groundwater contamination; potential odor problems; potential off- site methane gas escapeage.	<p>1. No accumula- tion of uncon- trolled chemicals on site.</p> <p>2. Leachate collection and treatment system being installed to minimize water pollution.</p> <p>3. Methane gas collection and treatment sys- tem being installed to minimize odors and potential explosions.</p> <p>4. Effort made to operate site as sanitary landfill including daily cover, weather permitting.</p>	<p>1. No imminent health hazard or environmental problem identified.</p> <p>2. Thorough review has been made of existing monitoring data and inspections scheduled on leachate and methane gas collection and treatment systems.</p> <p>3. Uncontrolled site investiga- tion closed.</p> <p>4. Landfill closed.</p>	file search; site visit

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Bloomberg Road Landfill Bloomberg Road Lane County, Oregon ----- former municipal/ industrial landfill.	on-site	municipal/ industrial disposal site that is filled to capacity.	Domestic garbage; land clearing debris; miscellaneous industrial/ commercial waste	organic and inorganic mixed wastes.	1. Potential exists for local ground- water contamin- ation due to degradation of municipal/ industrial wastes 2. No evidence of hazardous wastes having been disposed of. 3. No accum- ulation of un- controlled chemicals identified.	1. No imminent health hazard or environmental problems identified. 2. Groundwater samples from local wells may be collected. 3. Uncontrolled site Investigation continuing	file search; site visit.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Day Island Landfill Day Island Road Eugene, Oregon ----- former municipal/ industrial landfill	on-site	municipal/ industrial disposal site that is filled to capacity.	Domestic garbage; building demo- lition waste; land clearing debris; wood waste; miscel- laneous indus- trial/commercial waste.	organic and inorganic mixed wastes.	1. Potential exists for local groundwater contamination due to degrad- ation of muni- cipal/industrial wastes. 2. No evidence of hazardous wastes having been disposed of. 3. No accumu- lation of uncon- trolled chem- icals identified.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigat- ion closed.	file search; site visit Evaluation of historical and recent monitoring data.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Brown's Island Sanitary Landfill Marion County Salem, Oregon municipal/ industrial disposal site	On-site	Municipal/ industrial disposal site	Domestic garbage; building demo- lition waste; land clearing debris; miscel- laneous commer- cial and indus- trial waste.	Organic and inorganic waste materials.	1. No accumula- tion of uncontro- led chemicals identified. 2. Potential for pollution of local ground- water due to biodegradation of organic materials. 3. Monitoring wells have been installed and monitoring of shallow ground- water table is occurring.	1. Permitted site by State of Oregon. Periodic inspec- tions are conducted. 2. No imminent health hazard or environ- mental problems identified. 3. Evaluation of historical and recent monitoring data completed. 4. Uncontrolled site Investigation closed.	File search; site visit.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Rhone-Poulenc (formerly Rhodia or Chipman Chem- ical) 6200 NW St. Helens Road Portland, OR manufacturer and formulator of pesticides	on-site	Doane Lake	liquid wastes	organic toxic materials	1. Chlorinated phenols in shallow ground- water generator plant site.	1. Evaluation continuing as part of Doane Lake area study. 2. Evaluation of St. Johns land- fill scheduled. 3. Pasco, Wash- ington reference referred to EPA for followup. 4. Twice a year monitoring of Alkali Lake con- tinuing by DEQ 5. Remedial action plan developed. 6. Groundwater to be recovered and treated to remove phenols.	file search; personal interview; site visit; sample collection. On-site inspection.
	off-site St. Johns landfill	municipal landfill	manufacturing residues (5000-55 gallon drums)				
	off-site Alkali Lake landfill	chemical waste landfill	manufacturing residues (23,500-55 gallon drums)				
	off-site Pasco, Washington	chemical waste landfill	manufacturing residues				
	off-site Arlington dis- posal	chemical waste landfill	manufacturing residues (200 tons per year)				

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Pennwalt Chemical 6400 NW Front Av. Portland, OR	on-site	lagoons/landfill	brine purifica- tion sludge (1310 pounds per day)	inorganic toxic materials	1. No accumula- tion of un- controlled chemical on-site	Evaluation con- tinuing as part of Doane Lake area study	file search; site visit; sample collection On-site inspec- tion.
----- manufacturer of industrial chemicals - principally chlorine	off-site Arlington disposal site	chemical waste landfill	sodium arsenite; miscellaneous cleaning chemicals		2. Some indus- trial sludge disposed of on- site. 3. Some indus- trial chemicals disposed of at Arlington dis- posal site.		
Gould Inc. (formerly NL Industries) 5909 NW 61st Av. Portland, OR ----- Secondary re- refining of lead and zinc	on-site	landfill	lead; zinc	inorganic toxic material	Lead dust and slag.	Lead dust and slag and empty battery cases being removed from site for re-use.	file search; site visit; sample collection

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Koppers Company 7540 NW St. Helens Road Portland, OR ----- manufacturer of pitch and electrobinding products	on-site	landfill	creosote re- siduals; pitch; phenols; oil and grease	industrial solid waste and sludge		Evaluation con- tinuing as part of Doane Lake study area	file search; telephone conversation Sampling continuing.
Industrial Air Products (Division of Liquid Air Inc.) 6501 NW Front Av. Portland, OR ----- manufacturer of acetylene	on-site	landfill	10% lime slurry	corrosive	1. No accumula- tion of un- controlled chemicals on- site. 2. Lime slurry currently held in temporary holding pond and reused.	Evaluation con- tinuing as part of Doane Lake area study	file search; site visit; sample collection

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Gilmore Steel 6161 NW 61st Av. Portland, OR ----- steel fabrication coating and en- graving	on-site	landfill	rolling mill scale; melt furnace slag (7500 tons per year)	industrial solid waste	no accumula- tion of un- controlled chemicals on- site	evaluation con- tinuing as part of Doane Lake area study	file search; site visit; sample collection
Northwest Natural Gas St. Helens Road Portland, OR ----- manufacturer of oil and gas from petroleum	on-site	landfill	tar bottoms; naphthalenes	industrial sludges	1. Gasification plant ceased operation in early 1950's	Evaluation con- tinuing as part of Doane Lake area study	personal interview; site visit; sample collection

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Oregon City Gravel Pit (Believed to be Rossman's Landfill, Oregon City)	Not applicable	Not applicable	Not applicable	Not applicable	1. Galvanizers disposed of 12,000 gallons of iron and zinc hydrox- ide sludge in 1976. 2. Crosby and Overton hauled sludge to Ros- sman's landfill in Oregon City. 3. DEQ approved disposal in Ros- sman's landfill.	1. No imminent health hazard or environmental problems iden- tified. 2. Uncontrolled site Investigation closed.	telephone contacts

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Lakeview, Oregon dumpsite (determined to be Alkali Lake disposal site)	---	---	---	---	<p>1. Jantzen, Inc. disposed of dry cleaning solvents thru Chem-Waste, Inc.</p> <p>2. Chem-Waste, Inc. developed and operated Alkali Lake disposal site.</p>	<p>1. See discussion under Alkali Lake disposal site.</p> <p>2. Uncontrolled site investigation closed.</p>	File search; telephone contacts.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Umatilla Army Depot Hermiston, Oregon ----- Army munitions and nerve gas repository	on-site	Long-term storage of pesticides and solvents; washwater from decontaminating munitions plant was piped to 2-cell unlined lagoon, plant inactive for over 10 years.	Total estimate 9,000 lbs.-- pesticides, solvents, NaCN and NaCl, caustic brine.	Explosives and toxic organic waste contamination.	1. Outdated or nonusable muni- tions are detonated in an incinerator or open air depending on size. 2. Pesticides and solvents in storage. 3. Groundwater contaminated by nitrates from 2-cell unlined lagoon.	1. No imminent health hazard or environmental problem identified to date. 2. Uncontrolled site investiga- tion is contin- uing. DEQ and EPA reviewing consultant report on ground- water contamin- ation.	File search Groundwater monitoring

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
American Can CO. 3334 Industrial Way N.E. Salem, OR ----- Can mfg. facility	off-site	recycle	solder dross (lead) waste solvents (MIBK, MEK & cycloheranone) 40,000 lbs/yr.	Toxic-heavy metals & organic solvents	1. Drum storage area for solder dross and waste solvents 2. Company has filed as a generator and TSD facility. 3. Company filed SNP to be safe.	No imminent hazard or environmental problems identi- fied. Uncontrol- led site investi- gation closed.	File search, on site inspection.
Cascade Plating Co. 125 Waite St. Eugene, OR ----- Electroplating facility	off-site Arlington h.w. disposal facility	----- landfill	Electroplating sludge - 3 drums over a 7 year period.	Toxic- heavy metals	1. Dates of waste handling 1980-present. 2. Material is collected & stored in drums. 3. Stored material is ship- ped to Arlington for disposal.	1. Preliminary investigation has been initia- ted. Uncontrol- led site investi- gation continuing. 2. Uncontrolled site investiga- tion closed.	File search, telephone contact.
States Industries Inc. Enid Rd & Hwy. 99N Eugene, OR 97402 ----- prefinish plant	off-site unknown	municipal landfill	spent solvents	Toxic-ignitable	1. Material is stored on site in drums.	1. Preliminary investigation has been initia- ted and uncontrolled site investigation continuing. 2. Uncontrolled site investiga- tion closed.	File search, telephone contact.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Boise Cascade Valsetz, OR ----- plywood mfg.	on-site	landfill	10 cu/yds. of asbestos insula- tion.	Toxic-asbestos if air borne, could be inhaled then is consid- ered a carcinogen.	1. Company al- lowed asbestos from old schools to be landfilled. 2. Material has been covered & thus is not a hazardous waste.	1. No imminent hazard or environmental problems identi- fied. 2. Uncontrolled site investiga- tion closed.	File search, telephone contact, site inspection.
FRANK'S SANITARY LANDFILL Rt. 4 Box 405 Sherwood, OR ----- municipal landfill	On-site	municipal land- fill	A variety of waste and in unknown quanti- ties.	Unknown	1. Facility operated from 1963-1976.	No imminent hazard or envir- onmental problems identified. Uncontrolled site investi- gation closed.	File search. On-site inspection.
Georgia Pacific Corp. Butler Bridge Rd. Toledo, OR ----- paper plant	On-site	landfill (new solid waste site and old burning site)	3000 cu/yds. of mixed waste from the mill generation. Exact quantities of specific wastes unknown.	Toxic-small quantities of heavy metals, solvents, oil and other mill wastes.	1. Some slimeacides and other hazardous materials during the operation of the plant. 2. Surrounded on three sides by water treat- ment ponds. 3. Sampling of the ponds show no contamination.	1 No imminent hazard or environmental problems identi- fied. 2 Uncontrolled site investiga- tion continuing.	File search, on-site visit, sampling conducted.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
McCall Oil & Chemical Corp. 585 Hamburg St. Astoria, OR ----- Oil storage	On-site	Open pits	Tank bottoms & oil storage slop quantity un- known.	Toxic	1. Pits have been used in the past for spill material and tank sludge disposal.	Preliminary investigation has been initiated. Uncontrolled site investiga- tion continuing.	Initial telephone contact made.
Sinclair & Valen- tine (formerly Martin Marietta Co.) 2700 S. Ankeny St. Portland, OR ----- Producer of print- ing ink.	Unknown	Unknown	Unknown - printing inks/ solvents. Quantities un- known at this time.	Toxic	1. Facility ceased operation in 1971. 2. No accumu- lation of uncon- trolled chemicals on site.	Uncontrolled site investiga- tion closed.	File review. On-site inspection.
Owens Illinois Inc. 5850 N.E. 92nd Dr. Portland, OR ----- Glass Mfg. plant	On-site	Landfill	Chromium- quantities un- known at this time.	Toxic.	1. Buried refractory bricks that have chrome in them until 1980. 2. Material has been covered. 3. Landfilled chromium is in refractory brick.	No imminent hazard or environmental problem ident- ified. Uncon- trolled site investigation closed.	File review.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Shell Oil Co. 5880 N.W. St. Helens Rd. Portland, OR.	On-site	Land treatment and landfill	Pesticides, organics, unknown quantity disposed of on-site, a maximum of 60-70 bbls. off-site.	Toxic	Pending	Preliminary investigation made. Uncontrol- led site investigation continuing.	Initial file search.
Petroleum Bulk Terminal activity	Off-site at St. John's landfill				See St. John's landfill info.		
Texaco Terminal 3800 N.W. St. Helens Rd. Portland, OR	On-site	Landfill	API separator sludge.	Toxic-heavy metals	1. In 1969 Texaco said drained settling from oil/water separ- ator onto a sandy area of the tank farm. Alleged to be essentially water and sand. 2. Lead concentra- tion less than toxic standards; leach test shows less than 0.1 mg/l.	No imminent hazard or environ- mental prob- lems identified. Uncontrolled site investi- gation closed.	Initial file search. Site inspection, sampling.
Bulk Terminal Activity							
Union Pacific Bridal Veil ----- Transportation	Near railroad tracks between Bridal Veil and Multnomah Falls	Landfill	Paint & related products. Unknown quantities.	Toxic and/or ignitable.	1. Material was placed here as a result of a train derailment.	Preliminary in- vestigation made. Uncontrolled site investigation continuing.	Initial file search.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Champion Intern'tl P.O. Box 1329 Lebanon, OR ----- Plywood mfg.	Off-site Abandoned gravel pit Liquids training site for the City of Lebanon Fire Dept.	Open burning.	Halogenated and non-halogenated solvents - 6,000 gals/yr.	Toxic & ignitable solvent waste.	1. Spent solvent given to City Fire Dept. A plastic lined pit was filled w/water & solvent in surface then ignited. Dept. would practice fighting fires. 2. Spent solvent is now shipped off-site for disposal according to EPA requirements.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, telephone contact.
United States Railway Mfg. 303-2 S. Fifth St. Springfield, OR ----- Railcar Mfg.	Off-site (Lane Co. land- fill)	Municipal landfill.	5-five gallon barrels of paint pigments.	Flammable	1. Waste con- sists of small quantities of paint residue. 2. No accumulation of uncontrolled chemicals on- site. 3. Small quantity is disposed of at co. municipal landfill, i.e., small quantity exclusion.	No imminent hazard or environmental problems identi- fied. Uncontrol- led site investigation closed.	On-site inspection.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Whiteson Landfill Rt. 1 Box 211 McMinnville, OR ----- Municipal landfill	On-site	Municipal land- fill.	Cascade Steel Rolling Mill baghouse dust, 2,000 tons/yr.	Toxic - heavy metal, lead & cadmium	1. Landfill ac- cepted dust from 1973-1981. 2. Dust was depo- sited throughout the landfill. 3. Concentration of lead and cadmium below toxic standards.	1. No imminent hazard or environmental problem identi- fied. Uncon- trolled site investigation closed.	File search, on-site inspection telephone contact, sampling. Groundwater sampling.
Champion Intern'tl 4780 Dee Highway Hood River, OR ----- Plywood mfg.	On-site	Industrial waste landfill.	1. Waste paint solvent 2. Exact quantity un- known. Volumes were spread over the wood waste to evaporate.	Toxic.	1. Site normally used for disposa of waste water treatment plant sludge and boiler fly ash. 2. Waste paint solvent was dumped over waste from 1967- 1976. Intent was to evaporate material. 3. Co. has switched to water based paint and no longer generate waste solvents. 4. Site has a regular State SW permit.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection, telephone contact.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
North Wasco Co. Landfill Rt. 1, Box 136 A The Dalles, OR ----- Municipal landfill	On-site	Municipal landfill	Empty pesticide containers, unknown quantities.	Toxic.	1. All known pesticide containers that went into the landfill were triple rinsed. 2. Site has a regular State SW Permit.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection.
International Paper Co. Hwy. 101 Gardiner, OR ----- Paper Mfg.	On-site.	Landfill	Pulp sludge, wood fiber, lime dregs & demoli- tion material. Exact quantity unknown, size of fill is 15 acres.	Non-hazardous, organic (TOC, BOD, etc) load- ing of nearby river.	1. Located near the Umpqua River and Pacific Ocean. 2. Site is level & consists of diked trenches 3. No known hazardous waste has entered the site. 4. Site has a regular State S.W. Permit.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection, telephone contact.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Ideal Basic Ind. Gold Hill, OR ----- Defunct Cement plant	On-site	Landfill	Cement kiln Burning Zone Refractories. Approx. 13,000 cu. ft.	Toxic-Bricks have cr content.	1. Waste material consist- ing mainly of rock, dirt and sand is spread over large area. 2. Plant & site are inactive. 3. Area is served by com- munity water system. 4. Cr content is not classified as hazardous waste.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on- site inspection, samples taken.
Georgia Pacific Chemical Plant Chamberlain St. Coos Bay, OR ----- Wood products chemical plant	On-site	Landfill	700 cu. ft. of paraformaldehyde.	Toxic - aquatic life, recreational use of the bay.	1. Material was buried over a nine year period from 1963 to 1972.	Evaluation is continuing	File search, on-site inspection, sampling

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

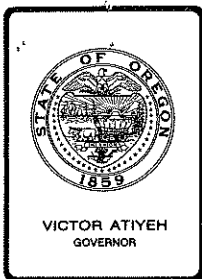
Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Weyerhaeuser Co. McDaniel St. North Bend, OR ----- Wood products plant	Weyerhaeuser property on Mettman Ridge.	Landfill.	One dumpster of penta dip-tank sludge.	Toxic - chlorinated phenol.	1. Landfill is used for waste wood residues & log pond dredg- ings only. 2. Penta dip- tank sludge entered landfill by accident on Dec. 1980. 3. Site is a regularly permitted S.W. site. 4. Site has a trench around it to catch run-off.	Evaluation is continuing.	File search, on-site inspection. Samples collected.
Southern Pacific Transportation Co. Bethel Drive Eugene, OR ----- Industrial & municipal landfill	On-site	Landfill	Unknown	Unknown	1. Old barrow pit at east end of dumpsite. 2. Public at one time used this dump site which is now fenced off. 3. Awaiting evaluation.	1. Evaluation of this site is continuing. 2. Analysis of 129 priority pollutants. 3. Sample re- sults being evaluated.	File search, on-site inspection, telephone contact. Sampling.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Boise Cascade Elgin, OR ----- Sawmill	On-site	Landfill	27 c. ft. of asbestos.	Toxic, if air- borne, would be inhaled, then is considered a carcinogen.	1. Site is a regularly opera- ted wood waste site accepting log deck clean- up and baghouse dust. 2. Asbestos has been covered and thus any hazard has been alleviated.	No imminent hazard or environmental problems were identified. Uncontrolled site investiga- tion closed.	File search, on-site inspection.
38th & Hilyard Eugene, OR ----- Closed municipal landfill	On-site	Landfill - open burning dump	Demolition, municipal, indust- rial, & other typical waste brought to a landfill during that time.	Waste leachate	1. The site has been closed for 30 yrs. 2. The site was an open burning dump which left mainly ash residual. The site was covered and has grass growing on it. 3. No detectable amount of contam- inants were measured going into an adjacent stream. 4. No methane gas was being generated at the site.	No hazards or environmental problems were identified. Uncontrolled site investigation closed.	On-site inspection, sampling for methane leachate indicators EP toxicity, & aquatic toxicity.

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Laurence David Co. 1400 S. Bertelson Rd Eugene, OR	On-site	Open pit	Wood putty containing toluene, 50 cu. ft.	Flammable	Buried wood putty on-site.	Waste to be removed and landfilled.	On-site inspection, telephone contact, sampling.
Deschutes Valley Sanitation Terrebonne, OR	On-site	Lagoon; drums	Ink sludge containing 7% lead, 600 cu. ft.; 635 55-gallon drums of caustic sand, corrosive liquids, solvents; 161 drums of low-level radioactive wastes.	Toxic Corrosive Radioactive	Ink sludge disposed of in lagoon; corrosives, solvents, and low-level radioactive waste contained in drums, sitting on the ground.	635 drums removed to Arlington; removal of radioactive waste and ink sludge pending. Health Division overseeing removal of rad-wastes.	On-site inspections. Sampling.



Environmental Quality Commission

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

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. J, April 6, 1984, EQC Meeting

Proposed Adoption of Temporary Rules For Indirect Sources
in the Medford Area (Amendments to OAR 340-20-100 to
20-135).

BACKGROUND AND PROBLEM STATEMENT

The Environmental Quality Commission adopted the carbon monoxide (CO) attainment plan for the Medford area as a revision to the State of Oregon Clean Air Act Implementation Plan on October 15, 1982. The Medford CO plan had been completed in August 1982 by Jackson County, as lead agency, in cooperation with the City of Medford and the Oregon Departments of Transportation and Environmental Quality.

One of the expected most effective control measures in the Medford CO plan was the proposed biennial inspection/maintenance (I/M) program for motor vehicles in Jackson County. The Jackson County Commissioners adopted an I/M ordinance on January 18, 1984 conditional on an affirmative popular vote. Jackson County voters defeated the I/M ballot measure on March 27, 1984 by almost a three to one margin.

Without an I/M program, the Medford CO plan is not adequate to demonstrate attainment of the CO health standard in the Medford area by the Congressionally mandated date of December 31, 1987. In addition to the problem of continued nonattainment of the CO health standard, the Environmental Protection Agency (EPA) has indicated that it would be required to impose sanctions, pursuant to the Clean Air Act, if the Medford CO plan is not revised to demonstrate attainment by the end of 1987. These sanctions would be in the form of a construction moratorium on major new or modified industrial CO sources (emitting 100 tons or more of CO per year) and restrictions on federal funding for transportation projects and Department air program activities. Sewage treatment funds could also be affected but EPA is allowed to use discretion on this funding category.



Contains
Recycled
Materials

EPA proposed in the March 14, 1984 Federal Register to disapprove the attainment demonstration portion of the Medford CO plan and to impose a construction moratorium on major new or modified industrial CO sources. Final action is expected in the Federal Register in May or June 1984. It is the Department's understanding that EPA is proceeding rapidly to impose transportation funding sanctions as well.

Despite the I/M vote in Jackson County, the Department believes it still has a responsibility to attempt to develop an alternative CO strategy which would demonstrate attainment by the end of 1987 and thus bring the State Implementation Plan into conformance with federal law. Such a strategy will undoubtedly have some undesirable components since the more reasonable alternatives have been studied and/or implemented in previous work by Jackson County over the last several years.

The Department is requesting the Commission to adopt temporary rules for indirect sources (parking lots, shopping centers, office complexes, etc.) in the Medford area. These rules would be the first component of a revised Medford CO plan.

The Commission is authorized by ORS 468.020 and 468.310 to 468.330 to adopt rules for indirect sources. ORS 183.335(5) authorizes the adoption of temporary rules for up to 180 days.

A Statement of Need for Rulemaking is attached (Attachment 2).

ALTERNATIVES AND EVALUATION

Overview of Potential Control Measures

The two most effective control measures outlined in the 1982 CO plan were the continuation of the federal Motor Vehicle Emission Control Program (the federal tailpipe program) and the implementation of a biennial county-wide I/M program. These measures would have been effective in both the short-term (pre-1987) and long-term (post-1987) plan. Both of these measures are increasingly effective over time, thus allowing for economic and traffic growth without sacrificing air quality objectives.

The federal tailpipe program will remain as the single most effective control measure of the revised Medford CO plan. Without an I/M program, other control measures must be substituted in order to attain the CO health standard by the end of 1987. Other potential control measures are outlined in Table 1. These other measures are generally shorter term and less desirable options than I/M since they would not provide for normal growth. The later implementation of an I/M program could be used to ultimately replace some of the shorter-term measures. But later implementation (post-1984) of an I/M program would not fully eliminate the need for some additional strategies since a later implementation date would not allow the I/M program to reach adequate effectiveness by the end of 1987.

Table 1. Potential Control Measures for Revised Medford CO Plan.

Control Measures	Possible Implementers		
	City	County	State
More aggressive parking and traffic circulation plan.	X		
More restrictive requirements or prohibition of new indirect sources.			X
Increased anti-tampering enforcement.	X	X	X
Revocation or non-extension of the Rogue Valley Mall indirect source permit.			X
Requirements on existing parking lots for indirect source permits and restrictive parking limits.			X
Later implementation of an I/M program.		X	X

The City of Medford outlined three parking and traffic circulation options in the 1982 Medford CO plan. The plan included a commitment to implement Option #1. The more aggressive Option #2 (adding the Front Street bypass or 3-laning of Central Avenue with removal of on-street parking) would reduce downtown CO levels but would not reduce north Medford CO levels.

Indirect source permit requirements for parking lots of 50 or more spaces would require the evaluation and mitigation of CO impacts associated with new shopping centers, office complexes, etc. Permits could be denied if CO impacts were not fully mitigated. Indirect source permit requirements currently do not apply to parking lots of less than 1,000 spaces in the Medford area. The permit requirements or denials on smaller parking lots would reduce the CO emissions normally associated with traffic growth. Without this restrictive indirect source program, the City of Medford had forecasted traffic growth of about 2% per year.

ORS 483.325 prohibits tampering with or removing pollution control equipment from motor vehicles. The enforcement of this existing ORS could be implemented by random roadside inspections by Medford Police, County Sheriff, and/or State Police. The sale of motor vehicles with removed or inoperative pollution control equipment could be prohibited in Jackson County by city, county, or state rules. The sale of leaded gasoline could be prohibited in Jackson County, thus reducing illegal fuel switching which damages automobile catalyts.

The indirect source permit for the Rogue Valley Mall was issued by the Department with the concurrence of the Commission with the expectation that I/M would be implemented in the Medford area. Construction of the Mall has been delayed thus requiring annual extensions of the permit each November. If the Rogue Valley Mall is not constructed, then CO levels in North Medford would improve significantly faster and CO levels downtown would improve slightly slower.

The indirect source rules could be modified so that they apply to existing parking lots of 50 or more spaces. Indirect source permits could require that parking be restricted at certain times and in certain portions of the CO problem area.

As mentioned earlier, some of these control measures would provide short-term reductions in CO emissions but would not be desirable long-term measures.

Temporary Rules For Indirect Sources

Temporary rules for indirect sources in the Medford area are proposed in Attachment 1 which would require the City of Medford to submit a revised parking and traffic circulation plan to the Department within 120 days. The temporary rules for indirect sources would also require permits for new parking lots of 50 or more spaces in Medford, or 250 spaces within five miles of Medford, or 500 spaces within Jackson County. Indirect source permits would also be required for new highway projects in Jackson County with projected traffic volumes of 20,000 or more vehicles per day. (The current criteria is 50,000 vehicles per day.) These rules would be the first component of a revised Medford CO plan.

Failure to adopt temporary rule changes to OAR 340-20-100 to 20-135 may result in serious prejudice to the public interest by allowing moderate size indirect sources (50 to 1,000 parking spaces) to construct in the Medford area without evaluating and mitigating CO impacts. This could delay or prevent attainment of the CO health standard in Medford and result in the permanent imposition of federal sanctions.

The Department intends to develop a revised Medford CO plan, with the cooperation of the City of Medford, Jackson County, and the Department of Transportation, within the next 180 days. During this time period, we will evaluate in more detail the measures outlined in Table 1.

SUMMATION

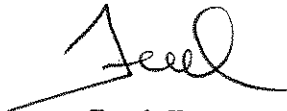
1. Jackson County prepared a plan in August 1982 to meet carbon monoxide (CO) standards in the Medford area by the end of 1987, and this plan was adopted by the Environmental Quality Commission in October 1982.
2. The Medford area CO plan included a biennial inspection/maintenance (I/M) program for motor vehicles in Jackson County; an I/M ballot measure was defeated by Jackson County voters in March 1984.

3. In March 1984, the Environmental Protection Agency (EPA) proposed in the Federal Register to disapprove the attainment demonstration portion of the Medford CO plan and to impose a construction moratorium on major new or modified industrial CO sources in the Medford area. Final action is expected in the Federal Register in May or June 1984.
4. EPA has indicated that it would also be required to impose sanctions on federal funding for transportation projects and Department air program activities if the Medford CO plan is not revised to demonstrate attainment of the CO health standard by the end of 1987.
5. Without an I/M program, other less desirable control measures must be implemented to meet the CO health standard in Medford by 1987. These other potential measures include:
 - a. More restrictive requirements or prohibition of new indirect sources (parking lots, shopping centers, office complexes, etc.) in the Medford area;
 - b. A more aggressive parking and traffic circulation plan by the City of Medford;
 - c. Increased enforcement of anti-tampering statute (ORS 483.325);
 - d. Revocation or non-extension of the Rogue Valley Mall indirect source permit;
 - e. Requirements for indirect source permits, and restrictive parking limits, on existing parking lots; and
 - f. Later implementation of an I/M program.
6. Immediate temporary rule changes to OAR 340-20-100 to 20-135 are needed for indirect sources in the Medford area in order to expeditiously implement control measures 5a and 5b above and thus prevent permanent worsening of the existing CO problem.
7. Failure to immediately adopt temporary rule changes to OAR 340-20-100 to 20-135 may result in serious prejudice to the public interest by allowing moderate size indirect sources (50 to 1,000 parking spaces) to construct in the Medford area without evaluating and mitigating CO impacts and by delaying traffic planning actions that the City of Medford could take to help develop an alternative strategy. This could specifically result in:
 - a. Further delay or permanent prevention of attainment of the CO health standard in Medford;
 - b. Permanent imposition of a federal construction moratorium on major new or modified CO sources in the Medford area; and

- c. Permanent imposition of federal sanctions on transportation projects, air planning, and sewage treatment funding.
8. The Department and the City of Medford, with the assistance of the Oregon Department of Transportation and Jackson County, are working together in the next 180 days to develop a new package of control measures. This new package is intended to attain the CO health standard, meet federal requirements, and replace the attached proposed temporary rules for indirect sources in the Medford area.

DIRECTOR'S RECOMMENDATION

Based on the Summation, the Director recommends that the Commission adopt temporary rule revisions to OAR 340-20-100 to 20-135 for indirect sources in the Medford area. The temporary rule revisions will be effective for 180 days after adoption. The Director also recommends that the Commission direct the Department to proceed expeditiously to develop an alternative CO control strategy for the Medford area which will bring the State Implementation Plan into conformance with the Federal Clean Air Act.



Fred Hansen

- Attachments: 1. Temporary Rule Revisions to OAR 340-20-100 to 20-135.
2. Statement of Need for Rulemaking.

M.L. HOUGH:a
229-6446
April 4, 1984
AA4302

PROPOSED AMENDMENTS TO OAR 340-20-115 AND OAR 340-20-120

Indirect Sources Required to Have Indirect Source Construction Permits

340-20-115(2) All Indirect Sources meeting the criteria of this subsection relative to type, location, size, and operation are required to apply for an Indirect Source Construction Permit:

(a) The following sources in or within five (5) miles of the municipal boundaries of Medford and a municipality with a population of 50,000 or more including, but not limited to, Portland, Salem, and Eugene:

(A) Any Parking Facility or other Indirect Source with Associated Parking being constructed or modified to create new or additional parking (or Associated Parking) capacity of 250 or more Parking Spaces, except within the municipal boundary of Portland where the minimum number of Parking Spaces associated with an Indirect Source requiring Department approval shall be 150[.] and except within the municipal boundary of Medford where the minimum number of Parking Spaces associated with an Indirect Source requiring Department approval shall be 50.

(b) Except as otherwise provided in this section, the following sources within Clackamas, Lane, Marion, Jackson, Multnomah, or Washington Counties:

(A) Any Parking Facility or other Indirect Source with Associated Parking being constructed or modified to create new or additional parking (or Associated Parking) capacity of 500 or more Parking Spaces.

(B) Any Highway Section being proposed for construction with an anticipated annual Average Daily Traffic volume of 20,000 or more motor vehicles per day within ten years after completion, or being modified so that the annual Average Daily Traffic on that Highway Section will be 20,000 or more motor vehicles per day, or will be increased by 10,000 or more motor vehicles per day within ten years after completion.

Establishment of an Approved Parking and Traffic Circulation Plan(s) by a City, County, or Regional Government or Regional Planning Agency

(4) The Parking and Traffic Circulation Plan shall include, but not be limited to:

(j) Identification and responsibilities of each city, county, and regional government or Regional Planning Agency designated under subsection 340-20-120(1) or 340-20-120(10) of this Rule to implement the Parking and Traffic Circulation Plan.

(10) Notwithstanding the provisions of OAR 340-20-120(1), the Department may notify the City of Medford of the need to control Parking Spaces and Traffic Circulation in the carbon monoxide nonattainment area defined in the Clean Air Act Oregon State Implementation Plan.

Within thirty (30) days of receipt of such notification, the City of Medford shall proceed in accordance with a specific plan and time schedule agreed to by the City and the Department to develop and implement a Parking

and Traffic Circulation Plan. The Parking and Traffic Circulation Plan, where required, shall be developed in coordination with the local and regional comprehensive planning process pursuant to the requirements of ORS 197.005 et. seq. The required plan shall be submitted to the Department for approval within the agreed time schedule but shall not be more than one-hundred twenty (120) days after the City is notified of the necessity for a Parking and Traffic Circulation Plan for an area within its jurisdiction.

(11) Within thirty (30) days of the notification that development and submittal of a Parking and Traffic Circulation Plan is required under section 340-20-120(10) of this rule, the City of Medford shall notify the Department in writing the agency or department and individual responsible for coordination and development of the Parking and Traffic Circulation Plan. The provisions of OAR 340-20-120(3) - (9) shall be applicable.

RULEMAKING STATEMENTS

for

Adoption of Temporary Rules for Indirect
Sources in the Medford 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 340-20-100 to 20-135. It is proposed under authority of ORS 468.020 and ORS 468.310 to ORS 468.330 which authorizes the Environmental Quality Commission to adopt rules for indirect sources and ORS 183.335(5) which authorizes the adoption of temporary rules for up to 180 days.

Need for the Rule

New carbon monoxide (CO) control measures are necessary in the Medford area, due to the recent defeat of a Jackson County ballot measure for a motor vehicle inspection/maintenance program, in order to attain the CO health standard. The proposed rules would help prevent worsening of the CO problems while the Department of Environmental Quality, with the assistance of the City of Medford, Jackson County, and the Department of Transportation, develop alternative CO attainment plans. The proposed rules would require the City of Medford to submit a revised parking and traffic circulation plan within 120 days and require indirect source permits for all new parking lots of 50 or more spaces. Failure to adopt temporary rule changes to OAR 340-20-100 to 20-135 may result in serious prejudice to the public interest by allowing moderate size indirect sources (50 to 1,000 parking spaces) to construct in the Medford area without evaluating and mitigating CO impacts and by delaying traffic planning actions that the City of Medford could take to help develop an attainment strategy. This could delay or prevent attainment of the CO health standard in Medford and result in the permanent imposition of federal sanctions on construction of major industrial CO sources and on funding for transportation projects and air planning activities.

Principal Documents Relied Upon

- o Federal Clean Air Act as Amended (PL95-95) August 1977.
- o Medford Control Strategy for Carbon Monoxide: State Implementation Plan Revision, October 15, 1982.
- o EPA Proposed Action on Medford CO Plan, Federal Register, March 14, 1984.

FISCAL AND ECONOMIC IMPACT STATEMENT:

These rules would increase costs and inconvenience for new small or large businesses with 50 or more parking spaces in the City of Medford. The increased costs would be associated with preparation of an indirect source permit application, evaluation of the CO impacts associated with the proposed business, and mitigation of the CO impacts. Some businesses, if CO impacts cannot be mitigated, may be denied permits to locate in or near the CO problem area. The new businesses that would likely be affected by the new rules would be:

- o Retail businesses with 7500 or more square feet of space.
- o Medical offices with 7500 or more square feet of space.
- o General offices with 12,500 or more square feet of space.
- o Motels with 50 or more rooms.
- o Hotels with 100 or more rooms.
- o Churches with 200 or more seats.
- o Other businesses with 50 or more parking spaces.

All new supermarkets, most new restaurants, some new banks, some new convenience food markets, etc. in Medford would likely be affected by the new rules.

The new rules would also affect, and increase costs and inconvenience, to new businesses within five miles of the Medford city limits with 250 or more spaces, and to new businesses within Jackson County with 500 or more spaces.

The positive economic benefits of these rules would be the possible prevention of permanent federal sanctions on construction of new or modified major industrial CO sources, transportation funding, air planning funding, and sewage treatment funding. Up to \$20 million of highway projects in Jackson County during 1984-1990 have been identified as potentially affected by federal sanctions.

LAND USE CONSISTENCY STATEMENT:

The proposed rule appears to affect land use and appears to be consistent with the Statewide Planning Goals.

With regard to Goal 6 (air, water, and land resources quality) the rules are designed to enhance and preserve air quality in the affected area and are considered consistent with the goal.

Goal 11 (public facilities and services) is deemed unaffected by the rule. The rule does not appear to conflict with other goals.

Public comment on any land use issue involved is welcome and may be submitted in the same fashions as are 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 apparent conflict brought to our attention by local, state, or federal authorities.