



Report to the Legislature on Financial Assurance for Solid Waste Facilities in Washington

Washington State Department of Ecology

In Consultation with

The Washington Utilities and Transportation Commission

February 2001

Solid Waste & Financial Assistance Program

Publication No. 00-07-039

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Executive Summary

Substitute House Bill 2670, passed in the 2000 legislative session, expanded the options for solid waste financial assurance to local governments and directed Ecology to conduct a study on the solvency of the existing system. This study evaluated the existing system to determine whether the goal of financial assurance for solid waste facilities is being met.

Financial assurance requirements for solid waste facilities were first required in 1986 with passage of ESHB 69, codified as Chapter 70.95.215 RCW, Solid Waste Management—Reduction and Recycling. Section 215 states that by July 1, 1987, each permittee for a landfill disposal facility must establish a reserve account to cover the costs of closing the facility in accordance with state and federal regulations. The account must be designed to ensure that there will be adequate funds available by the projected date of closure to close the facility and monitor the facility for a number of years thereafter.

Key Findings and Recommendations

Alternative financial assurance instruments appear safe if issued by financially sound companies and properly reviewed and monitored. The current pay-as-you-throw system can provide adequate protection when properly implemented.

The current landfill assurance mechanisms are not working as intended. The rules are inconsistent and are not being applied evenly. Both Ecology and local health departments have a role in this. Local health departments have not adequately enforced the current rules, and Ecology has not amended the rules to make the current system work more effectively.

Operator responses to the Ecology Financial Assurance Survey are generally incomplete or contradictory. Three landfills were reviewed in greater detail (see Appendix C) and were selected because they appear to demonstrate these findings. Each case identified specific issues of concern. Clearly, there is a need to:

- Accurately determine the current status of each landfill's closure and postclosure fund.
- Clarify roles and responsibilities of Ecology and the local health department.
- Promulgate new, clear, comprehensive rules and regulations that determine the appropriate level of financial assurance for all facilities on a maximum cost estimate and require Ecology or the local health departments to review each alternative financial assurance filing and either reject or approve its acceptance in writing.
- Continue the pay-as-you-throw philosophy for financial assurance.
- Provide training to implement the rules and review financial assurance mechanisms.

Implementation of the Recommendations

To implement the recommendations, Ecology has developed a four-point plan that includes reprioritizing resources, developing and amending rules, and providing training.

Introduction

Substitute House Bill 2670, passed in the 2000 legislative session, expanded the options for solid waste financial assurance to local governments. It also directed Ecology to conduct a study on the solvency of the existing system. The governor vetoed section 2 of the bill that directed Ecology, under the supervision of the state Solid Waste Advisory Committee (SWAC), to conduct a study of the existing financial assurance system. The governor then directed Ecology to conduct this study in consultation with the Washington Utilities and Transportation Commission. The governor directed the study to include:

- 1. A clear description of the financial assurance mechanisms authorized by law.**
- 2. A summary of current financial assurance mechanisms in use for all landfills in the state to include:**
 - Estimated cost of closure and years to closure,
 - Financial assurance mechanism approved by the local health agency, and
 - Status of financial assurance mechanism, including account balance, loans against, or encumbrances.
- 3. Effects of various forms of financial assurance on consumer rates.**

Because of the time and financial constraints, existing information was used and a survey of local health districts and facility operators was conducted. Stakeholder involvement was limited to informational briefings for the state Solid Waste Advisory Committee.

Financial Assurance Mechanisms Authorized by Law

Both federal and state laws require financial assurance.

Federal Requirements

The Resource Recovery and Conservation Act of 1976 (RCRA) requires states, in subtitle D, to develop minimum standards for solid waste facilities. In 1991 the Environmental Protection Agency (EPA) adopted 40 CFR 257 and 258 specifying minimum standards for municipal solid waste landfills. Subpart G¹ of this regulation specifies the financial assurance requirements.

States were given two years to make their standards equivalent to the federal standards. States were also required to request delegation of RCRA subtitle D from EPA for regulatory responsibility for municipal solid waste landfills. States that did not request delegation would have the federal government, through EPA, oversee municipal solid waste landfills. Ecology developed Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills,² to meet the federal requirements in 1993 and received partial delegation³ of the RCRA subtitle D program from EPA.

State Requirements

Chapter 70.95 RCW, Solid Waste Management—Reduction and Recycling Act, originally adopted in 1969, addresses solid waste facilities. Section 215 of this act (adopted in 1986) addresses financial assurance for solid waste facilities. There were three rules written that regulate different types of solid waste facilities. Each of these rules has slightly different requirements for financial assurance.

Chapter 70.95.215 RCW states that by July 1, 1987, each permittee for a landfill disposal facility must establish a reserve account to cover the costs of closing the facility in accordance with state and federal regulations. The account must be designed so that there will be adequate funds available by the projected date of closure to close the facility and monitor the facility for a number of years thereafter.

HB 2670, passed in the 2000 legislative session, expanded local government financial assurance options. Landfill disposal facilities maintained on private property for the sole use of the entity owning the site and landfill disposal facilities operated and maintained by a government are not required to establish reserve accounts if, to the satisfaction of Ecology, they provide another form of financial assurance adequate to comply with requirements.

Further, the legislation required the department to develop rules to implement Chapter 70.95.215 RCW. The rules were to include methods to estimate closure and postclosure costs, along with methods to ensure reserve accounts received adequate funding. These latter methods include requirements that reserve accounts be funded by user fees, requirements that moneys be placed in the reserve account on a regular basis, and procedures to verify that adequate funds were deposited in the reserve account.

¹ Copy attached Appendix I.

² Copy attached Appendix F.

³ Delegation of the subtitle D program was applied for in April 1993. Washington submitted an application for delegation using the State/Tribal Implementation Rule (STIR). EPA determined that Washington's submittal did not meet federal requirements in three areas: definition of existing facility, groundwater monitoring requirements [federal rule requires monitoring at the uppermost aquifer, Washington's rule states the first hydrostratigraphic unit where water can be monitored], and engineering equivalency. The groundwater monitoring issue was resolved in 1994 at a meeting in Dallas.

In 1988, three sections (407, 467, and 468) were added to Chapter 173-304 WAC, Minimum Functional Standards for Solid Waste Handling,⁴ to establish financial assurance. Section 407 is the applicability section defining which facilities were required to provide financial assurance. Included in the section was a discussion of what was required for closure and postclosure cost estimates. It is important to note that cost estimates for closure and postclosure was based on a reasonable cost. This presumes the owner would be doing closure activities during the operation of the facility and continuing to do postclosure monitoring for a period of 20 years after the facility closes. This approach assumes no problems will occur that would require an outside party to complete closure or postclosure activities.

Section 467 identifies the specific financial assurance requirements for facilities that accept waste for compensation. This type of facility can either be publicly or privately owned.

Section 468 spells out the specific financial assurance requirements for “private” facilities. Private facilities are those facilities that are owned privately and used for the disposal of waste generated on-site by the owner. An example could be pulp mill wastes that are disposed of on-site. This type of landfill constructed on-site must meet the requirements of Chapter 173-304 WAC. No outside waste can be disposed of at these types of landfills.

Also in 1988, Chapter 70.138 RCW, Incinerator Ash Residue,⁵ was adopted. Ecology was directed to create a program to permit special incinerator ash monofills, with the department, rather than the local health department, permitting these monofills. In 1990 Chapter 173-306 WAC, Special Incinerator Ash Management Standards,⁶ was adopted, and this included financial assurance in the permit requirements. The permit requirements include development of closure and postclosure plans and financial assurance using estimates based on reasonable cost estimates.

Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills, was adopted in 1993 to comply with RCRA subtitle D. For financial assurance, this rule used language similar to Chapter 173-304 WAC with four exceptions:

- The rule requires closure and postclosure cost estimates be based on a maximum cost estimate assuming that a third party would have to complete required activities.
- The rule established the period of postclosure for the facilities as 30 years.
- The rule did not address alternative forms of financial assurance, including listing the various options on establishing minimum standards for acceptance.
- The rule did not provide minimum performance or reporting requirements for alternative forms of financial assurance.

4 Copy attached Appendix E.

5 Copy attached Appendix G.

6 Copy attached Appendix H.

Summary of Current Financial Assurance Mechanisms

To determine the status of the solid waste facilities requiring financial assurance, Ecology developed a questionnaire (Appendix K). Among other details, the questionnaire asked for the cost of closure, years to closure, and the type of financial assurance mechanism in use. Regarding the mechanism, the questionnaire went on to ask for current account balances, including encumbrances and loans against the fund.

The questionnaire was sent to all facility operators and local health departments. In addition, Ecology financial assurance files were reviewed. This review and the returned questionnaires led to the analysis below.

A total of 37 facilities were included in this survey. It did not include a number of facilities that have been in postclosure for a number of years. The varied facilities had multiple interpretations of our questions. While this led to some confusion in our survey results, we nonetheless were able to draw broad conclusions.

The listing of all facilities, with closure and postclosure cost information and the financial assurance instruments, is provided in Appendix L.

Analysis of the current financial assurance mechanisms

1. Adequacy of cost estimates

Cost estimates for closure and postclosure of any solid waste facility are based upon the design of the facility and a determination of the costs necessary for closure and postclosure of the facility. When a local health department receives the initial permit application, included in the application are the engineered drawings of the facility. Also included is an operation plan that describes, in detail, those activities to be conducted during the life of the facility to prepare the facility for closure and postclosure monitoring and care. In issuing its permit, the local health department approves the cost estimate. Before a permit is issued or when permits are renewed, the local health department reviews the operation plan (including closure and postclosure activities) for continued adequacy.

Concurrent with the local health department review, copies of the permit application are sent to Ecology for review. The Ecology regional office that receives the information reviews all pertinent documents. Included is the review of the closure and postclosure plans with cost estimate. The cost estimate must reflect those activities identified in the closure and postclosure plan.

Different types of facilities must meet different standards for estimating costs. If a facility is permitted under either Chapter 173-304 WAC, Minimum Functional Standards for Solid Waste Handling, or Chapter 173-306 WAC, Special Incinerator Ash Management Standards, the cost estimates are based upon a reasonable cost to perform the activities identified. It is presumed that no problems will arise; therefore, the facility operator will perform closure and postclosure activities during the operating life of the facility and monitor the facility after closure.

If a landfill must comply with the requirements of Chapter 173-351 WAC, then the cost estimates must be based upon a maximum cost estimate assuming a third party completes closure and postclosure. This approach assumes a worst case scenario: that should something occur that necessitates the local health department proceed with closure and postclosure care, sufficient funds are available to have a third party carry out identified tasks.

Conclusion

The questionnaire did not require respondents to determine the adequacy of their cost estimates. However, the cost estimates must be based upon current dollars to complete the identified activities.

The questionnaire asked for the cost estimates for closure and postclosure, including the last time the estimates were revised. (See Appendix L for a summary of responses.) Therefore, the accuracy of the present cost estimates is dependent on when the last review of the estimates was accomplished.

There is inconsistency in the three rules identified on how to determine adequacy, and this must be addressed. The various rules should be consistent.

2. Adequacy of fund balances

Permit issuance includes a determination that the cost estimates are appropriate and that the present fund balances are consistent with the approved closure and postclosure plans. In determining cost estimates, the facility operator is to include the cost estimate asset balances needed to complete those closure or postclosure activities at a given point in time. Consequently, closure fund balances can change over time. The important issue is whether the present fund balance is consistent with the prescribed closure plan.

Postclosure activities commence after a facility has closed and received the appropriate documentation from the local health department indicating that the facility is closed. When postclosure commences, all assets necessary to carry out postclosure must be accumulated.

Chapter 173-304 WAC and Chapter 173-306 WAC require yearly certifications from a third party that the amount in the financial assurance instrument is consistent with what was identified in the closure or postclosure plan. Yearly certifications of fund balances are required to be submitted to the local health department and Ecology.

Chapter 173-351 WAC does not specifically require yearly certification of fund balances. Included in the annual facility reporting requirements, however, is one that requires an applicable facility to provide the status of operations and postclosure information. The rule requires closure and postclosure to be fully funded over the duration of the initial permit. (Maximum permit duration is 10 years.)

Since 1991, when federal rules were adopted and the state began the process of developing specific rules for municipal solid waste landfills, the number of municipal solid waste facilities has decreased from 45 to 22. Several municipal solid waste facilities found it would not be cost-effective to update the facility to meet new state requirements, especially if the remaining life of the facility was short. Those facilities closed. A number of publicly owned facilities did not have sufficient funds in their closure or postclosure account to properly close their facilities. This was caused by inadequate cost estimates, inadequate funding, or closing the facility earlier than anticipated. (NOTE: until 1988 specific requirements for closure and postclosure were not required for solid waste facilities.) Through Ecology's Coordinated Prevention Grant Program, \$12,638,000 was provided to local governments to close existing landfills.

The fund balances provided from the survey, for the most part, reflect the amount identified in the approved closure or postclosure plan. Our preliminary assessment found the potential for fund balances insufficient to meet their obligations at two facilities. Those facilities, along with the local health department, will be notified of our findings and directed to develop a plan to resolve this inconsistency. Two facilities will have fund balances in excess of what is required. In those cases, Ecology is confident that the operator will adjust the level of the fund balances over time so that when the facility closes, the fund balances will be consistent with the postclosure plan.

Local governments, until the passage of HB 2670, were allowed to use only cash in reserve accounts as their form of financial assurance.

We are aware of only one jurisdiction considering an alternative reserve account at this time. Optional financial assurance instruments from companies identified in Federal Circular 570 would provide the same level of financial assurance as cash.

Whatever financial assurance instrument is used, processes must be established to assure the assets are used as intended for closure or postclosure of a facility.

Conclusion

The adequacy of fund balances for closure and postclosure is dependent on two factors: the accuracy of the identified activities involved in closure and postclosure (including the cost estimates for those activities) and the date of the most recent cost revision. Chapter 173-304 WAC has the specific annual reporting requirements while Chapter 173-306 WAC and Chapter 173-351 WAC do not.

Annual review and update of both the activities needed and costs would assure that sufficient funds are available for closure and postclosure. Again, rules should be consistent.

3. Adequacy of the financial assurance instruments

Chapter 173-304 WAC and Chapter 173-306 WAC require specific performance measures in other than cash through a trust account. As an example, bonding companies must have specific bond ratings and be listed in federal circular 570 (published every July in the federal register). In addition, yearly certification by a third party is required of the fund amount and present fund balance.

Chapter 173-351 WAC is silent on this issue. At the time Chapter 173-351 WAC was written, the rule interpreted the statute to require only a reserve account or trust account. Subsequent legal review determined that the rule required a reserve account or a trust account but there was no clear identification of the assets that would be deposited in the account. The rule did not address annual review of account balances or annual review of cost estimates.

Conclusion

Chapter 173-304 WAC, Minimum Functional Standards for Solid Waste Handling, and Chapter 173-306 WAC, Special Incinerator Ash Management Standards, require specific performance measures to assure adequacy of financial assurance instruments. Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills, does not have specific performance measures for financial assurance instruments. Chapter 173-351 WAC needs to be changed to specify minimum performance measures for financial assurance instruments to assure the funds will be available when required.

4. Adequacy of Rules

The level of financial assurance for solid waste facilities is dependent on which rule applies to the given facility. Chapter 173-304 WAC applies to all solid waste facilities that are not defined as municipal solid waste landfills. Chapter 173-306 WAC applies to those facilities that dispose of solid waste incinerator ash. Chapter 173-351 WAC applies to all municipal solid waste landfills whether they are publicly or privately owned. The requirements in 304 and 306 are consistent. The requirements in 351 are silent in areas of minimum performance requirements for alternative instruments, notification, and oversight requirements. The 351 rule is more stringent in the areas of the scenario for estimating costs. The 351 rule requires a worst case scenario be used to determine costs while the 304 and 306 require a reasonable cost estimate assuming the owner/operator can complete all tasks with minimal likelihood of problems.

Conclusion

Currently, the type of facility being operated dictates the rules that apply. Unless there are specific reasons, the rules should be consistent for all solid waste facilities that accept the public's waste.

Effects of Financial Assurance Mechanisms on Consumer Rates⁷

Potential effects on rates that consumers pay for the collection and disposal of their solid waste vary according to which rule is being applied to the landfill in question.

Privately owned landfills for self-use regulated under Chapter 173-304-468 WAC accepts only waste generated by the owner. There is no direct effect on the rates that consumers pay for the collection and disposal of solid waste at these facilities

However, consumers may be affected indirectly if the local government is forced to assume liability for closure, postclosure, or cleanup costs. For example, a company may go bankrupt and the local jurisdiction could become owner through tax default. The site cleanup and closure may be eligible for Model Toxics Control Account remedial action grant funds, but the local government would need to provide matching funds.

Privately owned municipal solid waste landfills regulated under Chapter 173-351-600 WAC is those landfills that accept municipal solid waste from any source. These landfill operations are businesses and are operated for profit.

The uses of alternative financial mechanisms, by themselves, have no effect on rates that consumers pay for the collection and disposal of their solid waste. Operators charge a disposal fee for waste delivered to the landfill. They compete with other operators, both privately owned and publicly owned, for the disposal business. One of the ways that they compete for business is by price. If an operator prices its disposal service too high, the customer may go to a competitor with a lower price. The cost of funding the closure and postclosure accounts is included in the total price that consumers use to compare disposal services. That is, the landfill does not publish a disposal fee *plus* a closure and postclosure fee.

As private companies, these landfills seek to maximize the return to investors. They set their prices for disposal services accordingly. Using an alternative funding mechanism (something other than cash) could lower the cost of operating the landfill. However, it does not necessarily follow that the landfill operator would reduce its price for disposal services to all customers. To the contrary, the operator could continue charging the same price for its disposal services and pass the “savings” on to its investors as higher profits. The operator may also lower its price for disposal services to attract “fringe” customers who have a financial incentive to use a different disposal facility.

When the closure and postclosure funds are needed, either the landfill company provides the necessary funds or the surety/insurer/bank provides the funds. Theoretically, the funds will be available.

Publicly owned municipal solid waste landfills are regulated under Chapter 173-351-600 WAC. Local governments own these landfills. The landfill may accept only waste generated within the political boundaries of the local government or it may accept waste from all generators. The local government may direct waste to the facility through contracts or ordinance and set the disposal fee, which may be higher than the market rate, to cover other solid waste system costs in addition to disposal. Publicly owned facilities set disposal fees in a public process. If the local government

⁷ This section is based on a report prepared by the Utilities and Transportation Commission. For the full text of this report, please see Appendix A.

explicitly includes a line item cost for the closure and postclosure funds, generators pay “up front” for closure and postclosure. This is “pay as you throw.”

Chapter 70.95.215 RCW requires local governments to establish reserve accounts. Counties can, pursuant to Chapter 36.33.020 RCW, establish a “cumulative reserve fund” for a specific purpose such as closure and postclosure activities. Chapter 36.33.040 RCW prohibits the use of any funds in a “cumulative reserve fund” for any purpose other than the purpose for which the fund was created. This funding mechanism appears to match the intention of Chapter 70.95.215 RCW, requiring all permit holders to establish a reserve account designed to ensure that there will be adequate revenue available by the projected date of closure and the pay-as-you-throw philosophy. Cities have different accounting mechanisms, which allow cities to “lend” money to different funds, but require the money to be paid back, with interest. The statutes require money collected for a specific purpose, such as closure and postclosure costs, to be used only for that purpose.

Conclusion

The financial assurance mechanisms in place appear to have no impact on ratepayers, particularly at privately owned facilities. Should a privately-owned-for-self-use facility go bankrupt, there may be an impact on the local government. This would be a rare instance and would be dealt with on a case-by-case basis.

The primary concern observed is with publicly owned municipal solid waste landfills. There is a potential for utilization of funds outside the intended use and for those funds not to be available when needed.

Recommendations for Improving Financial Assurance

Landfill financial assurance mechanisms are in relatively good shape. There are several modifications needed to improve the system to make it work better. The rules are inconsistent and are not being applied evenly. Ecology and local health departments have not enforced the current rules nor amended the rules to make the current system work more effectively. Operator responses to the Ecology Financial Assurance Survey are generally incomplete or contradictory. Three landfills were reviewed in greater detail (see Appendix C). These facilities were selected because they appear to demonstrate these findings. Each case identified specific issues of concern and left other issues unanswered. Below are the actions necessary to correct the shortcomings followed by an implementation plan.

1. Accurately determine the current status of each landfill's closure and postclosure fund.

The current status of the landfill closure and postclosure accounts is not known. The financial assurance survey demonstrated that Ecology and local health departments have incomplete information about permitted facilities that require financial assurance. Most respondents to the Ecology survey did not respond to some questions, provided incomplete information, or made contradictory statements. The survey requested a copy of the trust agreements, but we received only a few. One of the trust agreements received appears to be inappropriate. A concerted effort should be made to gather information and continue to update that information annually.

2. Clarify roles and responsibilities of Ecology and the local health department.

It remains unclear who (Ecology, the local health department, or both) has the authority and responsibility to oversee and enforce rules related to financial assurance. The statutory language needs to explain more clearly the roles of Ecology and local health departments in the review, approval, and oversight of financial assurance.

Local health departments are to review financial assurance with the assistance of Ecology. Ecology is to approve different types of financial assurance instruments but not site-specific instruments. Local health departments, unfamiliar with these instruments, rely on Ecology. We will look for ways to develop the needed expertise within Ecology to approve and monitor all financial assurance mechanisms at all facilities throughout operation, closure, and postclosure.

3. Promulgate new clear comprehensive rules and regulations.

The inconsistencies between the rules must be addressed. Also, these rules should delineate the appropriate financial assurance mechanisms, their uses, and their availability in order to assure that funds are available when needed. There is a need to promulgate comprehensive rules and regulations that are at least as stringent as the U.S. Environmental Protection Agency (EPA) rules, including:

- Minimum standards for alternative financial assurance mechanisms.
- Annual reviews for both costs and financial assurance mechanisms.
- An annual inflation adjuster for the financial test/corporate guarantee instrument. Landfills are long-term facilities. Inflation will devalue the dollar amount used to determine financial solvency, resulting in less rigorous tests.
- Safeguards to ensure that the same assets cannot be used to assure different obligations by requiring an operator to include all costs, for all municipal solid waste landfills and all other similar entities, it is assuring through a financial test.

4. Base financial assurance for all facilities on a maximum cost estimate.

Chapter 173-304 WAC and Chapter 173-306 WAC require a reasonable cost estimate for determining closure and postclosure amounts. If circumstances dictate that the local health department must carry out closure and postclosure there will be insufficient funds available to complete those activities. The rules must specify that estimates must be based on costs associated with a third party doing closure and postclosure. In addition, these estimates must be based upon using state prevailing wage rates.

5. Require Ecology or the local health department to review each alternative financial assurance filing and either reject or approve it in writing.

Each proposed financial assurance instrument should be reviewed against criteria established in rule. A written determination should state whether the instrument is acceptable or unacceptable with an explanation of the decision.

6. Continue the pay-as-you-throw philosophy for financial assurance.

Funds collected for closure and postclosure should be restricted from use for any other activity. Surety bonds or letters of credit assure prepayment of closure and postclosure costs. When these instruments are used and issued by appropriate companies, they are sound tools.

7. Provide training to implement the rules and review financial assurance mechanisms.

A training program should be developed to assure minimum levels of competence for all reviewers of financial assurance documents. This training should include basic financial information, indicators of potential problems with instruments, and a structured review process to assure consistency in statewide oversight.

8. Ecology will consider asking the State Auditor's Office to review these accounts on an ongoing basis.

The State Auditor ensures local government accounting functions comply with state law. The auditors focus on high-risk issues and known problem areas. Solid waste closure and postclosure accounts are not now specifically listed as an area for auditors to review. Regulations require an annual audit of these accounts, which can be done by Certified Public Accountants. This requirement needs to be enforced.

Implementation of the Recommendations

To implement the recommendations, Ecology will place an increased emphasis on review of all financial assurance instruments. Specifically, Ecology will:

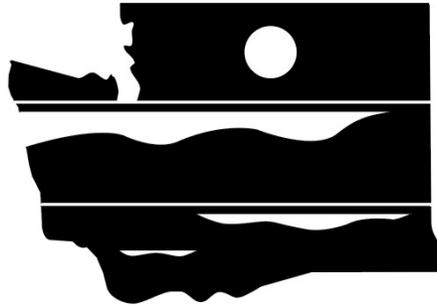
- Reprioritize existing resources to determine status of all existing financial assurance instruments.
- Develop rules delineating roles and responsibilities between local health departments and Ecology, with accountability measures.
- Within the 2001-2003 biennium amend Chapters 173-304 WAC, 173-306 WAC, and 173-351 WAC to have clear consistent requirements.
- Provide training to local health departments and Ecology staff to properly implement the rules and review financial assurance mechanisms.

Implementation Plan Matrix

| Activity | Responsible Party | Completion Date |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
| Review the status of financial assurance for all facilities making sure all are current | Ecology Local Health Departments | June 2001 |
| Incorporate financial assurance requirements in amendment process for chapter 173-304 WAC (note: rule number with change to chapter 173-350 WAC upon adoption. | Ecology | June 2001 |
| Amend chapter 173-306 WAC Incinerator Ash Monofill Standards financial assurance requirements | Ecology | May 2002 |
| Amend chapter 173-351 WAC Criteria for Municipal Solid Waste Landfills financial assurance requirements | Ecology | June 2002 |
| Provide training the local government on financial assurance. | Ecology | September 2002 |
| Develop Boilerplate language for all acceptable financial assurance instruments | Ecology | December 2002 |

Ecology will report to the legislature in January of 2003 on the status of our implementation plan.

Filename: 00-07-039.doc
Directory: Y:\michelle\ProgPubs
Template: C:\Program Files\Microsoft Office\Templates\Normal.dot
Title: Report to the Legislature on Financial Assurance for Solid
Waste Facilities in Washington
Subject:
Author: Randy Martin
Keywords:
Comments:
Creation Date: 02/23/01 3:24 PM
Change Number: 2
Last Saved On: 02/23/01 3:24 PM
Last Saved By: Ecology
Total Editing Time: 2 Minutes
Last Printed On: 02/27/01 9:17 AM
As of Last Complete Printing
Number of Pages: 15
Number of Words: 5,058 (approx.)
Number of Characters: 28,836 (approx.)



WASHINGTON STATE
DEPARTMENT OF
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APPENDICES

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The Washington Utilities and Transportation Commission

February, 2001
Solid Waste & Financial Assistance Program
Publication No. 00-07-039

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Appendix A

WUTC Memorandum

MEMORANDUM

Date: December 5, 2000
To: Randy Martin, Environmental Planner
Jay Shepard, Headquarters Section Supervisor
Cc: Dixie Linnenbrink, Director of Regulatory Services
Cullen Stephenson, Program Manager
From: Eugene K. Eckhardt, Assistant Director of Water and Transportation
Kim Dobyms, Policy Research Specialist
RE: Landfill Study

INTRODUCTION

In signing Substitute House Bill 2670, Governor Locke directed the Department of Ecology (DOE), in consultation with the Utilities and Transportation Commission (Commission), to conduct a study of the landfill closure and post-closure funds.

Commission Staff provided consultation by:

- Reviewing survey questions and making recommendations for changes;
- Reviewing survey responses and discussing problem areas identified in the response data with DOE staff;
- Creating a chart matrix of rules that identifies differences between financial assurance rules within different Chapters of DOE rules and federal financial assurance rules;
- Providing a model to DOE of one possible way financial adequacy could be measured;
- Conducting a detailed analysis of three different landfills using different financial assurance mechanisms;
- Meeting several times with DOE staff to discuss the Commission's findings and opinions;
- Providing suggestions for process and rule improvements.

Based on our limited review, we offer the following comments to DOE.

SUMMARY

Alternative financial assurance instruments appear safe if issued by financially sound companies and properly reviewed and monitored. Allowing publicly and privately owned landfills to use alternative financial assurance instruments will not affect the rates that consumers pay for the collection and disposal of their solid waste.

Based on our limited review, it appears the current landfill assurance mechanisms are not working as intended. Operator responses to the DOE survey are generally incomplete or contradictory. Commission staff reviewed three landfills in greater detail (see attached). Each

case identified specific issues that cause concern and left other issues unanswered. There is a need to:

- Accurately determine the current status of each landfill's closure and post-closure fund.
- Clarify roles and responsibilities of DOE and the local health department.
- Promulgate comprehensive rules and regulations that are at least as stringent as the U. S. Environmental Protection Agency (EPA) rules, including:
 - Minimum standards for alternative financial assurance mechanisms.
 - Require annual reviews for both costs and financial assurance mechanisms.
 - Require DOE or the local health department to review each alternative financial assurance filing and either reject or approve it in writing.
 - Consider including an annual inflation adjuster. EPA and DOE rules use a flat \$10 million in several financial tests. Landfills are long term facilities. Inflation will devalue the \$10 million over a number of years, resulting in less rigorous financial tests.
 - Ensure an operator cannot use the same assets to assure different obligations by requiring the operator to include all costs for all municipal solid waste landfills, and all other similar entities, it is assuring through a financial test.
 - Direct the permitting authority to consider whether the county would assume a contingent liability based on acceptance of an alternative financial assurance mechanism.
 - Provide training to implement the rules, and review and monitor financial assurance mechanisms.

BACKGROUND

To avoid problems of inadequate closure and post-closure funds, we understand the legislature passed laws that *intended* for users to pay closure and post-closure costs on a "pay-as-you-throw" basis. That is, as the user "throws" solid waste into the landfill, the user "pays" a fee for the future closure and post-closure costs. The landfill operator is supposed to deposit the proper amounts in reserve or trust accounts dedicated to pay closure and post-closure costs.

In theory, sufficient money will be available if the operator:

- Accurately estimated closure and post-closure costs during the permit process.
- Established appropriate reserve accounts or trust accounts and trust agreements.
- Annually completed closure and post-closure cost updates that accurately estimated closure and post-closure cost changes and changes in projected disposal volume.
- Properly adjusted funding requirements to reflect annual changes.
- Properly funded the trust account.

It remains unclear to Commission Staff who (DOE, the local health department, or both) has the authority and responsibility for these activities.

HOW SECURE AND SUFFICIENT ARE THE CURRENTLY AUTHORIZED FINANCIAL INSTRUMENTS TO ASSURE LANDFILL CLOSURE?

The currently authorized financial instruments, or the way they are administered, are insufficient to assure landfill closure and post-closure funding. We understand that state rules can be stricter than the EPA rules, but not less strict. The current rules for private landfills for self use (WAC 173-304-468) allow the following categories of financial assurance. An Assistant Attorney General's interpretation of the rules for privately owned landfills for municipal solid waste (WAC 173-351-600) also allow the following categories of financial assurance:

- **Cash in a trust account.** It is unclear from the survey responses that the landfills are properly funding the closure and post-closure accounts. Each operator must establish a trust account and a trust agreement with the local health department. Although the survey requested a copy of the trust agreement, we only received a few.
- **Surety bonds, letters of credit and insurance.** These are generally accepted forms of providing financial assurance. After thorough analysis, comment, and review, the EPA expressly allows companies to use these financial instruments to comply with financial assurance requirements for solid waste landfills and similar facilities. EPA rules require minimum standards for issuance and review of these instruments. Staff believes the EPA rules are well reasoned and appropriate. DOE rules have no minimum standards for issuance and review of these instruments for privately owned municipal solid waste landfills in Chapter 173. Also, there appears to be no substantive review of the instruments filed, there are no requirements for an annual review, and it appears there is no substantive review to ensure proper trust accounts and trust agreements are in place.
- **Financial test and corporate guarantee.** The EPA, after thorough analysis, comment, and review adopted rules that allow corporations to satisfy the financial assurance requirements by meeting specific financial tests. EPA rules also set forth reporting and monitoring requirements. Staff believes the EPA rules are well reasoned and appropriate. The current DOE rules are less stringent than the EPA rules in several important respects. There appears to be no substantive review of the initial financial test report filed. Although the rules require an annual review of the financial test or corporate guarantee, DOE has not required operators to file the annual reports. It also appears there is no substantive review to ensure proper trust accounts and trust agreements are in place.

Different rules apply to different types of landfills. The following is a short discussion of potential problems associated with the each set of rules.

WAC 173-304-468 (private owned landfills for own use) sets forth specific financial instruments, minimum standards, and annual review requirements. It appears the intent of the rules in Chapter 304 was to implement requirements similar to EPA rules.

- Some key financial test ratios are less stringent than the EPA requirements.

- Although WAC 173-304-468 (3)(a)(vi)(C) requires the operator to demonstrate that it passes the financial test by annually providing specific information to DOE, DOE has not required the annual reports. The information received from the Pope and Talbot Landfill in response to the DOE survey was dated 1992, and it was not clear.
- Local health departments and DOE may not have the necessary expertise to review financial information.

WAC 173-351-600 (private owned landfills for public use of municipal solid waste) contains no reference to alternative financial assurance mechanisms and no requirements or guidelines for their use, review, or acceptance.

- A landfill operator filed a letter of credit, which neither DOE nor the local health department felt they could reject. A 1995 Assistant Attorney General's Opinion concluded that the letter of credit was acceptable. The opinion further noted that DOE had not yet developed criteria for accepting them and recommended:

"It (DOE) should consider appropriate wording for the letters, as well as any restrictions it may wish to impose on the type or location of banks issuing such letters. The criteria established by EPA and Ecology for some of the other environmental programs referred to above may serve as useful guidelines."

- WAC 173-351-600(3)(a)(ii) requires the owner to adjust the closure and post-closure accounts annually, but there is no requirement that the owner file the results of the annual review with DOE or the local health department. The survey requested operators to state when they last changed the annual finding requirements, but only a few responded.

In both sets of rules, it is unclear whether privately owned landfill operators have the required trust accounts and trust agreements in place. The rules require all operators to have trust accounts and trust agreements in place. The DOE survey requested a copy of the trust agreements, but we received only a few. One of the trust agreements received appears to be inappropriate. DOE should consider whether to develop requirements for acceptable trust agreements.

Finally, we do not know the current status of the landfill closure and post-closure accounts. Most respondents to the DOE survey did not respond to some questions, provided incomplete information, or made contradictory statements. Additional work must be done to verify the current status of each landfill.

HOW DO FINANCIAL INSTRUMENTS AFFECT CONSUMERS' RATES?

Our response assumes the question refers to rates that consumers pay for the collection and disposal of their solid waste. We answer separately for each of the three different classes of landfills that we reviewed.

Privately Owned for Self-Use (WAC 173-304-468) Landfills in this category accept only waste generated by the owner. Therefore, there is no direct affect on the rates that consumers pay for the collection and disposal of their solid waste. However, consumers may be affected indirectly if the local government is forced to assume liability for closure, post-closure, or cleanup costs. The local government would need to use money from existing funds or create new revenue sources (taxes or fees). New taxes or fees may be imposed on the solid waste collection system that would increase the rates that consumers pay for the collection of their solid waste.

Privately Owned Municipal Solid Waste Landfills (WAC 173-351-600) Private companies own these landfills that accept municipal solid waste from any source. We conclude that the use of alternative financial mechanisms, by themselves, have no affect on rates that consumers pay for the collection and disposal of their solid waste.

Landfills charge a disposal fee for waste delivered to the landfill. They compete with other landfills, both privately owned and publicly owned. One of the ways that landfills compete for business is by price. If a landfill prices its disposal service too high, the customer may go to a competitor with a lower price. The cost of funding the closure and post-closure accounts are included in the total price that consumers use to compare disposal services. That is, the landfill does not publish a disposal fee plus a closure and post closure fee.

As private companies, these landfills seek to maximize the return to shareholders. They set their price for disposal services accordingly. Using an alternative funding mechanism (something other than cash) could lower the cost of operating the landfill. However, it does not necessarily follow that the landfill would reduce its price for disposal services to all customers. To the contrary, the landfill could continue charging the same price for its disposal services and pass the "savings" on to its shareholders as higher profits. The landfill may also lower its price for disposal services to attract "fringe" customers who have a financial incentive to use a different disposal facility.

What happens when the closure and post-closure funds are needed? Either the landfill company provides the necessary funds or the surety/insurer/bank provides the funds. Theoretically, the funds will be available.

Will customers pay higher rates now that the closure and post-closure costs have come due? We think not. The landfill cannot raise its price for disposal above the market level because it will lose customers. Assuming the landfill company has continuing operations, the company could fund the closure and post-closure accounts from cash generated from those other ongoing operations. That would mean lower profits for shareholders.

Assuming a landfill operator also conducts ongoing operations as a solid waste collection company (under the same corporate name or through an affiliate), would customers of the affiliate solid waste collection company pay higher rates to help pay the landfill closure and post-closure costs? Again, we think not. If the Commission regulates the solid waste collection company, the Commission would not include in rates the costs associated with an affiliate, non-regulated business. Ongoing contract services would be governed by the contract in place, which we doubt would contain provisions for passing on costs, from an affiliate operation. A

bid for a new contract would compete with bids from other collection companies. Including costs from an affiliate landfill operation in its bid would place the affiliate collection company at a competitive disadvantage with other collection companies. If the landfill operator included additional costs from an affiliate landfill operation, and still won the bid, consumers are not directly harmed because they are still paying lower rates than they would if the next higher bidder had been awarded the contract.

Publicly Owned Municipal Solid Waste Landfills (WAC 173-351-600) Local governments own these landfills. The landfill may accept only waste generated within the political boundaries of the local government or it may accept waste from all generators. The local government may direct waste to the facility through contracts or ordinance and set the disposal fee, which may be higher than the market rate, to cover other solid waste system costs in addition to disposal. Publicly owned facilities set disposal fees in a public process. If the local government explicitly includes a line item cost for the closure and post-closure funds, generators pay "up front" for closure and post-closure.

RCW 70.95.215 requires local governments to establish reserve accounts. Counties can, pursuant to RCW 36.33.020, establish a "cumulative reserve fund" for a specific purpose, such as closure and post-closure activities. RCW 36.33.040 prohibits the use of any funds in a "cumulative reserve fund" for any purpose other than the purpose for which the fund was created. This funding mechanism appears to match the intention of RCW 70.95.215, requiring all permit holders to establish a reserve account designed to ensure that there will be adequate revenue available by the projected date of closure and the "pay as you throw" philosophy. Cities have different accounting mechanisms, that allow cities to "loan" money to different funds, but require the money to be paid back, with interest. It appears that statutes require money collected for a specific purpose, such as closure and post-closure costs, to be used only for that purpose. If DOE opens a rulemaking, DOE should consider whether to promulgate rules that specifically define the type of reserve account and how local governments can use funds in those accounts.

The State Auditor ensures local government accounting functions comply with state law. The auditors focus on high-risk issues and known problem areas. Solid waste closure and post-closure accounts are not now specifically listed as an area for auditors to review. DOE should consider whether there is sufficient risk to ask the State Auditor's Office to review these accounts on an ongoing basis.

Case Studies - In reviewing the responses to the DOE questionnaire, we realized that we could not properly analyze all responses. Most respondents did not respond to some questions, provided incomplete information, or made contradictory statements. Several responses, such as the Thurston County Landfill, the Hidden Valley Landfill, and the 304th Avenue Landfill, appeared accurate and complete. We chose to review in greater detail several landfills whose responses raised obvious questions. Comments on a more in-depth analysis of three different landfills are set forth on pages eight through sixteen. We do not intend to imply that these case studies are representative of all landfills.

Analysis of Greater Wenatchee Regional Landfill and Recycling Center, Inc. Surety Bond Posted for Financial Assurance

Current Status

Greater Wenatchee Regional Landfill and Recycling Center, Inc. (GWRLF) is a privately owned municipal solid waste landfill (MSWLF) located in Douglas County. The GWRLF began operations in the 1960's and is scheduled for closure in 2014. In August 2000, the company responded to a Department of Ecology survey. The response provided estimated closure costs of \$2,288,316 and estimated post closure costs of \$2,579,586. In January 1999, this company posted two surety bonds in lieu of cash in a trust fund. The closure bond has a total value of \$1,406,028. The post closure bond has a total value of \$3,233,890. Based on the company estimates, closure costs are underfunded and post closure costs are over funded.

Commission staff researched the incorporation papers of the Greater Wenatchee Regional Landfill and Recycling Center, Inc. with the Secretary of State's office. There is no record of this corporation registering with the Secretary of State's office. The posted surety bonds list Greater Wenatchee Regional Landfill and Recycling Center, Inc. as the principal.

Sequence of Events

Prior to November 1993, Greater Wenatchee Regional Landfill and Recycling Center, Inc. was subject to the Department of Ecology financial assurance requirements in WAC 173-304-467 which do not specifically state what form the financial assurance account must take for a privately-owned MSWLF. The rule states that a financial assurance account must be established to accumulate funds equal to the closure and post closure costs. This rule identifies the form the account must take for publicly owned MSWLF but is silent about the type of financial assurance account needed for a privately owned MSWLF. However, an assumption can be made that it must be a reserve account because RCW 70.95.215 requires each MSWLF owner or operator to "establish a reserve account to cover the costs of closing the facility..."

In 1991, the GWRLF obtained an irrevocable standby letter of credit from the Chicago branch of Banco Nazionale Del Lavoro, an Italian bank. It appears the letter of credit was not approved, denied or appealed by either the Department of Ecology or the jurisdictional health department. However, in 1995 the Department of Ecology asked for advice from an assistant attorney general regarding whether or not the letter of credit was an acceptable form of financial assurance. At that time the GWRLF was subject to the requirements set out in WAC 173-351-600. On March 12, 1995, Tanya Barnett, Assistant Attorney General assigned to the Department of Ecology advised,

In my opinion, an irrevocable letter of credit ... satisfies the applicable statutory and regulatory requirements

Department of Ecology informed Commission staff that the intent of the rule was to require cash in a trust fund. However, they received advice from the Assistant Attorney General that said neither the statute nor the rules define the form of payment into the reserve account as cash. Her quote follows:

The term "payment" is not defined in the regulations and does not necessarily need to be in the form of cash. Black's Law dictionary defines "payment" as the delivery of money or some other valuable thing.¹ (Paraphrased)

A footnote to Ms. Barnett's advice memorandum further states,

RCW 70-95-215 (2)(b)(ii) instructs Ecology to promulgate regulations to implement the requirement to establish a reserve account to fund closure. The regulations are to include requirements that moneys be placed in the reserve account on a regular basis. Ecology apparently chose not to interpret this term narrowly, since the regulations do not expressly require that cash be placed in the trust account periodically.

Ms. Barnett's advice also noted that criteria for accepting alternative forms of financial assurance was not established in rule.²

Analysis of Financial Assurance Guarantor

In August 2000, Greater Wenatchee Regional Landfill and Recycling Center, Inc., responded to the Department of Ecology survey and sent copies of the performance (surety) bonds dated January 12, 1999 that it procured for its financial assurance requirements. The Frontier Insurance Company issued the surety bonds.

Commission staff believes that an irrevocable surety bond would generally be an acceptable alternative form of financial assurance for a privately owned MSWLF company. However, we question whether the company that issued the bond for Greater Wenatchee is an acceptable guarantor. This concern was arrived at by reviewing Federal regulations, Department of Ecology rules, Standard and Poor's credit rating, Moody's credit rating, and A.M. Best's credit rating for Frontier Insurance Company.

Federal Regulations require any issuer of federal bonds to be approved and published on the Federal Circular 570. Circular 570 is published annually under the direction of the U.S. Department of Treasury, Financial Management Service (FMS). Companies wishing to be authorized as sureties and reinsurers of federal bonds must apply and be accepted by the FMS. The FMS thoroughly reviews company applications to ensure that only financially sound companies receive approval. Commission staff reviewed Circular 570 to determine if Frontier Insurance Company would be eligible to write federal surety bond and found it was not on the

¹ Memorandum advice from Assistant Attorney General Tanya Barnett on assignment to Department of Ecology provided to Jim Barnett, Program Manager, Solid Waste Service, Department of Ecology on March 21, 1995. p. 4.

² Memorandum advice from Assistant Attorney General Tanya Barnett on assignment to Department of Ecology provided to Jim Barnett, Program Manager, Solid Waste Service, Department of Ecology on March 21, 1995. p. 5.

approved list as of August 2000. It is unknown if the company has applied for approval. This requirement has not been adopted by reference, or restated, in WAC 173-351-600.

Department of Ecology WAC 173-304-468 (3)(a)(ii) requires Surety bond guarantors to be listed as acceptable on the Federal Circular 570. Unfortunately this requirement does not apply to the Greater Wenatchee Regional Landfill and Recycling Center, Inc., because it accepts municipal solid waste. Rather the rule only applies to private landfill disposal facilities that do not accept waste from the general public. Commission staff believes similar acceptable criteria should be established in Chapter 173-351 because without sound acceptance criteria the financial risk to the public increases.

Financial assurance guarantees, other than cash, will only be as good as the company issuing the financial assurance. A preliminary review of the Frontier Insurance Company's financial soundness found cause for concern. The company was not rated by Standard & Poor's nor was the company found in a search of Moody's database. A.M. Best gave the Frontier Insurance Company, Inc., a **Marginal** rating of C++³. A **Marginal** rating is "assigned to companies which have, on balance, *marginal financial strength, operating performance and market profile* when compared to the standards established by the A.M. Best Company. These companies [in A.M. Best's opinion] have an ability to meet their current obligations to policy holders, but their *financial strength is vulnerable* [emphasis added] to adverse changes in underwriting and economic conditions."⁴

To put the C++ rating in perspective, Commission staff reviewed a sample of the companies on Circular 570 for their A. M. Best ratings. The sample consisted of 62 out of approximately 270 companies. A.M. Best ratings are assigned as follows:

³ Copyright c 2000 by A.M. Best Company, Inc. All Rights reserved. Reprinted with Permission. A.M. Best company, Inc. The Insurance Information Source, <www3.ambest.com/ratings/> search by company name = Frontier Insurance Group. October 13, 2000.

⁴ "Copyright c 2000 by A.M Best Company, Inc. All Rights Reserved. Reprinted with Permission." A.M. Best Company Inc., The Insurance Information Source, <www3.ambest.com/ratings/definition.html>, October 13, 2000.

| Secure A.M. Best Ratings | | Circular 570 Sample Results | |
|--------------------------------------|-----------|------------------------------------|----------------|
| A++ and A+ | Superior | 40% | Superior |
| A and A- | Excellent | 52% | Excellent |
| B++ and B+ | Very Good | 8% | Very Good |
| | | | |
| Vulnerable A.M. Best Ratings | | | |
| B and B- | Fair | 0% | Fair |
| C++ and C+ | Marginal | 0% | Marginal |
| D | Poor | 0% | Poor |
| E Under Regulatory Supervision (URS) | | 0% | URS |
| F In Liquidation | | 0% | In Liquidation |

No companies in the sample received below a Very Good rating. Superior, Excellent and Very Good ratings are considered secure ratings by A.M. Best. Based on this analysis, we believe a bond guarantor should not fall below a Very Good A.M. Best rating.

The Frontier Insurance Company received a **marginal** rating which is two levels below a **secure** rating. A **marginal** rating is considered **vulnerable** by A.M. Best. In this instance, a **marginal** rating may mean Frontier Insurance Company will not be able to meet it's financial obligations in the future.

Contingent Liability

The business of the Greater Wenatchee Regional Landfill and Recycling Corporation appears to be limited to the landfill and recycling center operations. When the landfill is closed, it is unclear if the company will have cash to fund closure and post closure costs. If the corporation does not have money or a revenue stream to fund the closure and post closure costs, the health district will look to the bond guarantor for funding. The performance bonds offered by the landfill owner are written by a marginally rated insurance company who may or may not be able to meet future financial obligations. In light of the risk of default by the landfill owner and the insurance company, the Chelan-Douglas County Health District may need to record a **contingent liability** on its financial statements. Commission staff believes if a default condition were to occur, the liability would fall to the county due to the likely event of tax default.

Update to Current Situation

During the analysis described above, Commission staff contacted both the health district and the landfill regarding the concerns raised in this analysis. The health district stated it had been uncomfortable with the original letter of credit that was submitted in lieu of cash. After consultation with the Department of Ecology, it was determined the letter of credit met the conditions of rule. The Chelan-Douglas County Health District believed they did not have authority to deny the letter of credit. When the marginal credit rating of the insurance company was explained, Chelan-Douglas County Health District staff asked if any training on the subject was available. While we are not aware of any training, a need for financial analysis training clearly exists.

The company stated the corporation had changed its name to Waste Management of Washington Inc., and posted new performance bonds written by the Republic Western Insurance Company.

Commission staff researched the new information. Staff received copies of the new performance bonds dated September 8, 2000. The Republic Western Insurance Company is listed on the Federal Circular 570 and received an "A" rating from A.M. Best. Waste Management of Washington, Inc., is registered as a corporation doing business in the State of Washington. These changes have significantly reduced the risks of a company or guarantor default on the closure and post closure costs. However, the performance bond amounts are the same as was reported at the beginning of this analysis. Closure costs continue to be underfunded and post-closure costs continue to be over funded.

Conclusion

Commission staff believes this analysis demonstrates the risks of accepting financial assurance mechanisms other than cash. More importantly this analysis demonstrates the risks of unclear directions. However, Commission staff offers the following suggestions to reduce the risks and confusion:

- . Develop criteria for acceptable financial assurance mechanisms in Department of Ecology rules regarding MSWLFs.
- . Develop procedures for an annual review of the financial assurance mechanisms.
- . Develop procedures, in rule, that require approval of financial assurance mechanisms.
- . Develop procedures, as a part of the permitting or approval process, that require local health departments to consider whether accepting an alternative financial assurance mechanism would create a contingent liability for itself or the county.
- . Provide rules and financial assurance training for the permitting authorities.

Analysis of Kitsap County - Dredge Sediment Landfill Financial Assurance

Current Status

The Pope and Talbot Dredge Sediment Landfill is a privately owned limited purpose landfill located in Kitsap County. The landfill began operations in 1990 and is scheduled for closure in 2005. In August 2000, the company responded to a Department of Ecology survey. The response provided estimated closure costs of \$70,000 and estimated post closure costs of \$362,500. Further, the response indicated that the financial assurance mechanism is a financial test corporate guarantee. Supporting documentation was dated December 1991 and April 2, 1992.

Analysis of Financial Assurance

The Pope and Talbot Dredge Sediment Landfill supporting documentation included a letter from its chief financial officer certifying that Pope and Talbot meets the corporate financial guarantee tests, the closure and post-closure cost estimates, and a schedule demonstrating compliance with WAC 173-304-468 (3) (a) (vi) (A). The letter submitted by the chief financial officer is dated April 2, 1992. WAC 173-304-468 (1)(c) requires the owner to review the closure and post-closure costs estimates annually.

The required annual review must include an examination of all factors including inflation. Inflation at 2.5% over the last 8 years would have increased the closing cost estimate by approximately \$15,000 and would have increased the post-closure estimate by approximately \$94,000. The troubling aspect of not conducting an annual review is the company does not have enough information to reserve an adequate sum of money which it will need to meet its closure and post-closure obligations.

Included in the submitted documentation is a schedule of compliance dated December 31, 1991. The schedule is used to demonstrate that the company is in compliance with the corporate financial test required in WAC 173-304-468 (3)(a)(vi)(A). Pope and Talbot's schedule mis-identifies critical information that makes review difficult and should have been noticeable to anyone who is familiar with financial reporting requirements. The reviewing authority should have requested a corrected copy of the schedule. Overlooking the typographical errors, the Pope and Talbot Dredge Sediment Landfill meets the corporate financial test ratios and requirements set out in Department of Ecology's rules. However, since the schedule is dated December 1991 it is unknown if the company meets the test today. It is important to note that, by rule, the company is required to annually reconfirm compliance with the corporate financial test.

Conclusion:

The Pope and Talbot Dredge Sediment Landfill does not conduct annual reviews of its closure and post-closure costs as required by Ecology rules. It does not appear that the local health authority or Department of Ecology have asked for an update since 1992. Since the required annual review has not occurred since 1992, the company would have no way of knowing the total amount needed and therefore could not fund an unknown quantity. Therefore, Commission staffs conclusion errs on the side of caution and believes this landfill's closing and post-closing

costs are not fully funded. Further, the data submitted in response to Ecology's survey is out-dated and we can not conclude that the landfill continues to meet the corporate financial guarantee test.

Analysis of Department of Ecology's Corporate Financial Test Rules

In the course of analyzing Pope and Talbot Dredge Sediment Landfill's corporate financial test, Commission staff compared the federal rules which apply to municipal solid waste landfills with Department of Ecology's rules that apply to private-use landfills. In some instances, Department of Ecology's rules are less stringent than the federal rules. Commission staff was informed by Ecology that the rules were taken from federal standards. Therefore, we assume the Ecology rule differences are oversights and should be corrected.

In WAC 173-304-468 (3)(a)(vi)(A)(1) the first test commonly known as a "debt-equity" ratio asks for a ratio of total liabilities to net worth to be less than 2.0. The equivalent federal regulations require the ratio to be less than 1.5. This means in Washington state, 66.7% of debt to 33.3% of equity is an acceptable standard. At the federal level, 60% of debt to 40% of equity is the acceptable standard. The state standard authorizes a more risky capital structure than does the federal standard. Commission staff concludes the federal "debt-equity ratio" standard is more stringent than Ecology's "debt-equity ratio" standard.

The second test measures the sum of net income plus depreciation, depletion, and amortization to total liabilities and requires a ratio greater than 0.1. The federal regulations measure the same elements but also require that an additional \$10 million dollars be deducted from the net income before calculating the ratio. The federal regulations are more stringent in this case since a safety net of \$10 million dollars is required.

What appears to be an error is found in WAC 173-304-468 (3)(a)(vi)(B)(1) which requires a Moody's rating of "Bbb" or greater. Moody's does not have a "Bbb" rating, rather it gives a "Baa" rating.

Analysis of Grant County Delano Landfill Financial Assurance

Current Status

The Delano Landfill is a publicly owned municipal solid waste landfill located in Grant County. The landfill began operations in 1975 and is scheduled for closure in 2048. In August 2000, the company responded to a Department of Ecology survey. The response provided estimated closure costs of \$997,394 and estimated post closure costs of \$438,240. Further, the response indicated that the financial assurance mechanism is cash and the present fund balance is \$922,725.

The Delano landfill stated that it intends to deposit an estimated \$17,927 into the closure fund annually and an estimated annual deposit of \$7,808 into the post closure fund. The Delano landfill failed to provide a copy of its trust agreement and failed to respond to Department of Ecology's survey questions regarding the type of account, the name of the institution, and the account numbers for cash deposited to fund closure and post closure costs.

Analysis of Financial Assurance

Commission staff determined the future value of the estimated costs and the future value of the cash accounts and found the accounts appear to be over-funded by an estimated \$38 million. Assuming everything reported on the survey is accurate, Commission staff believes the closure and post closure funds are over-funded and the Delano Landfill should review its costs for a possible decrease in the fees charged to landfill users.

Commission staff made several assumptions in this analysis which are important to note:

- . Estimated Closure and Post Closure Costs are accurate and reported in present value dollars.
- . All survey responses are accurate.
- . Inflation is constant at 2.5% per year.
- . Interest earned is constant at 5.5% per year.
- . The Delano Landfill will continue to deposit cash into the trust fund at the stated level for the next 48 years.

Conclusion:

The Delano Landfill has excessive projected funds in its closure and post closure accounts. However, it is a publicly owned municipal landfill and the excessive funds will ultimately be returned to local taxpayers in the form of services, capital projects or lower taxes. However, it may not be appropriate to fund general services through solid waste disposal fees. In the case of a privately owned municipal landfill, excessive funds would be returned to the landfill owner.

Appendix B
Financial Assurance Instruments

Financial Assurance Instruments

These definitions apply to Chapter 173-304 WAC, Minimum Functional Standards for Solid Waste Handling, and Chapter 173-306 WAC, Special Incinerator Ash Management Standards.

Reserve account and trust fund are the only instruments specifically identified in Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills.

Reserve Account

Cash and investments accumulated and restricted in a specific account for specific identified tasks or actions (closure and post-closure) by a municipal corporation.

Trust Account

A trust account is an arrangement in which the grantor of the trust (landfill operator) transfers assets to a trustee (bank), who manages the assets for the beneficiary (local health department) according to the terms of the written trust agreement and applicable state law. The grantor may not modify or amend the terms of the trust unless the beneficiary agrees to it. The trustee is generally required to invest the monies in the trust fund in a prudent manner.

COST: typically 0.1 to 1 percent of the trust fund balance annually

Surety Bond (Performance or Payment)

A surety bond represents an agreement between three parties:

The “principal” (e.g., a landfill operator);

The “obligee,” the party to whom the principal promises to fulfill an obligation (i.e., local health department); and

The “surety” or surety company, the party that assures the obligee that the principal will fulfill its promise and that, if the principal fails, the surety will fulfill the principal’s obligation to the obligee.

Surety bonds that guarantee that the principal will perform a certain act defined in the bond are called **performance bonds**. Under a performance bond, the surety has the option either to perform or complete the activities necessary to satisfy the terms of the bond, or to pay for the work to be done to satisfy the bond.

Surety bonds that guarantee payment of an obligation, rather than performance of a specific act, are known as **payment bonds**. A surety company that performs or pays on behalf of the principal has the right to reimbursement from the principal.

The surety bond must provide that the surety bond is automatically renewable and that the surety may not cancel, terminate, or fail to renew the surety bond except for failure to pay the premium. If the surety decides to terminate the agreement, 120 days notice must be given to the surety holder and the permitting authority. The surety holder must provide financial assurance

before cancellation of the surety bond or the bond must continue until financial assurance is provided by the permittee.

COST: typically between 0.35 percent and 5 percent of the penal sum annually

Letter Of Credit

An entity having the authority to issue letters of credit and whose letters-of-credit operations are regulated by a federal or state agency may issue a letter of credit. A letter of credit is a financial instrument under which a bank undertakes to meet a monetary obligation of its customer if the latter fails to do so. Making a claim directly on the bank makes payment to a predetermined third party that initiates the process. The bank becomes the primary obligor and has recourse to the account party for reimbursement.

COST: typical fees range from 1 to 1.5 percent of the face value of the letter of credit annually

Insurance

An insurance policy issued by an insurer who is licensed to transact the business of insurance or is eligible as an excess or surplus line insurer in one or more states. Each insurance policy must guarantee that the funds will be available to complete those activities identified in the approved closure and post-closure plans. The policy must provide that the insurance is automatically renewable and that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. If the insurer decides to terminate the agreement, 120 days notice must be given to the policyholder and the permitting authority. The policyholder must provide financial assurance before cancellation of the policy or the policy must continue until financial assurance is provided by the permittee.

COST: Actuarially based annual premiums determine the cost.

Financial Test and Corporate Guarantee

A private corporation meeting the financial test may provide a corporate guarantee that the closure and post-closure activities will be completed according to the approved closure and post-closure plan and permit requirements. (Note: the federal subtitle D ratio is more stringent than state rule. Federal rule is for every 4 dollars debt there must be 6 dollars equity while the state rule is for every 6 dollars debt there must be 4 dollars equity)

To qualify, a private corporation must meet either of the following two financial tests:

Financial test To pass the financial test the permit must have:

Two of the following ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of the net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; or a ratio of current assets to current liabilities greater than 1.5;

Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates;

Tangible net worth of at least ten million dollars; and

Assets in the United States amounting to at least ninety percent of its total assets or at least six times the current sum of the current closure and post-closure cost estimates.

Alternative financial test To pass the alternative financial test, the permittee must have:

A current rating of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

Tangible net worth at least six times the sum of the current closure and post-closure cost estimates;

Tangible net worth of at least ten million dollars; and

Assets in the United States amounting to at least ninety percent of its total assets or at least six times the current sum of the current closure and post-closure cost estimates.

COST: minimal cost absorbed by company

Appendix C

Case Studies

Analysis of Greater Wenatchee Regional Landfill and Recycling Center, Inc. Surety Bond Posted for Financial Assurance

Current Status

Greater Wenatchee Regional Landfill and Recycling Center, Inc. (GWRLF) is a privately owned municipal solid waste landfill (MSWLF) located in Douglas County. The GWRLF began operations in the 1960's and is scheduled for closure in 2014. In August 2000, the company responded to a Department of Ecology survey. The response provided estimated closure costs of \$2,288,316 and estimated post-closure costs of \$2,579,586. In January 1999, this company posted two surety bonds in lieu of cash in a trust fund. The closure bond has a total value of \$1,406,028. The post-closure bond has a total value of \$3,233,890. Based on the company estimates, closure costs are underfunded and post-closure costs are over funded.

Commission staff researched the incorporation papers of the Greater Wenatchee Regional Landfill and Recycling Center, Inc. with the Secretary of State's office. There is no record of this corporation registering with the Secretary of State's office. The posted surety bonds list Greater Wenatchee Regional Landfill and Recycling Center, Inc. as the principal.

Sequence of Events

Prior to November 1993, Greater Wenatchee Regional Landfill and Recycling Center, Inc. was subject to the Department of Ecology financial assurance requirements in WAC 173-304-467 which do not specifically state what form the financial assurance account must take for a privately-owned MSWLF. The rule states that a financial assurance account must be established to accumulate funds equal to the closure and post closure costs. This rule identifies the form the account must take for publicly owned MSWLF but is silent about the type of financial assurance account needed for a privately owned MSWLF. However, an assumption can be made that it must be a reserve account because RCW 70.95.215 requires each MSWLF owner or operator to "establish a reserve account to cover the costs of closing the facility..."

In 1991, the GWRLF obtained an irrevocable standby letter of credit from the Chicago branch of Banco Nazionale Del Lavoro, an Italian bank. It appears the letter of credit was not approved, denied or appealed by either the Department of Ecology or the jurisdictional health department. However, in 1995 the Department of Ecology asked for advice from an assistant attorney general regarding whether or not the letter of credit was an acceptable form of financial assurance. At that time the GWRLF was subject to the requirements set out in WAC 173-351-600. On March 12, 1995, Tanya Barnett, Assistant Attorney General assigned to the Department of Ecology advised,

In my opinion, an irrevocable letter of credit ... satisfies the applicable statutory and regulatory requirements... .

Department of Ecology informed Commission staff that the intent of the rule was to require cash in a trust fund. However, they received advice from the Assistant Attorney General that said neither the statute nor the rules define the form of payment into the reserve account as cash. Her quote follows:

The term “payment” is not defined in the regulations and does not necessarily need to be in the form of cash. Black’s Law dictionary defines “payment” as the delivery of money or some other valuable thing.⁵ (Paraphrased)

A footnote to Ms. Barnett’s advice memorandum further states,

RCW 70-95-215 (2)(b)(ii) instructs Ecology to promulgate regulations to implement the requirement to establish a reserve account to fund closure. The regulations are to include requirements that moneys be placed in the reserve account on a regular basis. Ecology apparently chose not to interpret this term narrowly, since the regulations do not expressly require that cash be placed in the trust account periodically.

Ms. Barnett’s advice also noted that criteria for accepting alternative forms of financial assurance was **not** established in rule.⁶

Analysis of Financial Assurance Guarantor

In August 2000, Greater Wenatchee Regional Landfill and Recycling Center, Inc., responded to the Department of Ecology survey and sent copies of the performance (surety) bonds dated January 12, 1999 that it procured for its financial assurance requirements. The Frontier Insurance Company issued the surety bonds.

Commission staff believes that an irrevocable surety bond would generally be an acceptable alternative form of financial assurance for a privately owned MSWLF company. However, we question whether the company that issued the bond for Greater Wenatchee is an acceptable guarantor. This concern was arrived at by reviewing Federal regulations, Department of Ecology rules, Standard and Poor’s credit rating, Moody’s credit rating, and A.M. Best’s credit rating for Frontier Insurance Company.

Federal Regulations require any issuer of federal bonds to be approved and published on the Federal Circular 570. Circular 570 is published annually under the direction of the U.S. Department of Treasury, Financial Management Service (FMS). Companies wishing to be authorized as sureties and reinsurers of federal bonds must apply and be accepted by the FMS. The FMS thoroughly reviews company applications to ensure that only financially sound companies receive approval. Commission staff reviewed Circular 570 to determine if Frontier Insurance Company would be eligible to write federal surety bond and found it was not on the approved list as of August 2000. It is unknown if the company has applied for approval. This requirement has not been adopted by reference, or restated, in WAC 173-351-600.

⁵Memorandum advice from Assistant Attorney General Tanya Barnett on assignment to Department of Ecology provided to Jim Barnett, Program Manager, Solid Waste Service, Department of Ecology on March 21, 1995. p. 4.

⁶Memorandum advice from Assistant Attorney General Tanya Barnett on assignment to Department of Ecology provided to Jim Barnett, Program Manager, Solid Waste Service, Department of Ecology on March 21, 1995. p. 5.

Department of Ecology WAC 173-304-468 (3)(a)(ii) requires surety bond guarantors to be listed as acceptable on the Federal Circular 570. Unfortunately this requirement does not apply to the Greater Wenatchee Regional Landfill and Recycling Center, Inc., because it accepts municipal solid waste. Rather the rule only applies to private landfill disposal facilities that do *not* accept waste from the general public. Commission staff believes similar acceptable criteria should be established in Chapter 173-351 because without sound acceptance criteria the financial risk to the public increases.

Financial assurance guarantees, other than cash, will only be as good as the company issuing the financial assurance. A preliminary review of the Frontier Insurance Company's financial soundness found cause for concern. The company was not rated by Standard & Poor's nor was the company found in a search of Moody's database. A.M. Best gave the Frontier Insurance Company, Inc., a **Marginal** rating of C++⁷. A **Marginal** rating is "assigned to companies which have, on balance, *marginal financial strength, operating performance and market profile* when compared to the standards established by the A.M. Best Company. These companies [in A.M. Best's opinion] have an ability to meet their current obligations to policy holders, but their *financial strength is vulnerable* [emphasis added] to adverse changes in underwriting and economic conditions."⁸

To put the C++ rating in perspective, Commission staff reviewed a sample of the companies on Circular 570 for their A. M. Best ratings. The sample consisted of 62 out of approximately 270 companies. A.M. Best ratings are assigned as follows:

⁷Copyright c 2000 by A.M. Best Company, Inc. All Rights reserved. Reprinted with Permission. A.M. Best company, Inc. The Insurance Information Source, <www3.ambest.com/ratings/> search by company name = Frontier Insurance Group. October 13, 2000.

⁸"Copyright c 2000 by A.M Best Company, Inc. All Rights Reserved. Reprinted with Permission." A.M. Best Company Inc., The Insurance Information Source, <www3.ambest.com/ratings/definition.html>, October 13, 2000.

A.M. Best Ratings

| Secure A.M. Best Ratings | Grade | Federal Circular 570 |
|-------------------------------------|----------------------------------|----------------------|
| A++ and A+ | Superior | 40% superior |
| A and A- | Excellent | 52% excellent |
| B++ and B+ | Very good | 8% very good |
| Vulnerable A.M. Best Ratings | | |
| B and B- | Fair | 0% fair |
| C++ and C+ | Marginal | 0% marginal |
| D | Poor | 0% poor |
| E | Under regulatory supervision URS | 0% URS |
| F | In liquidation | 0% in liquidation |

No companies in the sample received below a Very Good rating. Superior, Excellent and Very Good ratings are considered **secure** ratings by A.M. Best. Based on this analysis, we believe a bond guarantor should not fall below a Very Good A.M. Best rating.

The Frontier Insurance Company received a **marginal** rating which is two levels below a **secure** rating. A **marginal** rating is considered **vulnerable** by A.M. Best. In this instance, a **marginal** rating may mean Frontier Insurance Company will not be able to meet it's financial obligations in the future.

Contingent Liability

The business of the Greater Wenatchee Regional Landfill and Recycling Corporation appears to be limited to the landfill and recycling center operations. When the landfill is closed, it is unclear if the company will have cash to fund closure and post-closure costs. If the corporation does not have money or a revenue stream to fund the closure and post-closure costs, the health district will look to the bond guarantor for funding. The performance bonds offered by the landfill owner are written by a marginally rated insurance company who may or may not be able to meet future financial obligations. In light of the risk of default by the landfill owner and the insurance company, the Chelan-Douglas County Health District may need to record a **contingent liability** on its financial statements. Commission staff believes if a default condition were to occur, the liability would fall to the county due to the likely event of tax default.

Update to Current Situation

During the analysis described above, Commission staff contacted both the health district and the landfill regarding the concerns raised in this analysis. The health district stated it had been uncomfortable with the original letter of credit that was submitted in lieu of cash. After consultation with the Department of Ecology, it was determined the letter of credit met the conditions of rule. The Chelan-Douglas County Health District believed they did not have authority to deny the letter of credit. When the marginal credit rating of the insurance company was explained, Chelan-Douglas County Health District staff asked if any training on the subject

was available. While we are not aware of any training, a need for financial analysis training clearly exists.

The company stated the corporation had changed its name to Waste Management of Washington Inc., and posted new performance bonds written by the Republic Western Insurance Company.

Commission staff researched the new information. Staff received copies of the new performance bonds dated September 8, 2000. The Republic Western Insurance Company is listed on the Federal Circular 570 and received an “A” rating from A.M. Best. Waste Management of Washington, Inc., is registered as a corporation doing business in the State of Washington. These changes have significantly reduced the risks of a company or guarantor default on the closure and post-closure costs. However, the performance bond amounts are the same as was reported at the beginning of this analysis. Closure costs continue to be underfunded and post-closure costs continue to be over funded.

Conclusion

Commission staff believes this analysis demonstrates the risks of accepting financial assurance mechanisms other than cash. More importantly this analysis demonstrates the risks of unclear directions. However, Commission staff offers the following suggestions to reduce the risks and confusion:

- Develop criteria for acceptable financial assurance mechanisms in Department of Ecology rules regarding MSWLFs.
- Develop procedures for an annual review of the financial assurance mechanisms.
- Develop procedures, in rule, that require approval of financial assurance mechanisms.
- Develop procedures, as a part of the permitting or approval process, that require local health departments to consider whether accepting an alternative financial assurance mechanism would create a contingent liability for itself or the county.
- Provide rules and financial assurance training for the permitting authorities.

Analysis of Kitsap County - Dredge Sediment Landfill Financial Assurance

Current Status

The Pope and Talbot Dredge Sediment Landfill is a privately owned limited purpose landfill located in Kitsap County. The landfill began operations in 1990 and is scheduled for closure in 2005. In August 2000, the company responded to a Department of Ecology survey. The response provided estimated closure costs of \$70,000 and estimated post closure costs of \$362,500. Further, the response indicated that the financial assurance mechanism is a financial test corporate guarantee. Supporting documentation was dated December 1991 and April 2, 1992.

Analysis of Financial Assurance

The Pope and Talbot Dredge Sediment Landfill supporting documentation included a letter from its chief financial officer certifying that Pope and Talbot meets the corporate financial guarantee tests, the closure and post-closure cost estimates, and a schedule demonstrating compliance with WAC 173-304-468 (3) (a) (vi) (A). The letter submitted by the chief financial officer is dated April 2, 1992. WAC 173-304-468 (1)(c) requires the owner to review the closure and post-closure costs estimates annually.

The required annual review must include an examination of all factors including inflation. Inflation at 2.5% over the last 8 years would have increased the closing cost estimate by approximately \$15,000 and would have increased the post-closure estimate by approximately \$94,000. The troubling aspect of not conducting an annual review is the company does not have enough information to reserve an adequate sum of money which it will need to meet its closure and post-closure obligations.

Included in the submitted documentation is a schedule of compliance dated December 31, 1991. The schedule is used to demonstrate that the company is in compliance with the corporate financial test required in WAC 173-304-468 (3)(a)(vi)(A). Pope and Talbot's schedule mis-identifies critical information that makes review difficult and should have been noticeable to anyone who is familiar with financial reporting requirements. The reviewing authority should have requested a corrected copy of the schedule. Overlooking the typographical errors, the Pope and Talbot Dredge Sediment Landfill meets the corporate financial test ratios and requirements set out in Department of Ecology's rules. However, since the schedule is dated December 1991 it is unknown if the company meets the test today. It is important to note that, by rule, the company is required to annually reconfirm compliance with the corporate financial test.

Conclusion:

The Pope and Talbot Dredge Sediment Landfill does not conduct annual reviews of its closure and post-closure costs as required by Ecology rules. It does not appear that the local health authority or Department of Ecology have asked for an update since 1992. Since the required

annual review has not occurred since 1992, the company would have no way of knowing the total amount needed and therefore could not fund an unknown quantity. Therefore, Commission staff's conclusion errs on the side of caution and believes this landfill's closing and post-closing costs are not fully funded. Further, the data submitted in response to Ecology's survey is out-dated and we can not conclude that the landfill continues to meet the corporate financial guarantee test.

Analysis of Department of Ecology’s Corporate Financial Test Rules

In the course of analyzing Pope and Talbot Dredge Sediment Landfill’s corporate financial test, Commission staff compared the federal rules which apply to municipal solid waste landfills with Department of Ecology’s rules that apply to private-use landfills. In some instances, Department of Ecology’s rules are less stringent than the federal rules. Commission staff was informed by Ecology that the rules were taken from federal standards. Therefore, we assume the Ecology rule differences are oversights and should be corrected.

In WAC 173-304-468 (3)(a)(vi)(A)(I) the first test commonly known as a “debt-equity” ratio asks for a ratio of total liabilities to net worth to be less than 2.0. The equivalent federal regulations require the ratio to be less than 1.5. This means in Washington state, 66.7% of debt to 33.3% of equity is an acceptable standard. At the federal level, 60% of debt to 40% of equity is the acceptable standard. The state standard authorizes a more risky capital structure than does the federal standard. Commission staff concludes the federal “debt-equity ratio” standard is more stringent than Ecology’s “debt-equity ratio” standard.

The second test measures the sum of net income plus depreciation, depletion, and amortization to total liabilities and requires a ratio greater than 0.1. The federal regulations measure the same elements but also require that an additional \$10 million dollars be deducted from the net income before calculating the ratio. The federal regulations are more stringent in this case since a safety net of \$10 million dollars is required.

What appears to be an error is found in WAC 173-304-468 (3)(a)(vi)(B)(I) which requires a Moody’s rating of “Bbb” or greater. Moody’s does not have a “Bbb” rating, rather it gives a “Baa” rating.

Analysis of Grant County Delano Landfill Financial Assurance

Current Status

The Delano Landfill is a publicly owned municipal solid waste landfill located in Grant County. The landfill began operations in 1975 and is scheduled for closure in 2048. In August 2000, the company responded to a Department of Ecology survey. The response provided estimated closure costs of \$997,394 and estimated post-closure costs of \$438,240. Further, the response indicated that the financial assurance mechanism is cash and the present fund balance is \$922,725.

The Delano landfill stated that it intends to deposit an estimated \$17,927 into the closure fund annually and an estimated annual deposit of \$7,808 into the post-closure fund. The Delano landfill failed to provide a copy of its trust agreement and failed to respond to Department of Ecology's survey questions regarding the type of account, the name of the institution, and the account numbers for cash deposited to fund closure and post-closure costs.

Analysis of Financial Assurance

Commission staff determined the future value of the estimated costs and the future value of the cash accounts and found the accounts appear to be over-funded by an estimated \$38 million. Assuming everything reported on the survey is accurate, Commission staff believes the closure and post-closure funds are over-funded and the Delano Landfill should review its costs for a possible decrease in the fees charged to landfill users.

Commission staff made several assumptions in this analysis which are important to note:

- Estimated Closure and Post Closure Costs are accurate and reported in present value dollars.
- All survey responses are accurate.
- Inflation is constant at 2.5% per year.
- Interest earned is constant at 5.5% per year.
- The Delano Landfill will continue to deposit cash into the trust fund at the stated level for the next 48 years.

Conclusion:

The Delano Landfill has excessive projected funds in its closure and post-closure accounts. However, it is a *publicly* owned municipal landfill and the excessive funds will ultimately be returned to local taxpayers in the form of services, capital projects or lower taxes. However, it may not be appropriate to fund general services through solid waste disposal fees. In the case of a *privately* owned municipal landfill, excessive funds would be returned to the landfill owner.

**Appendix D
Chapter 70.95 RCW
Solid Waste Management—Reduction &
Recycling Act**

CHAPTER 70.95 RCW

SOLID WASTE MANAGEMENT--REDUCTION AND RECYCLING

Sections

- 70.95.010 Legislative finding—Priorities--Goal.
- 70.95.020 Purpose.
- 70.95.030 Definitions.
- 70.95.050 Solid waste advisory committee--Staff services and facilities.
- 70.95.055 Environmental excellence program agreements—Effect on chapter.
- 70.95.060 Standards for solid waste handling--Areas.
- 70.95.075 Implementation of standards--Assessment--Analyses--Proposals.
- 70.95.090 County and city comprehensive solid waste management plans--Contents.
- 70.95.130 Financial aid to counties and cities.
- 70.95.140 Matching requirements.
- 70.95.150 Contracts with counties to assure proper expenditures.
- 70.95.163 Local health departments may contract with the department of ecology.
- 70.95.170 Permit for solid waste handling facility--Required.
- 70.95.180 Permit for solid waste handling facility--Applications, fee.
- 70.95.210 Hearing--Appeal--Denial, suspension--When effective.
- 70.95.217 Waste generated outside the state--Findings.
- 70.95.220 Financial aid to jurisdictional health departments--Applications--Allocations.
- 70.95.230 Financial aid to jurisdictional health departments--Matching funds requirements.
- 70.95.235 Diversion of recyclable material--Penalty.
- 70.95.240 Unlawful to dump or deposit solid waste without permit--Penalties.
- 70.95.250 Name appearing on waste material--Presumption.
- 70.95.263 Additional powers and duties of department.
- 70.95.270 Hazardous substance remedial actions--Procedural requirements not applicable.
- 70.95.285 Solid waste stream analysis.
- 70.95.290 Solid waste stream evaluation.
- 70.95.295 Analysis and evaluation to be incorporated in state solid waste management plan.
- 70.95.300 Solid waste--Beneficial uses--Permitting requirement exemptions.
- 70.95.310 Rules--Department "deferring" to other permits--Application of section.
- 70.95.315 Penalty.
- 70.95.320 Construction.
- 70.95.500 Disposal of vehicle tires outside designated area prohibited—Penalty--Exemption.
- 70.95.510 Fee on the retail sale of new replacement vehicle tires.
- 70.95.520 Vehicle tire recycling account--Deposit of funds.
- 70.95.530 Vehicle tire recycling account--Use.
- 70.95.535 Disposition of fee.
- 70.95.540 Cooperation with department to aid tire recycling.
- 70.95.550 Waste tires--Definitions.
- 70.95.555 Waste tires--License for transport or storage business--Requirements.
- 70.95.560 Waste tires--Violation of RCW 70.95.555--Penalty.

- 70.95.565 Waste tires--Contracts with unlicensed persons prohibited.
- 70.95.600 Educational material promoting household waste reduction and recycling.
- 70.95.620 Identification procedure for persons accepting used vehicle batteries.
- 70.95.630 Requirements for accepting used batteries by retailers of vehicle batteries--
Notice.
- 70.95.640 Retail core charge.
- 70.95.670 Rules.
- 70.95.710 Incineration of medical waste.
- 70.95.715 Sharps waste—Drop-off sites--Pharmacy return program.
- 70.95.800 Solid waste management account--Expenditures.
- 70.95.810 Composting food and yard wastes--Grants and study.
- 70.95.901 Severability--1989 c 431.
- 70.95.902 Section captions not law--1989 c 431.
- 70.95.910 Severability--1969 ex.s. c 134.
- 70.95.911 Severability—1975-'76 2nd ex.s. c 41.

NOTES:

Airports: RCW 70.93.095.

Commercial fertilizer: Chapter 15.54 RCW.

Environmental certification programs—Fees—Rules--Liability: RCW 43.21A.175.

Marinas: RCW 70.93.095.

Solid waste collection tax: Chapter 82.18 RCW.

State parks: RCW 43.51.046.

Waste reduction, recycling, litter control: Chapter 70.93 RCW.

RCW 70.95.010 Legislative finding--Priorities--Goal. The legislature finds:

(1) Continuing technological changes in methods of manufacture, packaging, and marketing of consumer products, together with the economic and population growth of this state, the rising affluence of its citizens, and its expanding industrial activity have created new and ever-mounting problems involving disposal of garbage, refuse, and solid waste materials resulting from domestic, agricultural, and industrial activities.

(2) Traditional methods of disposing of solid wastes in this state are no longer adequate to meet the ever-increasing problem. Improper methods and practices of handling and disposal of solid wastes pollute our land, air and water resources, blight our countryside, adversely affect land values, and damage the overall quality of our environment.

(3) Considerations of natural resource limitations, energy shortages, economics and the environment make necessary the development and implementation of solid waste recovery and/or recycling plans and programs.

(4) Waste reduction must become a fundamental strategy of solid waste management. It is therefore necessary to change manufacturing and purchasing practices and waste generation behaviors to reduce the amount of waste that becomes a governmental responsibility.

(5) Source separation of waste must become a fundamental strategy of solid waste management. Collection and handling strategies should have, as an ultimate goal, the source separation of all materials with resource value or environmental hazard.

(6)(a) It is the responsibility of every person to minimize his or her production of wastes and to separate recyclable or hazardous materials from mixed waste.

(b) It is the responsibility of state, county, and city governments to provide for a waste management infrastructure to fully implement waste reduction and source separation strategies and to process and dispose of remaining wastes in a manner that is environmentally safe and economically sound. It is further the responsibility of state, county, and city governments to monitor the cost-effectiveness and environmental safety of combusting separated waste, processing mixed waste, and recycling programs.

(c) It is the responsibility of county and city governments to assume primary responsibility for solid waste management and to develop and implement aggressive and effective waste reduction and source separation strategies.

(d) It is the responsibility of state government to ensure that local governments are providing adequate source reduction and separation opportunities and incentives to all, including persons in both rural and urban areas, and nonresidential waste generators such as commercial, industrial, and institutional entities, recognizing the need to provide flexibility to accommodate differing population densities, distances to and availability of recycling markets, and collection and disposal costs in each community; and to provide county and city governments with adequate technical resources to accomplish this responsibility.

(7) Environmental and economic considerations in solving the state's solid waste management problems requires strong consideration by local governments of regional solutions and intergovernmental cooperation.

(8) The following priorities for the collection, handling, and management of solid waste are necessary and should be followed in descending order as applicable:

(a) Waste reduction;

(b). Recycling, with source separation of recyclable materials as the preferred method;

(c) Energy recovery, incineration, or landfill of separated waste;

(d) Energy recovery, incineration, or landfilling of mixed wastes.

(9) It is the state's goal to achieve a fifty percent recycling rate by 1995.

(10) Steps should be taken to make recycling at least as affordable and convenient to the ratepayer as mixed waste disposal.

(11) It is necessary to compile and maintain adequate data on the types and quantities of solid waste that are being generated and to monitor how the various types of solid waste are being managed.

(12) Vehicle batteries should be recycled and the disposal of vehicle batteries into landfills or incinerators should be discontinued.

(13) Excessive and nonrecyclable packaging of products should be avoided.

(14) Comprehensive education should be conducted throughout the state so that people are informed of the need to reduce, source separate, and recycle solid waste.

(15) All governmental entities in the state should set an example by implementing aggressive waste reduction and recycling programs at their workplaces and by purchasing products that are made from recycled materials and are recyclable.

(16) To ensure the safe and efficient operations of solid waste disposal facilities, it is necessary for operators and regulators of landfills and incinerators to receive training and certification.

(17) It is necessary to provide adequate funding to all levels of government so that successful waste reduction and recycling programs can be implemented.

(18) The development of stable and expanding markets for recyclable materials is critical to the long-term success of the state's recycling goals. Market development must be encouraged on a state, regional, and national basis to maximize its effectiveness. The state shall assume primary responsibility for the development of a multifaceted market development program to carry out the purposes of *this act.

(19) There is an imperative need to anticipate, plan for, and accomplish effective storage, control, recovery, and recycling of discarded tires and other problem wastes with the subsequent conservation of resources and energy. [1989 c 431 § 1; 1985 c 345 § 1; 1984 c 123 § 1; 1975-'76 2nd ex.s. c 41 § 1; 1969 ex.s. c 134 § 1.]

NOTES:

***Reviser's note:** For codification of "this act" [1989 c 431], see Codification Tables, Volume 0.

RCW 70.95.020 Purpose. The purpose of this chapter is to establish a comprehensive state-wide program for solid waste handling, and solid waste recovery and/or recycling which will prevent land, air, and water pollution and conserve the natural, economic, and energy resources of this state. To this end it is the purpose of this chapter:

(1) To assign primary responsibility for adequate solid waste handling to local government, reserving to the state, however, those functions necessary to assure effective programs throughout the state;

(2) To provide for adequate planning for solid waste handling by local government;

(3) To provide for the adoption and enforcement of basic minimum performance standards for solid waste handling;

(4) To encourage the development and operation of waste recycling facilities needed to accomplish the management priority of waste recycling, and to promote consistency in the requirements for such facilities throughout the state;

(5) To provide technical and financial assistance to local governments in the planning, development, and conduct of solid waste handling programs;

(6) To encourage storage, proper disposal, and recycling of discarded vehicle tires and to stimulate private recycling programs throughout the state; and

(7) To encourage the development and operation of waste recycling facilities and activities needed to accomplish the management priority of waste recycling and to promote consistency in the permitting requirements for such facilities and activities throughout the state.

It is the intent of the legislature that local governments be encouraged to use the expertise of private industry and to contract with private industry to the fullest extent possible to

carry out solid waste recovery and/or recycling programs. [1998 c 156 § 1; 1998 c 90 § 1; 1985 c 345 § 2; 1975-176 2nd ex.s. c 41 § 2; 1969 ex.s. c 134 § 2.]

NOTES:

Reviser's note: This section was amended by 1998 c 90 § 1 and by 1998 c 156 § 1, each without reference to the other. Both amendments are incorporated in the publication of this section under RCW 1.12.025(2). For rule of construction, see RCW 1.12.025(1).

RCW 70.95.030 Definitions. As used in this chapter, unless the context indicates otherwise:

- (1) "City" means every incorporated city and town.
- (2) "Commission" means the utilities and transportation commission.
- (3) "Committee" means the state solid waste advisory committee.
- (4) "Composted material" means organic solid waste that has been subjected to controlled aerobic degradation at a solid waste facility in compliance with the requirements of this chapter. Natural decay of organic solid waste under uncontrolled conditions does not result in composted material.
- (5) "Department" means the department of ecology.
- (6) "Director" means the director of the department of ecology.
- (7) "Disposal site" means the location where any final treatment, utilization, processing, or deposit of solid waste occurs.
- (8) "Energy recovery" means a process operating under federal and state environmental laws and regulations for converting solid waste into usable energy and for reducing the volume of solid waste.
- (9) "Functional standards" means criteria for solid waste handling expressed in terms of expected performance or solid waste handling functions.
- (10) "Incineration" means a process of reducing the volume of solid waste operating under federal and state environmental laws and regulations by use of an enclosed device using controlled flame combustion.
- (11) "Jurisdictional health department" means city, county, city-county, or district public health department.
- (12) "Landfill" means a disposal facility or part of a facility at which solid waste is placed in or on land and which is not a land treatment facility.
- (13) "Local government" means a city, town, or county.
- (14) "Modify" means to substantially change the design or operational plans including, but not limited to, removal of a design element previously set forth in a permit application or the addition of a disposal or processing activity that is not approved in the permit.
- (15) "Multiple family residence" means any structure housing two or more dwelling units.
- (16) "Person" means individual, firm, association, copartnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever.
- (17) "Recyclable materials" means those solid wastes that are separated for recycling or reuse, such as papers, metals, and glass, that are identified as recyclable material pursuant to a local comprehensive solid waste plan. Prior to the adoption of the local comprehensive solid

waste plan, adopted pursuant to RCW 70.95.110(2), local governments may identify recyclable materials by ordinance from July 23, 1989.

(18) "Recycling" means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration.

(19) "Residence" means the regular dwelling place of an individual or individuals.

(20) "Sewage sludge" means a semisolid substance consisting of settled sewage solids combined with varying amounts of water and dissolved materials, generated from a wastewater treatment system, that does not meet the requirements of chapter 70.95J RCW.

(21) "Soil amendment" means any substance that is intended to improve the physical characteristics of the soil, except composted material, commercial fertilizers, agricultural liming agents, unmanipulated animal manures, unmanipulated vegetable manures, food wastes, food processing wastes, and materials exempted by rule of the department, such as biosolids as defined in chapter 70.95) RCW and wastewater as regulated in chapter 90.48 RCW.

(22) "Solid waste" or "wastes" means all putrescible and nonputrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, and recyclable materials.

(23) "Solid waste handling" means the management, storage, collection, transportation, treatment, utilization, processing, and final disposal of solid wastes, including the recovery and recycling of materials from solid wastes, the recovery of energy resources from solid wastes or the conversion of the energy in solid wastes to more useful forms or combinations thereof.

(24) "Source separation" means the separation of different kinds of solid waste at the place where the waste originates.

(25) "Vehicle" includes every device physically capable of being moved upon a public or private highway, road, street, or watercourse and in, upon, or by which any person or property is or may be transported or drawn upon a public or private highway, road, street, or watercourse, except devices moved by human or animal power or used exclusively upon stationary rails or tracks.

(26) "Waste-derived soil amendment" means any soil amendment as defined in this chapter that is derived from solid waste as defined in RCW 70.95.030, but does not include biosolids or biosolids products regulated under chapter 70.95) RCW or wastewaters regulated under chapter 90.48 RCW.

(27) "Waste reduction" means reducing the amount or toxicity of waste generated or reusing materials. [1998 c 36 § 17; 1997 c 213 § 1; 1992 c 174 § 16; 1991 c 298 § 2; 1989 c 431 § 2; 1985 c 345 § 3; 1984 c 123 § 2; 1975-176 2nd ex.s. c 41 § 3; 1970 ex.s. c 62 § 60; 1969 ex.s. c 134 § 3.]

NOTES:

Intent--1998 c 36: See RCW 15.54.265.

Short title--1998 c 36: See note following RCW 15.54.265.

Finding--1991 c 298: "The legislature finds that curbside recycling services should be provided in multiple family residences. The county and city comprehensive solid waste management plans should include provisions for such service." [1991 c 298 § 1.]

Solid waste disposal--Powers and duties of state board of health as to environmental contaminants: RCW 43.20.050.

RCW 70.95.040 Solid waste advisory committee--Members--Meetings--Travel expenses--"Governor's award of excellence." (1) There is created a solid waste advisory committee to provide consultation to the department of ecology concerning matters covered by this chapter. The committee shall advise on the development of programs and regulations for solid and dangerous waste handling, resource recovery, and recycling, and shall supply recommendations concerning methods by which existing solid and dangerous waste handling, resource recovery, and recycling practices and the laws authorizing them may be supplemented and improved.

(2) The committee shall consist of at least eleven members, including the assistant director for waste management programs within the department. The director shall appoint members with due regard to the interests of the public, local government, tribes, agriculture, industry, public health, recycling industries, solid waste collection industries, and resource recovery industries. The term of appointment shall be determined by the director. The committee shall elect its own chair and meet at least four times a year, in accordance with such rules of procedure as it shall establish. Members shall receive no compensation for their services but shall be reimbursed their travel expenses while engaged in business of the committee in accordance with RCW 43.03.050 and 43.03.060 as now existing or hereafter amended.

(3) The committee shall each year recommend to the governor a recipient for a "governor's award of excellence" which the governor shall award for outstanding achievement by an industry, company, or individual in the area of hazardous waste or solid waste management. [1991 c 319 § 401; 1987 c 115 § 1; 1982 c 108 § 1; 1977 c 10 § 1. Prior: 1975-'76 2nd ex.s. c 41 § 9; 1975-'76 2nd ex.s. c 34 § 160; 1969 ex.s. c 134 § 4.]

NOTES:

Severability--Part headings not law--1991 c 319: See RCW 70.95F.900 and 70.95F.901.

Toxic metals--Report--1991 c 319: See note following RCW 70.956.005.

Effective date--Severability--1975-'76 2nd ex.s. c 34: See notes following RCW 2.08.115.

RCW 70.95.050 Solid waste advisory committee--Staff services and facilities. The department shall furnish necessary staff services and facilities required by the solid waste advisory committee. [1969 ex.s. c 134 § 5.]

RCW 70.95.055 Environmental excellence program agreements--Effect on chapter. Notwithstanding any other provision of law, any legal requirement under this chapter, including any standard, limitation, rule, or order is superseded and replaced in accordance with the terms and provisions of an environmental excellence program agreement, entered into under chapter 43.21K RCW. (1997 c 381 § 22.)

NOTES:

Purpose--1997 c 381: See RCW 43.21K.005.

RCW 70.95.060 Standards for solid waste handling--Areas. The department in accordance with procedures prescribed by the Administrative Procedure Act, chapter 34.05 RCW, as now or hereafter amended, may adopt such minimum functional standards for solid waste handling as it deems appropriate. The department in adopting such standards may classify areas of the state with respect to population density, climate, geology, and other relevant factors bearing on solid waste disposal standards. [1969 ex.s. c 134 § 6.]

RCW 70.95.070 Review of standards prior to adoption--Revisions, additions and modifications--Factors. The solid waste advisory committee shall review prior to adoption and shall recommend revisions, additions, and modifications to the minimum functional standards governing solid waste handling relating, but not limited to, the following:

- (1) Vector production and sustenance.
- (2) Air pollution (coordinated with regulations of the department of ecology).
- (3) Pollution of surface and ground waters (coordinated with the regulations of the department of ecology).
- (4) Hazards to service or disposal workers or to the public.
- (5) Prevention of littering.
- (6) Adequacy and adaptability of disposal sites to population served.
- (7) Design and operation of disposal sites.
- (8) Recovery and/or recycling of solid waste. [1975-'76 2nd ex.s. c 41 § 4; 1969 ex.s. c 134 § 7.]

RCW 70.95.075 Implementation of standards--Assessment--Analyses--Proposals. In order to implement the minimum functional standards for solid waste handling, evaluate the effectiveness of the minimum functional standards, evaluate the cost of implementation, and develop a mechanism to finance the implementation, the department shall prepare:

- (1) An assessment of local health agencies' information on all existing permitted landfill sites, including (a) measures taken and facilities installed at each landfill to mitigate surface water and ground water contamination, (b) proposed measures taken and facilities to be constructed at each landfill to mitigate surface water and ground water contamination, and (c) the costs of such measures and facilities;
- (2) An analysis of the effectiveness of the minimum functional standards for new landfills in lessening surface water and ground water contamination, and a comparison with the effectiveness of the prior standards;
- (3) An analysis of the costs of conforming with the new functional standards for new landfills compared with the costs of conforming to the prior standards; and
- (4) Proposals for methods of financing the costs of conforming with the new functional standards. [1986 c 81 § 1.]

RCW 70.95.080 County comprehensive solid waste management plan--Joint plans--Duties of cities. Each county within the state, in cooperation with the various cities located

within such county, shall prepare a coordinated, comprehensive solid waste management plan. Such plan may cover two or more counties.

Each city shall:

- (1) Prepare and deliver to the county auditor of the county in which it is located its plan for its own solid waste management for integration into the comprehensive county plan; or
- (2) Enter into an agreement with the county pursuant to which the city shall participate in preparing a joint city-county plan for solid waste management; or
- (3) Authorize the county to prepare a plan for the city's solid waste management for inclusion in the comprehensive county plan.

Two or more cities may prepare a plan for inclusion in the county plan. With prior notification of its home county of its intent, a city in one county may enter into an agreement with a city in an adjoining county, or with an adjoining county, or both, to prepare a joint plan for solid waste management to become part of the comprehensive plan of both counties.

After consultation with representatives of the cities and counties, the department shall establish a schedule for the development of the comprehensive plans for solid waste management. In preparing such a schedule, the department shall take into account the probable cost of such plans to the cities and counties.

Local governments shall not be required to include a hazardous waste element in their solid waste management plans. [1985 c 448 § 17; 1969 ex.s: c 134 § 8.]

NOTES:

Severability--1985 c 448: See note following RCW 70.105.005.

RCW 70.95.090 County and city comprehensive solid waste management plans--
Contents. Each county and city comprehensive solid waste management plan shall include the following:

- (1) A detailed inventory and description of all existing solid waste handling facilities including an inventory of any deficiencies in meeting current solid waste handling needs.
- (2) The estimated long-range needs for solid waste handling facilities projected twenty years into the future.
- (3) A program for the orderly development of solid waste handling facilities in a manner consistent with the plans for the entire county which shall:
 - (a) Meet the minimum functional standards for solid waste handling adopted by the department and all laws and regulations relating to air and water pollution, fire prevention, flood control, and protection of public health;
 - (b) Take into account the comprehensive land use plan of each jurisdiction;
 - (c) Contain a six year construction and capital acquisition program for solid waste handling facilities; and
 - (d) Contain a plan for financing both capital costs and operational expenditures of the proposed solid waste management system.
- (4) A program for surveillance and control.
- (5) A current inventory and description of solid waste collection needs and operations within each respective jurisdiction which shall include:

(a) Any franchise for solid waste collection granted by the utilities and transportation commission in the respective jurisdictions including the name of the holder of the franchise and the address of his or her place of business and the area covered by the franchise;

(b) Any city solid waste operation within the county and the boundaries of such operation;

(c) The population density of each area serviced by a city operation or by a franchised operation within the respective jurisdictions;

(d) The projected solid waste collection needs for the respective jurisdictions for the next six years.

(6) A comprehensive waste reduction and recycling element that, in accordance with the priorities established in RCW 70.95.010, provides programs that (a) reduce the amount of waste generated, (b) provide incentives and mechanisms for source separation, and (c) establish recycling opportunities for the source separated waste.

(7) The waste reduction and recycling element shall include the following:

(a) Waste reduction strategies;

(b) Source separation strategies, including:

(i) Programs for the collection of source separated materials from residences in urban and rural areas. In urban areas, these programs shall include collection of source separated recyclable materials from single and multiple family residences, unless the department approves an alternative program, according to the criteria in the planning guidelines. Such criteria shall include: Anticipated recovery rates and levels of public participation, availability of environmentally sound disposal capacity, access to markets for recyclable materials, unreasonable cost impacts on the ratepayer over the six-year planning period, utilization of environmentally sound waste reduction and recycling technologies, and other factors as appropriate. In rural areas, these programs shall include but not be limited to drop-off boxes, buy-back centers, or a combination of both, at each solid waste transfer, processing, or disposal site, or at locations convenient to the residents of the county. The drop-off boxes and buy-back centers may be owned or operated by public, nonprofit, or private persons;

(ii) Programs to monitor the collection of source separated waste at nonresidential sites where there is sufficient density to sustain a program;

(iii) Programs to collect yard waste, if the county or city submitting the plan finds that there are adequate markets or capacity for composted yard waste within or near the service area to consume the majority of the material collected; and

(iv) Programs to educate and promote the concepts of waste reduction and recycling;

(c) Recycling strategies, including a description of markets for recyclables, a review of waste generation trends, a description of waste composition, a discussion and description of existing programs and any additional programs needed to assist public and private sector recycling, and an implementation schedule for the designation of specific materials to be collected for recycling, and for the provision of recycling collection services;

(d) Other information the county or city submitting the plan determines is necessary.

(8) An assessment of the plan's impact on the costs of solid waste collection. The assessment shall be prepared in conformance with guidelines established by the utilities and transportation commission. The commission shall cooperate with the Washington state association of counties and the association of Washington cities in establishing such guidelines.

(9) A review of potential areas that meet the criteria as outlined in RCW 70.95.165.

[1991 c 298 § 3; 1989 c 431 § 3; 1984 c 123 § 5; 1971 ex.s. c 293 § 1; 1969 ex.s. c 134 § 9.]

NOTES:

Finding--1991 c 298: See note following RCW 70.95.030.

Certain provisions not to detract from utilities and transportation commission powers, duties, and functions: RCW 80.01.300.

RCW 70.95.092 County and city. comprehensive solid waste management plans-- Levels of service, reduction and recycling. Levels of service shall be defined in the waste reduction and recycling element of each local comprehensive solid waste management plan and shall include the services set forth in RCW 70.95.090. In determining which service level is provided to residential and nonresidential waste generators in each community, counties and cities shall develop clear criteria for designating areas as urban or rural. In designating urban areas, local governments shall consider the planning guidelines adopted by the department, total population, population density, and any applicable land use or utility service plans. [1989 c 431 § 4.]

RCW 70.95.094 County and city comprehensive solid waste management plans-- Review and approval process. (1) The department and local governments preparing plans are encouraged to work cooperatively during plan development. Each county and city preparing a comprehensive solid waste management plan shall submit a preliminary draft plan to the department for technical review. The department shall review and comment on the draft plan within one hundred twenty days of receipt. The department's comments shall state specific actions or revisions that must be completed for plan approval.

(2) Each final draft solid waste management plan shall be submitted to the department for approval. The department will limit its comments on the final draft plans to those issues identified during its review of the draft plan and any other changes made between submittal of the preliminary draft and final draft plans. Disapproval of the local comprehensive solid waste management plan shall be supported by specific findings. A final draft plan shall be deemed approved if the department does not disapprove it within forty-five days of receipt.

(3) If the department disapproves a plan or any plan amendments, the submitting entity may appeal the decision under the procedures of Part IV of chapter 34.05 RCW. An administrative law judge shall preside over the appeal. The appeal shall be limited to review of the specific findings which supported the disapproval under subsection (2) of this section. [1989 c 431 § 8.]

RCW 70.95.096 Utilities and transportation commission to review local plan's assessment of cost impacts on rates. Upon receipt, the department shall immediately provide the utilities and transportation commission with a copy of each preliminary draft local comprehensive solid waste management plan. Within forty-five days after receiving a plan, the commission shall have reviewed the plan's assessment of solid waste collection cost impacts on rates charged by solid waste collection companies regulated under chapter 81.77 RCW and shall advise the county or city submitting the plan and the department of the probable effect of the plan's recommendations on those rates. [1989 c 431 § 12.]

RCW 70.95.100 Technical assistance for plan preparation--Guidelines--Informational materials and programs. (1) The department or the commission, as appropriate, shall provide to counties and cities technical assistance including, but not limited to, planning guidelines, in the preparation, review, and revision of solid waste management plans required by this chapter. Guidelines prepared under this section shall be consistent with the provisions of this chapter. Guidelines for the preparation of the waste reduction and recycling element of the comprehensive solid waste management plan shall be completed by the department by March 15, 1990. These guidelines shall provide recommendations to local government on materials to be considered for designation as recyclable materials. The state solid waste management plan prepared pursuant to RCW 70.95.260 shall be consistent with these guidelines.

(2) The department shall be responsible for development and implementation of a comprehensive state-wide public information program designed to encourage waste reduction, source separation, and recycling by the public. The department shall operate a toll-free hot line to provide the public information on waste reduction and recycling.

(3) The department shall provide technical assistance to local governments in the development and dissemination of informational materials and related activities to assure recognition of unique local waste reduction and recycling programs.

(4) Local governments shall make all materials and information developed with the assistance grants provided under RCW 70.95.130 available to the department for potential use in other areas of the state. [1989 c 431 § 6; 1984 c 123 § 6; 1969 ex.s. c 134 § 10.]

RCW 70.95.110 Maintenance of plans--Review, revisions--Implementation of source separation programs. (1) The comprehensive county solid waste management plans and any comprehensive city solid waste management plans prepared in accordance with RCW 70.95.080 shall be maintained in a current condition and reviewed and revised periodically by counties and cities as may be required by the department. Upon each review such plans shall be extended to show long-range needs for solid waste handling facilities for twenty years in the future, and a revised construction and capital acquisition program for six years in the future. Each revised solid waste management plan shall be submitted to the department.

Each plan shall be reviewed and revised within five years of July 1, 1984, and thereafter shall be reviewed, and revised if necessary according to the schedule provided in subsection (2) of this section.

(2) Cities and counties preparing solid waste management plans shall submit the waste reduction and recycling element required in RCW 70.95.090 and any revisions to other elements of its comprehensive solid waste management plan to the department no later than:

(a) July 1, 1991, for class one areas: PROVIDED, That portions relating to multiple family residences shall be submitted no later than July 1, 1992;

(b) July 1, 1992, for class two areas; and

(c) July 1, 1994, for class three areas.

Thereafter, each plan shall be reviewed and revised, if necessary, at least every five years. Nothing in chapter 431, Laws of 1989 shall prohibit local governments from submitting a plan prior to the dates listed in this subsection.

(3) The classes of areas are defined as follows:

(a) Class one areas are the counties of Spokane, Snohomish, King, Pierce, and Kitsap and all the cities therein.

(b) Class two areas are all other counties located west of the crest of the Cascade mountains and all the cities therein.

(c) Class three areas are the counties east of the crest of the Cascade mountains and all the cities therein, except for Spokane county.

(4) Cities and counties shall begin implementing the programs to collect source separated materials no later than one year following the adoption and approval of the waste reduction and recycling element and these programs shall be fully implemented within two years of approval. [1991 c 298 § 4; 1989 c 431 § 5; 1984 c 123 § 7; 1969 ex.s. c 134 § 11.]

NOTES:

Finding--1991 c 298: See note following RCW 70.95.030.

RCW 70.95.130 Financial aid to counties and cities. Any county may apply to the department on a form prescribed thereby for financial aid for the preparation of the comprehensive county plan for solid waste management required by RCW 70.95.080. Any city electing to prepare an independent city plan, a joint city plan, or a joint county-city plan for solid waste management for inclusion in the county comprehensive plan may apply for financial aid for such purpose through the county. Every city application for financial aid for planning shall be filed with the county auditor and shall be included as a part of the county's application for financial aid. Any city preparing an independent plan shall provide for disposal sites wholly within its jurisdiction.

The department shall allocate to the counties and cities applying for financial aid for planning, such funds as may be available pursuant to legislative appropriations or from any federal grants for such purpose.

The department shall determine priorities and allocate available funds among the counties and cities applying for aid according to criteria established by regulations of the department considering population, urban development, environmental effects of waste disposal, existing waste handling practices, and the local justification of their proposed expenditures. [1969 ex.s. c 134 § 13.]

RCW 70.95.140 Matching requirements. Counties and cities shall match their planning aid allocated by the director by an amount not less than twenty-five percent of the estimated cost of such planning. Any federal planning aid made directly to a county or city shall not be considered either a state or local contribution in determining local matching requirements. Counties and cities may meet their share of planning costs by cash and contributed services. [1969 ex.s. c 134 § 14.]

RCW 70.95.150 Contracts with counties to assure proper expenditures. Upon the allocation of planning funds as provided in RCW 70.95.130, the department shall enter into a contract with each county receiving a planning grant. The contract shall include such provisions as the director may deem necessary to assure the proper expenditure of such funds including allocations made to cities. The sum allocated to a county shall be paid to the treasurer of such county. [1969 ex.s. c 134 § 15.]

RCW 70.95.160 Local board of health regulations to implement the comprehensive plan--Section not to be construed to authorize counties to operate system. Each county, or any city, or jurisdictional board of health shall adopt regulations or ordinances governing solid waste handling implementing the comprehensive solid waste management plan covering storage, collection, transportation, treatment, utilization, processing and final disposal including but not limited to the issuance of permits and the establishment of minimum levels and types of service for any aspect of solid waste handling. County regulations or ordinances adopted regarding levels and types of service shall not apply within the limits of any city where the city has by local ordinance determined that the county shall not exercise such powers within the corporate limits of the city. Such regulations or ordinances shall assure that solid waste storage and disposal facilities are located, maintained, and operated in a manner so as properly to protect the public health, prevent air and water pollution, are consistent with the priorities established in RCW 70.95.010, and avoid the creation of nuisances. Such regulations or ordinances may be more stringent than the minimum functional standards adopted by the department. Regulations or ordinances adopted by counties, cities, or jurisdictional boards of health shall be filed with the department.

Nothing in this section shall be construed to authorize the operation of a solid waste collection system by counties. [1989 c 431 § 10; 1988 c 127 § 29; 1969 ex.s. c 134 § 16.]

RCW 70.95.163 Local health departments may contract with the department of ecology. Any jurisdictional health department and the department of ecology may enter into an agreement providing for the exercise by the department of ecology of any power that is specified in the contract and that is granted to the jurisdictional health department under this chapter. However, the jurisdictional health department shall have the approval of the legislative authority or authorities it serves before entering into any such agreement with the department of ecology. [1989 c 431 § 16.]

RCW 70.95.165 Solid waste disposal facility siting--Site review--Local solid waste advisory committees--Membership. (1) Each county or city siting a solid waste disposal facility shall review each potential site for conformance with the standards as set by the department for:

- (a) Geology;
- (b) Ground water;
- (c) Soil;
- (d) Flooding;
- (e) Surface water;
- (f) Slope;
- (g) Cover material;
- (h) Capacity;
- (i) Climatic factors;
- (j) Land use;
- (k) Toxic air emissions; and
- (l) Other factors as determined by the department.

(2) The standards in subsection (1) of this section shall be designed to use the best available technology to protect the environment and human health, and shall be revised periodically to reflect new technology and information.

(3) Each county shall establish a local solid waste advisory committee to assist in the development of programs and policies concerning solid waste handling and disposal and to review and comment upon proposed rules, policies, or ordinances prior to their adoption. Such committees shall consist of a minimum of nine members and shall represent a balance of interests including, but not limited to, citizens, public interest groups, business, the waste management industry, and local elected public officials. The members shall be appointed by the county legislative authority. A county or city shall not apply for funds from the state and local improvements revolving account, Waste Disposal Facilities, 1980, under chapter 43.99E RCW, for the preparation, update, or major amendment of a comprehensive solid waste management plan unless the plan or revision has been prepared with the active assistance and participation of a local solid waste advisory committee. [1989 c 431 § 11; 1984 c 123 § 4.]

RCW 70.95.167 Private businesses involvement in source separated materials--Local solid waste advisory committee to examine. (1) Each local solid waste advisory committee shall conduct one or more meetings for the purpose of determining how local private recycling and solid waste collection businesses may participate in the development and implementation of programs to collect source separated materials from residences, and to process and market materials collected for recycling. The meetings shall include local private recycling businesses, private solid waste collection companies operating within the jurisdiction, and the local solid waste planning agencies. The meetings shall be held during the development of the waste reduction and recycling element or no later than one year prior to the date that a jurisdiction is required [to] submit the element under RCW 70.95.110(2).

(2) The meeting requirement under subsection (1) of this section shall apply whenever a city or county develops or amends the waste reduction and recycling element required under this chapter. Jurisdictions having approved waste reduction and recycling elements or having initiated a process for the selection of a service provider as of May 21, 1991, do not have to comply with the requirements of subsection (1) of this section until the next revisions to the waste reduction and recycling element are made or required.

(3) After the waste reduction and recycling element is approved by the local legislative authority but before it is submitted to the department for approval, the local solid waste advisory committee shall hold at least one additional meeting to review the element.

(4) For the purpose of this section, "private recycling business" means any private for-profit or private not-for-profit business that engages in the processing and marketing of recyclable materials. [1991 c 319 § 402.]

NOTES:

Severability--Part headings not law--1991 c 319: See RCW 70.95F.900 and 70.95F.901.

RCW 70.95.170 Permit for solid waste handling facility--Required. Except as provided otherwise in RCW 70.95.305 or 70.95.310, after approval of the comprehensive solid waste plan by the department no solid waste handling facility or facilities shall be maintained, established, or modified until the county, city, or other person operating such site has obtained a permit pursuant to RCW 70.95.180 or 70.95.190. [1998 c 156 § 3; 1997 c 213 § 2; 1969 ex.s. c 134 § 17.]

RCW 70.95.180 Permit for solid waste handling facility--Applications, fee.

(1) Applications for permits to operate a new or modified solid waste handling facility shall be on forms prescribed by the department and shall contain a description of the proposed facilities and operations at the site, plans and specifications for any new or additional facilities to be constructed, and such other information as the jurisdictional health department may deem necessary in order to determine whether the site and solid waste disposal facilities located thereon will comply with local and state regulations.

(2) Upon receipt of an application for a permit to establish or modify a solid waste handling facility, the jurisdictional health department shall refer one copy of the application to the department which shall report its findings to the jurisdictional health department.

(3) The jurisdictional health department shall investigate every application as may be necessary to determine whether a proposed or modified site and facilities meet all solid waste, air, and other applicable laws and regulations, and conforms with the approved comprehensive solid waste handling plan, and complies with all zoning requirements.

(4) When the jurisdictional health department finds that the permit should be issued, it shall issue such permit. Every application shall be approved or disapproved within ninety days after its receipt by the jurisdictional health department.

(5) The jurisdictional board of health may establish reasonable fees for permits and renewal of permits. All permit fees collected by the health department shall be deposited in the treasury and to the account from which the health department's operating expenses are paid. [1997 c 213 § 3; 1988 c 127 § 30; 1969 ex.s. c 134 § 18.]

RCW 70.95.185 Permit for solid waste disposal site or facilities--Review by department--Appeal of issuance--Validity of permits issued after June 7, 1984. Every permit issued by a jurisdictional health department under RCW 70.95.180 shall be reviewed by the department to ensure that the proposed site or facility conforms with:

(1) All applicable laws and regulations including the minimal functional standards for solid waste handling; and

(2) The approved comprehensive solid waste management plan.

The department shall review the permit within thirty days after the issuance of the permit by the jurisdictional health department. The department may appeal the issuance of the permit by the jurisdictional health department to the pollution control hearings board, as described in chapter 43.21B RCW, for noncompliance with subsection (1) or (2) of this section.

No permit issued pursuant to RCW 70.95.180 after June 7, 1984, shall be considered valid unless it has been reviewed by the department. [1984 c 123 § 8.]

RCW 70.95.190 Permit for solid waste handling facility--Renewal--Appeal--Validity of renewal--Review fees. (1) Every permit for an existing solid waste handling facility issued pursuant to RCW 70.95.180 shall be renewed at least every five years on a date established by the jurisdictional health department having jurisdiction of the site and as specified in the permit. If a permit is to be renewed for longer than one year, the local jurisdictional health department may hold a public hearing before making such a decision. Prior to renewing a permit, the health department shall conduct a review as it deems necessary to assure that the solid waste handling facility or facilities located on the site continues to meet minimum functional standards of the department, applicable local regulations, and are not in

conflict with the approved solid waste management plan. A jurisdictional health department shall approve or disapprove a permit renewal within forty-five days of conducting its review. The department shall review and may appeal the renewal as set forth for the approval of permits in RCW 70.95.185.

(2) The jurisdictional board of health may establish reasonable fees for permits reviewed under this section. All permit fees collected by the health department shall be deposited in the treasury and to the account from which the health department's operating expenses are paid. [1998 c 156 § 4; 1997 c 213 § 4; 1984 c 123 § 9; 1969 ex.s. c 134 § 19.]

RCW 70.95.200 Permit for solid waste disposal site or facilities--Suspension. Any permit for a solid waste disposal site issued as provided herein shall be subject to suspension at any time the jurisdictional health department determines that the site or the solid waste disposal facilities located on the site are being operated in violation of this chapter, or the regulations of the department or local laws and regulations. [1969 ex.s. c 134 § 20.]

RCW 70.95.205 Exemption from solid waste permit requirements--Waste-derived soil amendments--Application--Revocation of exemption--Appeal. (1) Waste-derived soil amendments that meet the standards and criteria in this section may apply for exemption from solid waste permitting as required under RCW 70.95.170. The application shall be submitted to the department in a format determined by the department or an equivalent format. The application shall include:

(a) Analytical data showing that the waste-derived soil amendments meet standards established under RCW 15.54.800; and

(b) Other information deemed appropriate by the department to protect human health and the environment.

(2) After receipt of an application, the department shall review it to determine whether the application is complete, and forward a copy of the complete application to all interested jurisdictional health departments for review and comment. Within forty-five days, the jurisdictional health departments shall forward their comments and any other information they deem relevant to the department, which shall then give final approval or disapproval of the application. Every complete application shall be approved or disapproved by the department within ninety days after receipt.

(3) The department, after providing opportunity for comments from the jurisdictional health departments, may at any time revoke an exemption granted under this section if the quality or use of the waste-derived soil amendment changes or the management, storage, or end use of the waste-derived soil amendment constitutes a threat to human health or the environment.

(4) Any aggrieved party may appeal the determination by the department in subsection (2) or (3) of this section to the pollution control hearings board. [1998 c 36 § 18.]

NOTES:

Intent--1998 c 36: See RCW 15.54.265.

Short title--1998 c 36: See note following RCW 15.54.265.

RCW 70.95.210 Hearing--Appeal--Denial, suspension--When effective. Whenever the jurisdictional health department denies a permit or suspends a permit for a solid waste disposal site, it shall, upon request of the applicant or holder of the permit, grant a hearing on such denial or suspension within thirty days after the request therefor is made. Notice of the hearing shall be given [to] all interested parties including the county or city having jurisdiction over the site and the department. Within thirty days after the hearing, the health officer shall notify the applicant or the holder of the permit in writing of his determination and the reasons therefor. Any party aggrieved by such determination may appeal to the pollution control hearings board by filing with the hearings board a notice of appeal within thirty days after receipt of notice of the determination of the health officer. The hearings board shall hold a hearing in accordance with the provisions of the Administrative Procedure Act, chapter 34.05 RCW. If the jurisdictional health department denies a permit renewal or suspends a permit for an operating waste recycling facility that receives waste from more than one city or county, and the applicant or holder of the permit requests a hearing or files an appeal under this section, the permit denial or suspension shall not be effective until the completion of the appeal process under this section, unless the jurisdictional health department declares that continued operation of the waste recycling facility poses a very probable threat to human health and the environment. [1998 c 90 § 3; 1987 c 109 § 21; 1969 ex.s. c 134 § 21.]

NOTES:

Purpose--Short title--Construction--Rules--Severability--Captions--1987 c 109: See notes following RCW 43.21B.001.

RCW 70.95.212 Solid waste collection companies--Notice of changes in tipping fees and disposal rate schedules. To provide solid waste collection companies with sufficient time to prepare and submit tariffs and rate filings for public comment and commission approval, the owner or operator of a transfer station, landfill, or facility used to burn solid waste shall provide seventy-five days' notice to solid waste collection companies of any change in tipping fees and disposal rate schedules. The notice period shall begin on the date individual notice to a collection company is delivered to the company or is postmarked.

A collection company may agree to a shorter notice period: PROVIDED, That such agreement by a company shall not affect the notice requirements for rate filings under RCW 81.28.050.

The owner of a transfer station, landfill or facility used to burn solid waste may agree to provide companies with a longer notice period.

"Solid waste collection companies" as used in this section means the companies regulated by the commission pursuant to chapter 81.77 RCW. [1993 c 300 § 3.]

RCW 70.95.215 Landfill, disposal facilities--Reserve accounts required by July 1, 1987--Exception--Rules. (1) By July 1, 1987, each holder or applicant of a permit for a landfill disposal facility issued under this chapter shall establish a reserve account to cover the costs of closing the facility in accordance with state and federal regulations. The account shall be designed to ensure that there will be adequate revenue available by the projected date of closure. Landfill disposal facilities maintained on private property for the sole use of the entity owning the site shall not be required to establish a reserve account if, to the satisfaction of the

department, they provide another form of financial assurance adequate to comply with the requirements of this section.

(2) By July 1, 1986, the department shall adopt rules under chapter 34.05 RCW to implement subsection (1) of this section. The rules shall include but not be limited to:

(a) Methods to estimate closure costs, including postclosure monitoring, pollution prevention measures, and any other procedures required under state and federal regulations;

(b) Methods to ensure that reserve accounts receive adequate funds, including:

(i) Requirements that the reserve account be generated by user fees. However, the department may waive this requirement for existing landfills if user fees would be prohibitively high;

(ii) Requirements that moneys be placed in the reserve account on a regular basis and that the reserve account be kept separate from all other accounts; and

(iii) Procedures for the department to verify that adequate sums are deposited in the reserve account; and

(c) Methods to ensure that other types of financial assurance provided in accordance with subsection (1) of this section are adequate to cover the costs of closing the facility. [1985 c 436 § 1.]

RCW 70.95.217 Waste generated outside the state--Findings. The legislature finds that:

(1) The state of Washington has responded to the increasing challenges of safe, affordable disposal of solid waste by an ambitious program of waste reduction, recycling and reuse, as well as strict standards to ensure the safe handling, transportation, and disposal of solid waste;

(2) All communities in Washington participate in these programs through locally available recycling services, increased source separation and material recovery requirements, programs for waste reduction and product reuse, and performance standards that apply to all solid waste disposal facilities in the state;

(3) New requirements for the siting and performance of disposal facilities have greatly decreased the number of such facilities in Washington, and the state has a significant interest in ensuring adequate disposal capacity within the state;

(4) The landfilling, incineration, and other disposal of solid waste may adversely impact public health and environmental quality, and the state has a significant interest in decreasing volumes of the waste stream destined for disposal;

(5) Because of the decreasing number of disposal facilities and other reasons, solid waste is being transported greater distances, often, beyond the community where generated and is increasingly being transported between states;

(6) Washington's waste management priorities and programs are a balanced approach of increased reuse, recycling and waste reduction, the strengthening of markets for recycled content products, and the safe disposal of the remaining waste stream, with the costs of these programs shared equitably by all persons generating waste in the state;

(7) Those residing in other states who generate waste destined for disposal within Washington should also share the costs of waste diversion and management of Washington's disposal facilities, so that the risks of waste disposal and the costs, of mitigating those risks are shared equitably by all waste generators, regardless of their location;

(8) Because Washington state may not directly regulate waste handling, reduction, and recycling activities beyond its state boundaries, the only reasonable alternative to ensure this equitable treatment of waste being disposed within Washington is to implement a program of reviewing such activities as to waste originating outside of Washington, and to assign the additional costs, when necessary, to ensure that the waste meets standards substantially equivalent to those applicable to waste generated within the state, and, in some cases, to prohibit disposal of waste where its generation and management is not subject to standards substantially equivalent to those applicable to waste generated within the state. [1993 c 286 § 1.]

NOTES:

Severability--1993 c 286: "If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected." [1993 c 286 § 3.]

Effective date--1993 c 286: "This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and shall take effect immediately [May 12, 1993]." [1993 c 286 § 4.]

RCW 70.95.218 Waste generated outside the state--Solid waste disposal site facility reporting requirements--Fees. (1) At least sixty days prior to receiving solid waste generated from outside of the state, the operator of a solid waste disposal site facility shall report to the department the types and quantities of waste to be received from an out-of-state source. The department shall develop guidelines for reporting this information. The guidelines shall provide for less than sixty days notice for shipments of waste made on a short-term or emergency basis. The requirements of this subsection shall take effect upon completion of the guidelines.

(2) Upon notice under subsection (1) of this section, the department shall identify all activities and costs necessary to ensure that solid waste generated out-of-state meets standards relating to solid waste reduction, recycling, and management substantially equivalent to those required of solid waste generated within the state. The department may assess a fee on the out-of-state waste sufficient to recover the actual costs incurred in ensuring that the out-of-state waste meets equivalent state standards. The department may delegate, to a local health department, authority to implement the activities identified by the department under this subsection. All money received from fees imposed under this subsection shall be deposited into the solid waste management account created by RCW 70.95.800, and shall be used solely for the activities required by this section.

(3) The department may prohibit in-state disposal of solid waste generated from outside of the state, unless the generators of the waste meet: (a) Waste reduction and recycling requirements substantially equivalent to those applicable in Washington state; and (b) solid waste handling standards substantially equivalent to those applicable in Washington state.

(4) The department may adopt rules to implement this section. [1993 c 286 § 2.]

NOTES:

Severability--Effective date--1993 c 286: See notes following RCW 70.95.217.

RCW 70.95.220 Financial aid to jurisdictional health departments--Applications--Allocations. Any jurisdictional health department may apply to the department for financial aid for the enforcement of rules and regulations promulgated under this chapter. Such application shall contain such information, including budget and program description, as may be prescribed by regulations of the department.

After receipt of such applications the department may allocate available funds according to criteria established by regulations of the department considering population, urban development, the number of the disposal sites, and geographical area.

The sum allocated to a jurisdictional health department shall be paid to the treasury from which the operating expenses of the health department are paid, and shall be used exclusively for inspections and administrative expenses necessary to enforce applicable regulations. [1969 ex.s. c 134 § 22.]

RCW 70.95.230 Financial aid to jurisdictional health departments--Matching funds requirements. The jurisdictional health department applying for state assistance for the enforcement of this chapter shall match such aid allocated by the department in an amount not less than twenty-five percent of the total amount spent for such enforcement activity during the year. The local share of enforcement costs may be met by cash and contributed services. [1969 ex.s. c 134 § 23.]

RCW 70.95.235 Diversion of recyclable material--Penalty. (1) No person may divert to personal use any recyclable material placed in a container as part of a recycling program, without the consent of the generator of such recyclable material or the solid waste collection company operating under the authority of a town, city, county, or the utilities and transportation commission, and no person may divert to commercial use any recyclable material placed in a container as part of a recycling program, without the consent of the person owning or operating such container.

(2) A violation of subsection (1) of this section is a class 1 civil infraction under chapter 7.80 RCW. Each violation of this section shall be a separate infraction. [1991 c 319 § 407.]

NOTES:

Severability--Part headings not law--1991 c 319: See RCW 70.95F.900 and 70.95F.901.

RCW 70.95.240 Unlawful to dump or deposit solid waste without permit--Penalties. (1) After the adoption of regulations or, ordinances by any county, city, or jurisdictional board of health providing for the issuance of permits as provided in RCW 70.95.160, it shall be unlawful for any person to dump or deposit or permit the dumping or depositing of any solid waste onto or under the surface of the ground or into the waters of this state except at a solid waste disposal site for which there is a valid permit. This section does not:

(a) Prohibit a person from dumping or depositing solid waste resulting from his or her own activities onto or under the surface of ground owned or leased by him or her when such action does not violate statutes or ordinances, or create a nuisance;

(b) Apply to a person using a waste-derived soil amendment that has been approved by the department under RCW 70.95.205; or

(c) Apply to the application of commercial fertilizer that has been registered with the department of agriculture as provided in RCW 15.54.325, and that is applied in accordance with the standards established in RCW 15.54.800(3).

(2)(a) It is a class 3 civil infraction as defined in RCW 7.80.120 for a person, to litter in an amount less than or equal to one cubic foot.

(b) It is a class 1 civil infraction as defined in RCW 7.80.120 for a person to litter in an amount greater than one cubic foot. Unless suspended or modified by a court, the person shall also pay a litter cleanup fee of twenty-five dollars per cubic foot of litter. The court may, in addition to or in lieu of part or all of the cleanup fee, order the person to pick up and remove litter from the property, with prior permission of the legal owner or, in the case of public property, of the agency managing the property. [1998 c 36 § 19; 1997 c 427 § 4; 1993 c 292 § 3; 1969 ex.s. c 134 § 24.]

NOTES:

Intent--1998 c 36: See RCW 15.54.265.

Short title--1998 c 36: See note following RCW 15.54.265.

RCW 70.95.250 Name appearing on waste material--Presumption. Whenever solid wastes dumped in violation of RCW 70.95.240 contain three or more items bearing the name of one individual, there shall be a rebuttable presumption that the individual whose name appears on such items committed the unlawful act of dumping. [1969 ex.s. c 134 §.25.]

RCW 70.95.255 Disposal of sewage sludge or septic tank sludge prohibited--Exemptions--Uses of sludge material permitted. After January 1, 1988, the department of ecology may prohibit disposal of sewage sludge or septic tank sludge (septage) in landfills for final disposal, except on a temporary, emergency basis, if the jurisdictional health department determines that a potentially unhealthful circumstance exists. Beneficial uses of sludge in landfill reclamation is acceptable utilization and not considered disposal.

The department of ecology shall adopt rules that provide exemptions from this section on a case-by-case basis. Exemptions shall be based on the economic infeasibility of using or disposing of the sludge material other than in a landfill.

The department of ecology, in conjunction with the department of health and the department of agriculture, shall adopt rules establishing labeling and notification requirements for sludge material sold commercially or given away to the public. The department shall specify mandatory wording for labels and notification to warn the public against improper use of the material. [1992 c 174 § 15; 1986 c 297 § 1.]

RCW 70.95.260 Duties of department--State solid waste management plan--Assistance--Coordination--Tire recycling. The department shall in addition to its other powers and duties:

(1) Cooperate with the appropriate federal, state, interstate and local units of government and with appropriate private organizations in carrying out the provisions of this chapter.

(2) Coordinate the development of a solid waste management plan for all areas of the state in cooperation with local government, the department of community, trade, and economic

development, and other appropriate state and regional agencies. The plan shall relate to solid waste management for twenty years in the future and shall be reviewed biennially, revised as necessary, and extended so that perpetually the plan shall look to the future for twenty years as a guide in carrying out a state coordinated solid waste management program. The plan shall be developed into a single integrated document and shall be adopted no later than October 1990. "The plan shall be revised regularly after its initial completion so that local governments revising local comprehensive solid waste management plans can take advantage of the data and analysis in the state plan.

(3) Provide technical assistance to any person as well as to cities, counties, and industries.

(4) Initiate, conduct, and support research, demonstration projects, and investigations, and coordinate research programs pertaining to solid waste management systems.

(5) Develop state-wide programs to increase public awareness of and participation in tire recycling, and to stimulate and encourage local private tire recycling centers and public participation in tire recycling.

(6) May, under the provisions of the Administrative Procedure Act, chapter 34.05 RCW, as now or hereafter amended, from time to time promulgate such rules and regulations as are necessary to carry out the purposes of this chapter. [1995 c 399 § 189; 1989 c 431 § 9. Prior: 1985 c 345 § 8; 1985 c 6 § 23; 1969 ex.s. c 134 § 26.]

NOTES:

Study--1989 c 431: "The institute for urban and local studies at Eastern Washington State University shall conduct a study of enforcement of solid waste management laws and regulations as a component of the 1990 state solid waste management plan. This study shall include, but shall not be limited to:

(1) A review of current state and local solid waste rules, requirements, policies, and resources devoted to state and local solid waste enforcement, and of the effectiveness of these programs in promoting environmental health and public safety;

(2) An examination of federal regulations and the latest proposed amendments to the Resource Conservation and Recovery Act, in subtitle D of the code of federal regulations;

(3) A review of regulatory approaches used by other states;

(4) A review and evaluation of educational and technical assistance programs related to enforcement;

(5) An inventory of regulatory compliance for all processing and disposal facilities handling mixed solid waste;

(6) A review of the role and effectiveness of other enforcement jurisdictions;

(7) An evaluation of the need for redefining institutional roles and responsibilities for enforcement of solid waste management laws and regulations in order to establish public confidence in solid waste management systems and ensure public protection; and

(8) An evaluation of possible benefits in separating the solid waste planning and technical assistance responsibilities from the enforcement responsibilities within the department." [1989 c 431 § 96.]

RCW 70.95.263 Additional powers and duties of department. The department shall in addition to its other duties and powers under this chapter:

- (1) Prepare the following:
 - (a) A management system for recycling waste paper generated by state offices and institutions in cooperation with such offices and institutions;
 - (b) An evaluation of existing and potential systems for recovery of energy and materials from solid waste with recommendations to affected governmental agencies as to those systems which would be the most appropriate for implementation;
 - (c) A data management system to evaluate and assist the progress of state and local jurisdictions and private industry in resource recovery;
 - (d) Identification of potential markets, in cooperation with private industry, for recovered resources and the impact of the distribution of such resources on existing markets;
 - (e) Studies on methods of transportation, collection, reduction, separation, and packaging which will encourage more efficient utilization of existing waste recovery facilities;
 - (f) Recommendations on incentives, including state grants, loans, and other assistance, to local governments which will encourage the recovery and recycling of solid wastes.
- (2) Provide technical information and assistance to state and local jurisdictions, the public, and private industry on solid waste recovery and/or recycling.
- (3) Procure and expend funds available from federal agencies and other sources to assist the implementation by local governments of solid waste recovery and/or recycling programs, and projects.
- (4) Conduct necessary research and studies to carry out the purposes of this chapter.
- (5) Encourage and assist local governments and private industry to develop pilot solid waste recovery and/or recycling projects.
- (6) Monitor, assist with research, and collect data for use in assessing feasibility for others to develop solid waste recovery and/or recycling projects. [1998 c 245 § 131; 1975-'76 2nd ex.s. c 41 § 5.]

RCW 70.95.265 Department to cooperate with public and private departments, agencies and associations. The department shall work closely with the department of community, trade, and economic development, the department of general administration, and with other state departments and agencies, the Washington state association of counties, the association of Washington cities, and business associations, to carry out the objectives and purposes of chapter 41, Laws of 1975-'76 2nd ex. sess. [1995 c 399 § 190; 1985 c 466 §,69; 1975-176 2nd ex.s. c 41 § 6.]

NOTES:

Effective date--Severability--1985 c 466: See notes following RCW 43.31.125.

RCW 70.95.267 Department authorized to disburse referendum 26 (chapter 43.83A RCW) fund for local government solid waste projects. The department is authorized to use referendum 26 (chapter 43.83A RCW) funds of the Washington futures account to disburse to local governments in developing solid waste recovery and/or recycling projects. [1975-'76 2nd ex.s. c 41 § 10.]

RCW 70.95.268 Department authorized to disburse funds under chapter 43.99E RCW for local government solid waste projects. The department is authorized to use funds

under chapter 43.99F RCW to disburse to local governments in developing solid waste recovery or recycling projects. Priority shall be given to those projects that use incineration of solid waste to produce energy and to recycling projects. [1984 c 123 § 10.]

RCW 70.95.270 Hazardous substance remedial actions--Procedural requirements not applicable. The procedural requirements of this chapter shall not apply to any person conducting a remedial action at a facility pursuant to a consent decree, order, or agreed order issued pursuant to chapter 70.105D RCW, or to the department of ecology when it conducts a remedial action under chapter 70.105D RCW. The department of ecology shall ensure compliance with the substantive requirements of this chapter through the consent decree, order, or agreed order issued pursuant to chapter 70.105D RCW, or during the department-conducted remedial action, through the procedures developed by the department pursuant to RCW 70.105D.090. [1994 c 257 § 16.]

NOTES:

Severability--1994 c 257: See note following RCW 36.70A.270.

RCW 70.95.280 Determination of best solid waste management practices--Department to develop method to monitor waste stream--Collectors to report quantity and quality of waste--Confidentiality of proprietary information. The department of ecology shall determine the best management practices for categories of solid waste in accordance with the priority solid waste management methods established in RCW 70.95.010. In order to make this determination, the department shall conduct a comprehensive solid waste stream analysis and evaluation. Following establishment of baseline data resulting from an initial in-depth analysis of the waste stream, the department shall develop a less intensive method of monitoring the disposed waste stream including, but not limited to, changes in the amount of waste generated and waste type. The department shall monitor curbside collection programs and other waste segregation and disposal technologies to determine, to the extent possible, the effectiveness of these programs in terms of cost and participation, their applicability to other locations, and their implications regarding rules adopted under this chapter. Persons who collect solid waste shall annually report to the department the types and quantities of solid waste that are collected and where it is delivered. The department shall adopt guidelines for reporting and for keeping proprietary information confidential. [1989 c 431 § 13; 1988 c 184 § 1.]

NOTES:

Recovered materials transportation, utilities and transportation commission to adopt rules for reporting under RCW 70.95.280: RCW 81.80.450.

RCW 70.95.285 Solid waste stream analysis. The comprehensive, state-wide solid waste stream analysis under RCW 70.95.280 shall be based on representative solid waste generation areas and solid waste generation sources within the state. The following information and evaluations shall be included:

- (1) Solid waste generation rates for each category;

- (2) The rate of recycling being achieved within the state for each category of solid waste;
- (3) The current and potential rates of solid waste reduction within the state;
- (4) A technological assessment of current solid waste reduction and recycling methods and systems, including cost/benefit analyses;
- (5) An assessment of the feasibility of segregating solid waste at: (a) The original source, (b) transfer stations, and (c) the point of final disposal;
- (6) A review of methods that will increase the rate of solid waste reduction; and
- (7) An assessment of new and existing technologies that are available for solid waste management including an analysis of the associated environmental risks and costs.

The data required by the analysis under this section shall be kept current and shall be available to local governments and the waste management industry. [1988 c 184 § 2.]

RCW 70.95.290 Solid waste stream evaluation. (1) The evaluation of the solid waste stream required in RCW 70.95.280 shall include the following elements:

- (a) The department shall determine which management method for each category of solid waste will have the least environmental impact; and
 - (b) The department shall evaluate the costs of various management options for each category of solid waste, including a review of market availability, and shall take into consideration the economic impact on affected parties;
 - (c) Based on the results of (a) and (b) of this subsection, the department shall determine the best management for each category of solid waste. Different management methods for the same categories of waste may be developed for different parts of the state.
- (2) The department shall give priority to evaluating categories of solid waste that, in relation to other categories of solid waste, comprise a large volume of the solid waste stream or present a high potential of harm to human health. At a minimum the following categories of waste shall be evaluated:
- (a) By January 1, 1989, yard waste and other biodegradable materials, paper products, disposable diapers, and batteries; and
 - (b) By January 1, 1990, metals, glass, plastics, Styrofoam or rigid lightweight cellular polystyrene, and tires. [1988 c 184 § 3.]

RCW 70.95.295 Analysis and evaluation to be incorporated in state solid waste management plan. The department shall incorporate the information from the analysis and evaluation conducted under RCW 70.95.280 through 70.95.290 to the state solid waste management plan under RCW 70.95.260. The plan shall be revised periodically as the evaluation and analysis is updated. [1988 c 184 § 4.]

RCW 70.95.300 Solid waste--Beneficial uses--Permitting requirement exemptions. (1) The department may by rule exempt a solid waste from the permitting requirements of this chapter for one or more beneficial uses. In adopting such rules, the department shall specify both the solid waste that is exempted from the permitting requirements and the beneficial use or uses for which the solid waste is so exempted. The department shall consider: (a) Whether the material will be beneficially used or reused; and (b) whether the beneficial use or reuse of the material will present threats to human health or the environment.

(2) The department may also exempt a solid waste from the permitting requirements of this chapter for one or more beneficial uses by approving an application for such an exemption. The department shall establish by rule procedures under which a person may apply to the department for such an exemption. The rules shall establish criteria for providing such an exemption, which shall include, but not be limited to: (a) The material will be beneficially used or reused; and (b) the beneficial use or reuse of the material will not present threats to human health or the environment. Rules adopted under this subsection shall identify the information that an application shall contain. Persons seeking such an exemption shall apply to the department under the procedures established by the rules adopted under this subsection.

(3) After receipt of an application filed under rules adopted under subsection (2) of this section, the department shall review the application to determine whether it is complete, and forward a copy of the completed application to all jurisdictional health departments for review and comment. Within forty-five days, the jurisdictional health departments shall forward to the department their comments and any other information they deem relevant to the department's decision to approve or disapprove the application. Every complete application shall be approved or disapproved by the department within ninety days of receipt. If the application is approved by the department, the solid waste is exempt from the permitting requirements of this chapter when used anywhere in the state in the manner approved by the department. If the composition, use, or reuse of the solid waste is not consistent with the terms and conditions of the department's approval of the application, the use of the solid waste remains subject to the permitting requirements of this chapter.

(4) The department shall establish procedures by rule for providing to the public and the solid waste industry notice of and an opportunity to comment on each application for an exemption under subsection (2) of this section.

(5) Any jurisdictional health department or applicant may appeal the decision of the department to approve or disapprove an application under subsection (3) of this section. The appeal shall be made to the pollution control hearings board by filing with the hearings board a notice of appeal within thirty days of the decision of the department. The hearings board's review of the decision shall be made in accordance with chapter 43.21E RCW and any subsequent appeal of a decision of the board shall be made in accordance with RCW 43.21B.180.

(6) This section shall not be deemed to invalidate the exemptions or determinations of nonapplicability in the department's solid waste rules as they exist on June 11, 1998, which exemptions and determinations are recognized and confirmed subject to the department's continuing authority to modify or revoke those exemptions or determinations by rule. [1998 c 156 § 2.]

RCW 70.95.305 Solid waste handling permit--Exemption from requirements--Application of section--Rules. (1) Notwithstanding any other provision of this chapter, the department may by rule exempt from the requirements to obtain a solid waste handling permit any category of solid waste handling facility that it determines to:

(a) Present little or no environmental risk; and
(b) Meet the environmental protection and performance requirements required for other similar solid waste facilities.

(2) This section does not apply to any facility or category of facilities that:

- (a) Receives municipal solid waste destined for final disposal, including but not limited to transfer stations, landfills, and incinerators;
 - (b) Applies putrescible solid waste on land for final disposal purposes;
 - (c) Handles mixed solid wastes that have not been processed to segregate solid waste materials destined for disposal from other solid waste materials destined for a beneficial use;
 - (d) Receives or processes organic waste materials into compost in volumes that generally far exceed those handled by municipal park departments, master gardening programs, and households; or
 - (e) Receives solid waste destined for recycling or reuse, the operation of which is determined by the department to present risks to human health and the environment.
- (3) Rules adopted under this section shall contain such terms and conditions as the department deems necessary to ensure compliance with applicable statutes and rules. If a facility does not operate in compliance with the terms and conditions established for an exemption under subsection (1) of this section, the facility is subject to the permitting requirements for solid waste handling under this chapter.
- (4) This section shall not be deemed to invalidate the exemptions or determinations of nonapplicability in the department's solid waste rules as they exist on June 11, 1998, which exemptions and determinations are recognized and confirmed subject to the department's continuing authority to modify or revoke those exemptions or determinations by rule. [1998 c 156 § 5.]

RCW 70.95.310 Rules--Department "deferring" to other permits--Application of section. (1) Notwithstanding any other provisions of this chapter, the department shall adopt rules:

- (a) Describing when a jurisdictional health department may, at its discretion, waive the requirement that a permit be issued for a facility under this chapter if other air, water, or environmental permits are issued for the same facility. As used in this section, a jurisdictional health department's waiving the requirement that a permit be issued for a facility under this chapter based on the issuance of such other permits for the facility is the health department's "deferring" to the other permits; and
 - (b) Allowing deferral only if the applicant and the jurisdictional health department demonstrate that other permits for the facility will provide a comparable level of protection for human health and the environment that would be provided by a solid waste handling permit.
- (2) This section does not apply to any transfer station, landfill, or incinerator that receives municipal solid waste destined for final disposal.
- (3) If, before June 11, 1998, either the department or a jurisdictional health department has deferred solid waste permitting or regulation of a solid waste facility to permitting or regulation under other environmental permits for the same facility, such deferral is valid and shall not be affected by the rules developed under subsection (1) of this section.
- (4) Rules adopted under this section shall contain such terms and conditions as the department deems necessary to ensure compliance with applicable statutes and rules. [1998 c 156 § 6.]

RCW 70.95.315 Penalty. The department may assess a civil penalty in an amount not to exceed one thousand dollars per day per violation to any person exempt from solid waste permitting in accordance with RCW 70.95.300 or 70.95.305 who fails to comply with the terms

and conditions of the exemption. Each such violation shall be a separate and distinct offense, and in the case of a continuing violation, each day's continuance shall be a separate and distinct violation. [1998 c 156 § 7.]

RCW 70.95.320 Construction. Nothing in chapter 156, Laws of 1998 may be construed to affect chapter 81.77 RCW and the authority of the utilities and transportation commission. [1998 c 156 § 9.]

RCW 70.95.500 Disposal of vehicle tires outside designated area prohibited--Penalty--Exemption. (1) No person may drop, deposit, discard, or otherwise dispose of vehicle tires on any public property or private property in this state or in the waters of this state whether from a vehicle or otherwise, including, but not limited to, any public highway, public park, beach, campground, forest land, recreational area, trailer park, highway, road, street, or alley unless:

(a) The property is designated by the state, or by any of its agencies or political subdivisions, for the disposal of discarded vehicle tires; and

(b) The person is authorized to use the property for such purpose.

(2) A violation of this section is punishable by a civil penalty, which shall not be less than two hundred dollars nor more than two thousand dollars for each offense.

(3) This section does not apply to the storage or deposit of vehicle tires in quantities deemed exempt under rules adopted by the department of ecology under its functional standards for solid waste. [1985 c 345 § 4.]

RCW 70.95.510 Fee on the retail sale of new replacement vehicle tires. There is levied a one dollar per tire fee on the retail sale of new replacement vehicle tires for a period of five years, beginning October 1, 1989. The fee imposed in this section shall be paid by the buyer to the seller, and each seller shall collect from the buyer the full amount of the fee. The fee collected from the buyer by the seller less the ten percent amount retained by the seller as provided in RCW 70.95.535 shall be paid to the department of revenue in accordance with RCW 82.32.045. All other applicable provisions of chapter 82.32 RCW have full force and application with respect to the fee imposed under this section. The department of revenue shall administer this section.

For the purposes of this section, "new replacement vehicle tires" means tires that are newly manufactured for vehicle purposes and does not include retreaded vehicle tires. [1989 c 431 § 92; 1985 c 345 § 5.]

RCW 70.95.520 Vehicle tire recycling account--Deposit of funds. There is created an account within the state treasury to be known as the vehicle tire recycling account. All assessments and other funds collected or received under this chapter shall be deposited in the vehicle tire recycling account and used by the department of ecology for administration and implementation of this chapter. After October 1, 1989, the department of revenue shall deduct two percent from funds collected pursuant to RCW 70.95.510 for the purpose of administering and collecting the fee from new replacement vehicle tire retailers.

During the 1995-97 biennium, funds in the account may be appropriated to support recycling market development activities by state agencies. [1996 c 283 § 902; 1989 c 431 § 94; 1985 c 345 § 6.]

NOTES:

Severability--Effective date--1996 c 283: See notes following RCW 43.08.250.

RCW 70.95.530 Vehicle tire recycling account--Use. Moneys in the account may be appropriated to the department of ecology:

(1) To provide for funding to state and local governments for the removal of discarded vehicle tires from unauthorized tire dump sites;

(2) To accomplish the other purposes of *RCW 70.95.020 (5); and

(3) To fund the study authorized in section 2, chapter 250, Laws of 1988.

In spending funds in the account under this section, the department of ecology shall identify communities with the most severe problems with waste tires and provide funds first to those communities to remove accumulations of waste tires. [1988 c 250 § 1; 1985 c 345 § 7.]

NOTES:

***Reviser's note:** RCW 70.95.020 was amended by 1998 c 90 § 1, changing subsection (5) to subsection (6).

RCW 70.95.535 Disposition of fee. (1) Every person engaged in making retail sales of new replacement vehicle tires in this state shall retain ten percent of the collected one dollar fee. The moneys retained may be used for costs associated with the proper management of the waste vehicle tires by the retailer.

(2) The department of ecology will administer the funds for the purposes specified in *RCW 70.95.020(5) including, but not limited to:

(a) Making grants to local governments for pilot demonstration projects for on-site shredding and recycling of tires from unauthorized dump sites;

(b) Grants to local government for enforcement programs;

(c) Implementation of a public information and education program to include posters, signs, and informational materials to be distributed to retail tire sales and tire service outlets;

(d) Product marketing studies for recycled tires and alternatives to land disposal. [1989 c 431 § 93.]

NOTES:

***Reviser's note:** RCW 70.95.020 was amended by 1998.c 90 § 1, changing subsection (5) to subsection (6).

RCW 70.95.540 Cooperation with department to aid tire recycling. To aid in the state-wide tire recycling campaign, the legislature strongly encourages various industry organizations which are active in resource recycling efforts to provide active cooperation with the department of ecology so that additional technology can be developed for the tire recycling campaign. [1985 c 345 § 9.]

RCW 70.95.550 Waste tires--Definitions. Unless the context clearly requires otherwise, the definitions in this section apply throughout RCW 70.95.555 through 70.95.565.

(1) "Storage" or "storing" means the placing of more than eight hundred waste tires in a manner that does not constitute final disposal of the waste tires.

(2) "Transportation" or "transporting" means picking up or transporting waste tires for the purpose of storage or final disposal.

(3) "Waste tires" means tires that are no longer suitable for their original intended purpose because of wear, damage, or defect. [1988 c 250 § 3.]

RCW 70.95.555 Waste tires--License for transport or storage business--Requirements. Any person engaged in the business of transporting or storing waste tires shall be licensed by the department. To obtain a license, each applicant must:

(1) Provide assurances that the applicant is in compliance with this chapter and the rules regarding waste tire storage and transportation; and

(2) Post a bond in the sum of ten thousand dollars in favor of the state of Washington. In lieu of the bond, the applicant may submit financial assurances acceptable to the department. [1988 c 250 § 4.]

RCW 70.95.560 Waste tires--Violation of RCW 70.95.555--Penalty. Any person who transports or stores waste tires without a license in violation of RCW 70.95.555 shall be guilty of a gross misdemeanor and upon conviction shall be punished under RCW 9A.20.021(2). [1989 c 431 § 95; 1988 c 250 § 5.]

RCW 70.95.565 Waste tires--Contracts with unlicensed persons prohibited. No business may enter into a contract for:

(1) Transportation of waste tires with an unlicensed waste tire transporter; or

(2) Waste tire storage with an unlicensed owner or operator of a waste tire storage site.

[1988 c 250 § 6.]

RCW 70.95.600 Educational material promoting household waste reduction and recycling. The department of ecology, at the request of a local government jurisdiction, may periodically provide educational material promoting household waste reduction and recycling to public and private refuse haulers. The educational material shall be distributed to households receiving refuse collection service by local governments or the refuse hauler providing service. The refuse hauler may distribute the educational material by any means that assures timely delivery.

Reasonable expenses incurred in the distribution of this material shall be considered, for rate-making purposes, as legitimate operating expenses of garbage and refuse haulers regulated under chapter 81.77 RCW. [1988 c 175 § 3.]

NOTES:

Effective date--1988 c 175: See note following RCW 43.19.538.

RCW 70.95.610 Battery disposal--Restrictions--Violators subject to fine--"Vehicle battery" defined. (1) No person may knowingly dispose of a vehicle battery except by delivery

to: A person or entity selling lead acid batteries, a person or entity authorized by the department to accept the battery, or to a secondary lead smelter.

(2) No owner or operator of a solid waste disposal site shall knowingly accept for disposal used vehicle batteries except when authorized to do so by the department or by the federal government.

(3) Any person who violates this section shall be subject to a fine of up to one thousand dollars. Each battery will constitute a separate violation. Nothing in this section and RCW 70.95.620 through 70.95.660 shall supersede the provisions under chapter 70.105 RCW.

(4) For purposes of this section and RCW 70.95.620 through 70.95.660, "vehicle battery" means batteries capable for use in any vehicle, having a core consisting of elemental lead, and a capacity of six or more volts. [1989 c 431 § 37.]

RCW 70.95.620 Identification procedure for persons accepting used vehicle batteries. The department shall establish a procedure to identify, on an annual basis, those persons accepting used vehicle batteries from retail establishments. [1989 c 431 § 38.]

RCW 70.95.630 Requirements for accepting used batteries by retailers of vehicle batteries--Notice. A person selling vehicle batteries at retail in the state shall:

(1) Accept, at the time of purchase of a replacement battery, in the place where the new batteries are physically transferred to the purchasers, and in a quantity at least equal to the number of new batteries purchased, used vehicle batteries from the purchasers, if offered by the purchasers. When a purchaser fails to provide an equivalent used battery or batteries, the purchaser may reclaim the core charge paid under RCW 70.95.640 by returning, to the point of purchase within thirty days, a used battery or batteries and a receipt showing proof of purchase from the establishment where the replacement battery or batteries were purchased; and

(2) Post written notice which must be at least eight and one-half inches by eleven inches in size and must contain the universal recycling symbol and the following language:

(a) "It is illegal to put a motor vehicle battery or other vehicle battery in your garbage."

(b) "State law requires us to, accept used motor vehicle batteries or other vehicle batteries for recycling, in exchange for new batteries purchased."

(c) "When you buy a battery, state law also requires us to include a core charge of five dollars or more if you do not return your old battery for exchange." [1989 c 431 § 39.]

RCW 70.95.640 Retail core charge. Each retail sale of a vehicle battery shall include, in the price of the battery for sale, a core charge of not less than five dollars. When a purchaser offers the seller a used battery of equivalent size, the seller shall omit the core charge from the price of the battery. [1989 c 431 § 40.]

RCW 70.95.650 Vehicle battery wholesalers--Obligations regarding used batteries--Noncompliance procedure. (1) A person selling vehicle batteries at wholesale to a retail establishment in this state shall accept, at the time and place of transfer, used vehicle batteries in a quantity at least equal to the number of new batteries purchased, if offered by the purchaser.

(2) When a battery wholesaler, or agent of the wholesaler, fails to accept used vehicle batteries as provided in this section, a retailer may file a complaint with the department and the department shall investigate any such complaint.

(3)(a) The department shall issue an order, suspending any of the provisions of RCW 70.95.630 through 70.95.660 whenever it finds that the market price of lead has fallen to the extent that new battery wholesalers estimated state-wide average cost of transporting used batteries to a smelter or other person or entity in the business of purchasing used batteries is clearly greater than the market price paid for used lead batteries by such smelter or person or entity.

(b) The order of suspension shall only apply to batteries that are sold at retail during the period in which the suspension order is effective.

(c) The department shall limit its suspension order to a definite period not exceeding six months, but shall revoke the order prior to its expiration date should it find that the reasons for its issuance are no longer valid. [1989 c 431 § 41.]

RCW 70.95.660 Department to distribute printed notice--Issuance of warnings and citations--Fines. The department shall produce, print, and distribute the notices required by RCW 70.95.630 to all places where vehicle batteries are offered for sale at retail and in performing its duties under this section the department may inspect any place, building, or premise governed by RCW 70.95.640. Authorized employees of the agency may issue warnings and citations to persons who fail to comply with the requirements of RCW 70.95.610 through 70.95.670. Failure to conform to the notice requirements of RCW 70.95.630 shall subject the violator to a fine imposed by the department not to exceed one thousand dollars. However, no such fine shall be imposed unless the department has issued a warning of infraction for the first offense. Each day that a violator does not comply with the requirements of chapter 431, Laws of 1989 following the issuance of an initial warning of infraction shall constitute a separate offense. [1989 c 431 § 42.]

RCW 70.95.670 Rules. The department shall adopt rules providing for the implementation and enforcement of RCW 70.95.610 through 70.95.660. [1989 c 431 § 43.]

RCW 70.95.700 Solid waste incineration or energy recovery facility--Environmental impact statement requirements. No solid waste incineration or energy recovery facility shall be operated prior to the completion of an environmental impact statement containing the considerations required under RCW 43.21C.030(2)(c) and prepared pursuant to the procedures of chapter 43.21C RCW. This section does not apply to a facility operated prior to January 1, 1989, as a solid waste incineration facility or energy recovery facility burning solid waste. [1989 c 431 § 55.]

RCW 70.95.710 Incineration of medical waste. Incineration of medical waste shall be conducted under sufficient burning conditions to reduce all combustible material to a form such that no portion of the combustible material is visible in its uncombusted state. [1989 c 431 § 77.]

RCW 70.95.715 Sharps waste--Drop-off sites--Pharmacy return program. (1) A solid waste planning jurisdiction may designate sharps waste container drop-off sites.

(2) A pharmacy return program shall not be considered a solid waste handling facility and shall not be required to obtain a solid waste permit. A pharmacy return program is required to register, at no cost, with the department. To facilitate designation of sharps waste drop-off

sites, the department shall share the name and location of registered pharmacy return programs with jurisdictional health departments and local solid waste management officials.

(3) A public or private provider of solid waste collection service may provide a program to collect source separated residential sharps waste containers as provided in chapter 70.95K RCW.

(4) For the purpose of this section, "sharps waste," "sharps waste container," and "pharmacy return program" shall have the same meanings as provided in RCW 70.95K.010. [1994 c 165 § 5.]

NOTES:

Findings—Purposes--Intent--1994 c 165: See note following RCW 70.95K.010.

RCW 70.95.720 Closure of energy recovery and incineration facilities--Recordkeeping requirements. The department shall require energy recovery and incineration facilities to retain records of monitoring and operation data for a minimum of ten years after permanent closure of the facility. [1990 c 114 § 4.]

NOTES:

Severability--1990 c 114: See RCW 70.95E.900.

RCW 70.95.800 Solid waste management account--Expenditures. The solid waste management account is created in the state treasury. Moneys in the account may only be spent after appropriation. Expenditures from the account may only be used to:

- (1) Review and approve local solid waste management plans;
- (2) Provide grants to local governments for the purpose of developing and implementing the waste reduction and recycling element of local solid waste management plans;
- (3) Provide grants to local governments to enhance markets for recycled content products and to develop programs for procurement of recycled content products;
- (4) Provide grants to local governments for the proper disposal of household used oil collected at a used oil collection facility and contaminated without knowledge of the operator of the facility;
- (5) Provide technical assistance to local governments in developing and implementing local solid waste management plans and programs;
- (6) Evaluate and assess progress of state and local jurisdictions and private industry toward achieving the goals of this chapter;
- (7) Conduct necessary research and studies to assess the feasibility of new technologies or other solid waste management activities to carry out the purposes of this chapter; and
- (8) Administer and collect the tax imposed in *RCW 82.18.100. [1993 c 130 § 2; 1991 sp.s. c 13 § 73; 1989 c 431 § 90.]

NOTES:

***Reviser's note:** RCW 82.18.100 expired July 1, 1995.

Effective date--1993 c 130: "This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and shall take effect July 1, 1993." [1993 c 130 § 3.]

Effective dates--Severability--1991 sp.s. c 13: See notes following RCW 18.08.240.

RCW 70.95.810 Composting food and yard wastes--Grants and study. (1) In order to establish the feasibility of composting food and yard wastes, the department shall provide funds, as available, to local governments submitting a proposal to compost such wastes.

(2) The department, in cooperation with the department of community, trade, and economic development, may approve an application if the project can demonstrate the essential parameters for successful composting, including, but not limited to, cost-effectiveness, handling and safety requirements, and current and potential markets. [1998 c 245 § 132; 1995 c 399 § 191; 1989 c 431 § .97.]

RCW 70.95.900 Authority and responsibility of utilities and transportation commission not changed. Nothing in this act shall be deemed to change the authority or responsibility of the Washington utilities and transportation commission to regulate all intrastate carriers. [1969 ex.s. c 134 § 27.]

RCW 70.95.901 Severability--1989 c 431. If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected. [1989 c 431 § 107.]

RCW 70.95.902 Section captions not law--1989 c 431. Captions and headings used in this act do not constitute any part of the law. [1989 c 431 § 108.]

RCW 70.95.903 Application of chapter--Collection and transportation of recyclable materials by recycling companies or nonprofit entities--Reuse or reclamation. Nothing in this chapter shall prevent a recycling company or nonprofit entity from collecting and transporting recyclable materials from a buy-back center, drop-box, or from a commercial or industrial generator of recyclable materials, or upon agreement with a solid waste collection company.

Nothing in this chapter shall be construed as prohibiting a commercial or industrial generator of commercial recyclable materials from selling, conveying, or arranging for transportation of such material to a recycler for reuse or reclamation. [1989 c 431 § 32.]

RCW 70.95.910 Severability--1969 ex.s. c 134. If any provision of this act, or its application to any person or circumstance is held invalid, the remainder of the act, or the application of the provisions to other persons or circumstances is not affected. [1969 ex.s. c 134 § 28.]

RCW 70.95.911 Severability--1975-'76 2nd ex.s. c 41. If any provision of this 1976 amendatory act, or its application to any person or circumstance is held invalid, the remainder of the act, or the application of the provision to other persons or circumstances is not affected. [1975-'76 2nd ex.s. c 41 § 11.]

Appendix E
Chapter 173-304 WAC
Minimum Functional Standards for Solid Waste
Handling

Chapter 173-304

MINIMUM FUNCTIONAL STANDARDS FOR SOLID WASTE HANDLING

| | |
|--------------|-----------------------------------------------------------------------------------------|
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WAC 173-304-010 Authority and purpose. This regulation is promulgated under the authority of chapter 70.95 RCW to protect public health, to prevent land, air, and water pollution, and conserve the state's natural, economic, and energy resources by:

(1) Setting minimum functional performance standards for the proper handling of all solid waste materials originating from residences, commercial, agricultural and industrial operations and other sources;

(2) Identifying those functions necessary to assure effective solid waste handling programs at both the state and local level;

- (3) Following the direction set by the legislature for the management of solid waste in order of descending priority as applicable:
- (a) Waste reduction;
 - (b) Waste recycling;
 - (c) Energy recovery or incineration;
 - (d) Landfill.
- (4) Describing the responsibility of persons, municipalities, regional agencies, state and local government under existing laws and regulations related to solid waste;
- (5) Requiring use of the best available technology for siting, and all known available and reasonable methods for designing, constructing, operating and closing solid waste handling facilities; and
- (6) Establishing these standards as minimum standards for solid waste handling to provide a statewide consistency and expectation as to the level at which solid waste is managed throughout the state. Local ordinances setting standards for solid waste handling shall not be less stringent than these minimum standards, and shall be adopted not later than one year after the effective date of this regulation. Local ordinances need not adopt WAC 173-304-011, County planning requirements, but shall otherwise comply with the requirements of WAC 173-304-011. Solid waste regulations or ordinances adopted by counties, cities, or jurisdictional boards of health shall be filed with the department ninety days following adoption.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-010, filed 10/28/85.]

WAC 173-304-011 County planning requirements. The concept of "solid waste management" includes in addition to proper storage, collection, and disposal of discards, other management functions or operational activities including waste reduction, source separation, waste recycling, transportation, processing, treatment, resource recovery, energy recovery, incineration, and landfilling. Under the State Solid Waste Management Act, chapter 70.95 RCW, primary responsibility for managing solid waste is assigned to local government (RCW 70.95.020). The state, however, is responsible for assuring that effective local programs are established throughout Washington state. Therefore, state and local solid waste planning for the aforementioned activities is an essential part of proper solid waste management.

(1) State responsibility. As described in RCW 70.95.260, the department shall coordinate the development of a state solid waste management plan in cooperation with local government, the department of community development, and other appropriate state and regional agencies. The state plan shall be reviewed at two-year intervals, revised as necessary, and extended so that the plan shall look to the future for twenty years as a guide in carrying out a coordinated state solid waste management program.

(2) Local government responsibility. The overall purpose of local comprehensive solid waste planning is to determine the nature and extent of the various solid waste categories and to establish management concepts for their handling, utilization, and disposal consistent with the priorities established in RCW 70.95.010 for waste reduction, waste recycling, energy recovery and incineration, and landfill. Each local plan shall be prepared in accordance with RCW 70.95.080, 70.95.090, 70.95.100, and 70.95.110. Additionally, the department has available "Guidelines for the development of local or regional solid waste management plans and plan

revisions" to be followed by local government. RCW 70.95.165 also requires counties to establish a local solid waste advisory committee to assist in the development of programs and policies concerning solid waste handling and disposal and to review and comment upon proposed rules, policies, or ordinances prior to their adoption.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-011, filed 10/28/85.]

WAC 173-304-012 Planning requirements for energy recovery or incineration facilities. In order to implement the priorities and provide a basis for permit requirements established in chapter 70.95 RCW, each comprehensive solid waste management plan shall contain an analysis for waste reduction and recycling. The analysis will include a determination of levels of waste reduction and recycling which could occur for solid wastes that are proposed to be landfilled or incinerated. The analysis shall include: A description of markets for recycled material, a review of waste generation trends, a description of waste composition, a cost analysis of the impact of recycling or reduction programs on collection and disposal rates and a discussion and description of any additional programs needed to assist public and private sector recycling programs.

[Statutory Authority: Chapter 70.95 RCW. 87-15-049 (Order 87-3), § 173-304-012, filed 7/14/87.]

WAC 173-304-015 Applicability. These regulations apply to solid wastes as that term is defined in WAC 173-304-100. These regulations shall not apply to the following solid wastes:

- (1) Overburden from mining operations intended for return to the mine;
- (2) Liquid wastes whose discharge or potential discharge is regulated under federal, state or local water pollution permits;
- (3) Dangerous wastes as defined by chapter 70.105 RCW and chapter 173-303 WAC;
- (4) Woodwaste used for ornamental, animal bedding, mulch and plant bedding, or roadbuilding purposes;
- (5) Agricultural wastes, limited to manures and crop residues, returned to the soils at agronomic rates;
- (6) Clean soils and clean dredge spoils as defined in WAC 173-304-100 or as otherwise regulated by section 404 of the Federal Clean Water Act (PL 95-217);
- (7) Septage taken to a sewage treatment plant permitted under chapter 90.48 RCW;
- (8) Radioactive wastes, defined by chapters 402-12 and 402-19 WAC; and
- (9) Wood debris resulting from the harvesting of timber and whose disposal is permitted under chapter 76.04 RCW, the State Forest Practices Act.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-015, filed 10/28/85.]

WAC 173-304-100 Definitions. When used in this regulation, the following terms have the meanings given below.

(1) "Active area" means that portion of a facility where solid waste recycling, reuse, treatment, storage, or disposal operations are being, are proposed to be, or have been conducted. Buffer zones shall not be considered part of the active area of a facility.

(2) "Agricultural wastes" means wastes on farms resulting from the production of agricultural products including but not limited to manures, and carcasses of dead animals weighing each or collectively in excess of fifteen pounds.

(3) "Agronomic rates" means the rates of application of sludges, manures, or crop residues in accordance with rates specified by the appropriate fertilizer guide for the crop under cultivation.

(4) "Air quality standard" means a standard set for maximum allowable contamination in ambient air as set forth in chapter 173-400 WAC, General regulations for air pollution sources.

(5) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

(6) "Ashes" means the residue including any air pollution flue dusts from combustion or incineration of material including solid wastes.

(7) "Balefill" means a landfill which uses compacted bales of solid waste to form discrete lifts as the landfill is filled.

(8) "Buffer zone" means that part of a facility that lies between the active area and the property boundary.

(9) "Bulky waste" means large items of refuse, such as appliances, furniture, and other oversize wastes which would typically not fit into reusable or disposable containers.

(10) "Clean soils and clean dredge spoils" means soils and dredge spoils which are not dangerous wastes or problem wastes as defined in this section.

(11) "Closure" means those actions taken by the owner or operator of a solid waste site or facility to cease disposal operations and to ensure that all such facilities are closed in conformance with applicable regulations at the time of such closures and to prepare the site for the post-closure period.

(12) "Collecting agency" means any agency, business or service operated by a person for the collecting of solid waste.

(13) "Compliance schedule" means a written schedule of required measures in a permit including an enforceable sequence leading to compliance with these regulations.

(14) "Composting" means the controlled degradation of organic solid waste yielding a product for use as a soil conditioner.

(15) "Container" means a device used for the collection, storage, and/or transportation of solid waste including but not limited to reusable containers, disposable containers, detachable containers and tanks, fixed or detachable.

(16) "Contaminate" means to allow to discharge a substance into ground water that would cause:

(a) The concentration of that substance in the ground water to exceed the maximum contamination level specified in WAC 173-304-9901, or

(b) A statistically significant increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminant level specified in WAC 173-304-9901, or

(c) A statistically significant increase above background in the concentration of a substance which:

(i) Is not specified in WAC 173-304-9901, and

(ii) Is present in the solid waste, and

(iii) Has been determined to present a substantial risk to human health or the environment in the concentrations found at the point of compliance by the jurisdictional health department in consultation with the department and the department of social and health services.

(17) "Cover material" means soil or other suitable material that has been approved by the jurisdictional health department as cover for wastes.

(18) "Dangerous wastes" means any solid waste designated as dangerous waste by the department under chapter 173-303 WAC.

(19) "Demolition waste" means solid waste, largely inert waste, resulting from the demolition or razing of buildings, roads and other man-made structures. Demolition waste consists of, but is not limited to, concrete, brick, bituminous concrete, wood and masonry, composition roofing and roofing paper, steel, and minor amounts of other metals like copper. Plaster (i.e., sheet rock or plaster board) or any other material, other than wood, that is likely to produce gases or a leachate during the decomposition process and asbestos wastes are not considered to be demolition waste for the purposes of this regulation.

(20) "Department" means the department of ecology.

(21) "Detachable containers" means reusable containers that are mechanically loaded or handled such as a "dumpster" or drop box.

(22) "Disposable containers" means containers that are used once to handle solid waste such as plastic bags, cardboard boxes and paper bags.

(23) "Disposal" or "deposition" means the discharge, deposit, injection, dumping, leaking, or placing of any solid waste into or on any land or water.

(24) "Disposal site" means the location where any final treatment, utilization, processing, or deposition of solid waste occurs. See also the definition of interim solid waste handling site.

(25) "Drop box facility" means a facility used for the placement of a detachable container including the area adjacent for necessary entrance and exit roads, unloading and turn-around areas. Drop box facilities normally serve the general public with loose loads and receive waste from off-site.

(26) "Energy recovery" means the recovery of energy in a useable form from mass burning or refuse derived fuel incineration, pyrolysis or any other means of using the heat of combustion of solid waste that involves high temperature (above twelve hundred degrees Fahrenheit) processing.

(27) "Existing facility" means a facility which is owned or leased, and in operation, or for which construction has begun, on or before the effective date of this regulation and the owner or operator has obtained permits or approvals necessary under federal, state and local statutes, regulations and ordinances. A facility has commenced construction if either:

(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 financial loss for physical construction of the facility to be completed within a reasonable time.

Lateral extensions of a landfill's active area on land purchased and permitted by the jurisdictional health department for the purpose of landfilling before the effective date of this regulation shall be considered existing facilities.

(28) "Expanded facility" means a facility adjacent to an existing facility for which the land is purchased and approved by the jurisdictional health department after the effective date of this regulation. A vertical expansion approved and permitted by the jurisdictional health department after the effective date of this regulation shall also be considered an expanded facility.

(29) "Facility" means all contiguous land (including buffer zones) and structures, other appurtenances, and improvements on the land used for solid waste handling.

(30) "Facility structures" means buildings, sheds, utility lines, and drainage pipes on the facility.

(31) "Final treatment" means the act of processing or preparing solid waste for disposal, utilization, reclamation, or other approved method of use.

(32) "Free liquids" means any sludge which produces measurable liquids when the Paint Filter Liquids Test, Method 9095 of EPA Publication Number SW-846, is used.

(33) "One hundred year floodplain" means any land area which is subject to one percent or greater chance of flooding in any given year from any source.

(34) "Garbage" means unwanted animal and vegetable wastes and animal and vegetable wastes resulting from the handling, preparation, cooking and consumption of food, swill and carcasses of dead animals, and of such a character and proportion as to be capable of attracting or providing food for vectors, except sewage and sewage sludge.

(35) "Ground water" means that part of the subsurface water which is in the zone of saturation.

(36) "Holocene fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side and that has occurred in the most recent epoch of the quaternary period extending from the end of the pleistocene to the present.

(37) "Incineration" means reducing the volume of solid wastes by use of an enclosed device using controlled flame combustion.

(38) "Interim solid waste handling site" means any interim treatment, utilization or processing site engaged in solid waste handling which is not the final site of disposal. Transfer stations, drop boxes, baling and compaction sites, source separation centers, and treatment are considered interim solid waste handling sites.

(39) "Industrial solid wastes" means waste by-products from manufacturing operations such as scraps, trimmings, packing, and other discarded materials not otherwise designated as dangerous waste under chapter 173-303 WAC.

(40) "Inert wastes" means noncombustible, nondangerous solid wastes that are likely to retain their physical and chemical structure under expected conditions of disposal, including resistance to biological attack and chemical attack from acidic rainwater.

(41) "Jurisdictional health department" means city, county, city-county or district public health department.

(42) "Landfill" means a disposal facility or part of a facility at which solid waste is permanently placed in or on land and which is not a landspreading disposal facility.

(43) "Landspreading disposal facility" means a facility that applies sludges or other solid wastes onto or incorporates solid waste into the soil surface at greater than vegetative utilization and soil conditioners/immobilization rates.

(44) "Leachate" means water or other liquid that has been contaminated by dissolved or suspended materials due to contact with solid waste or gases therefrom.

(45) "Local fire control agency" means a public or private agency or corporation providing fire protection such as a local fire department, the department of natural resources or the United States Forest Service.

(46) "Lower explosive limits" means the lowest percentage by volume of a mixture of explosive gases which will propagate a flame in air at twenty-five degrees centigrade and atmospheric pressure.

(47) "Medical waste" means all the infectious, and injurious waste originating from a medical, veterinary, or intermediate care facility.

(48) "New facility" means a facility which begins operation or construction after the effective date of this regulation (see also definition of "existing facility").

(49) "Nonconforming site" means a solid waste handling facility which does not currently comply with the facility requirements of WAC 173-304-400 but does comply with a compliance schedule issued in a solid waste permit by the jurisdictional health department.

(50) "Nuisance" consists in unlawfully doing an act, or omitting to perform a duty, which act or omission either annoys, injures, or endangers the comfort, repose, health or safety of others, offends decency, or unlawfully interferes with, obstructs or tends to obstruct, any lake or navigable river, bay, stream, canal, or basin, or any public park, square, street or highway; or in any way renders other persons insecure in life, or in the use of property.

(51) "Open burning" means the burning of solid waste materials in an open fire or an outdoor container without providing for the control of combustion or the control of emissions from the combustion.

(52) "Performance standard" means the criteria for the performance of solid waste handling facilities.

(53) "Permeability" means the ease with which a porous material allows liquid or gaseous fluids to flow through it. For water, this is usually expressed in units of centimeters per second and termed hydraulic conductivity. Soils and synthetic liners with a permeability for water of 1×10^{-7} cm/sec or less may be considered impermeable.

(54) "Permit" means an authorization issued by the jurisdictional health department which allows a person to perform solid waste activities at a specific location and which includes specific conditions for such facility operations.

(55) "Person" means an individual, firm, association, copartnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever.

(56) "Pile" means any noncontainerized accumulation of solid waste that is used for treatment or storage.

(57) "Plan of operation" means the written plan developed by an owner or operator of a facility detailing how a facility is to be operated during its active life and during closure and post-closure.

(58) "Point of compliance" means that part of ground water that lies beneath the perimeter of a solid waste facilities' active area as that active area would exist at closure of the facility.

(59) "Post-closure" means the requirements placed upon disposal sites after closure to ensure their environmental safety for at least a twenty-year period or until the site becomes stabilized (i.e., little or no settlement, gas production, or leachate generation).

(60) "Premises" means a tract or parcel of land with or without habitable buildings.

(61) "Problem wastes" means: (a) Soils removed during the cleanup of a remedial action site, or a dangerous waste site closure or other cleanup efforts and actions and which contain harmful substances but are not designated dangerous wastes, or (b) dredge spoils resulting from the dredging of surface waters of the state where contaminants are present in the dredge spoils at concentrations not suitable for open water disposal and the dredge spoils are not dangerous wastes and are not regulated by section 404 of the Federal Clean Water Act (PL 95-217).

(62) "Processing" means an operation to convert a solid waste into a useful product or to prepare it for disposal.

(63) "Putrescible waste" means solid waste which contains material capable of being decomposed by micro-organisms.

(64) "Pyrolysis" means the process in which solid wastes are heated in an enclosed device in the absence of oxygen to vaporization, producing a hydrocarbon-rich gas capable of being burned for recovery of energy.

(65) "Reclamation site" means a location used for the processing or the storage of recycled waste.

(66) "Reusable containers" means containers that are used more than once to handle solid waste such as garbage cans.

(67) "Run-off" means any rainwater, leachate or other liquid which drains over land from any part of the facility.

(68) "Run-on" means any rainwater or other liquid which drains over land onto any part of a facility.

(69) "Scavenging" means the removal of materials at a disposal site, or interim solid waste handling site without the approval of the owner or operator and the jurisdictional health department.

(70) "Septage" means a semisolid consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a septic tank system.

(71) "Sludge" means a semisolid substance consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a wastewater treatment plant or other source.

(72) "Sole source aquifer" means an aquifer designated by the Environmental Protection Agency pursuant to Section 1424e of the Safe Drinking Water Act (PL 93-523).

(73) "Solid waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and discarded commodities. This includes all liquid, solid and semisolid, materials which are not the primary products of public, private, industrial, commercial, mining, and agricultural operations. Solid waste includes but is not limited to sludge from wastewater treatment plants and septage, from septic tanks, woodwaste, dangerous waste, and problem wastes.

(74) "Solid waste handling" means the management, storage, collection, transportation, treatment, utilization, processing or final disposal of solid wastes, including the recovery and recycling of materials from solid wastes, the recovery of energy resources from such wastes or the conversion of the energy in such wastes to more useful forms or combinations thereof.

(75) "Solid waste management" means the systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste.

(76) "Storage" means the holding of solid waste materials for a temporary period.

(77) "Twenty-five year storm" means a storm of a particular duration and of such an intensity that it has a four percent probability of being equalled or exceeded each year.

(78) "Twenty-four hour, twenty-five year storm" means a twenty-five year storm of twenty-four hours duration.

(79) "Stream" means the point at which any confined freshwater body of surface water reaches a mean annual flow of twenty cubic feet per second.

(80) "Surface 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), and which is designed to hold an accumulation of liquids or sludges. The term includes holding, storage, settling, and aeration pits, ponds, or lagoons, but does not include injection wells.

(81) "Surface water" means all lakes, rivers, ponds, streams, inland waters, salt waters and all other water and water courses within the jurisdiction of the state of Washington.

(82) "Transfer station" means a permanent, fixed, supplemental collection and transportation facility, used by persons and route collection vehicles to deposit collected solid waste from off-site into a larger transfer vehicle for transport to a solid waste handling facility. Transfer stations may also include recycling facilities.

(83) "Treatment" means the physical, chemical or biological processing of solid waste to make such solid wastes safer for storage or disposal, amenable for energy or material resource recovery or reduced in volume.

(84) "Utilization" means consuming, expending, or exhausting by use, solid waste materials.

(85) "Vadose zone" means that portion of a geologic formation in which soil pores contain some water, the pressure of that water is less than atmospheric pressure, and the formation occurs above the zone of saturation.

(86) "Vector" means a living animal, insect or other arthropod which transmits an infectious disease from one organism to another.

(87) "Waste recycling" means reusing waste materials and extracting valuable materials from a waste stream.

(88) "Waste reduction" means reducing the amount or type of waste generated.

(89) "Water quality standard" means a standard set for maximum allowable contamination in surface waters as set forth in chapter 173-201 WAC, Water quality standards for waters of the state of Washington.

(90) "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, estuaries, and similar areas.

(91) "Woodwaste" means solid waste consisting of wood pieces or particles generated as a by-product or waste from the manufacturing of wood products, handling and storage of raw materials and trees and stumps. This includes but is not limited to sawdust, chips, shavings, bark, pulp, hog fuel, and log sort yard waste, but does not include wood pieces or particles containing chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenate.

(92) "Zone of saturation" means that part of a geologic formation in which soil pores are filled with water and the pressure of that water is equal to or greater than atmospheric pressure.

(93) "Buy-back recycling center" means any facility which collects, receives, or buys recyclable materials from household, commercial, or industrial sources for the purpose of accumulating, grading, or packaging recyclable materials for subsequent shipment and reuse, other than direct application to land.

(94) "Domestic wastewater facility" means all structures, equipment, or processes required to collect, carry away, treat, reclaim, or dispose of domestic wastewater together with such industrial waste as may be present.

(95) "Industrial wastewater facility" means all structures, equipment, or processes required to collect, carry away, treat, reclaim, or dispose of industrial wastewater.

(96) "Liquid" means a substance that flows readily and assumes the form of its container but retains its independent volume.

(97) "Reserved" means a section having no requirements and which is set aside for future possible rule-making as a note to the regulated community.

(98) "Limited purpose landfills" means a landfill that receives solid waste of limited types, known and consistent composition, other than woodwastes, garbage, inert waste, and demolition waste.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-100, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-100, filed 10/28/85.]

WAC 173-304-130 Locational standards for disposal sites. (1) Applicability. These standards apply to all new and expanded disposal sites including landfills, landspreading disposal sites, and piles and surface impoundments that are to be closed as landfills. These standards do not apply to:

- (a) Existing facilities or facilities that have engaged in closure and closed before the effective date of this regulation;
- (b) Interim solid waste handling sites;
- (c) Energy recovery and incineration sites;
- (d) Piles and surface impoundments used for storage, unless otherwise referred to in WAC 173-304-400, Solid waste handling facility standards;
- (e) Utilization of sludge and other waste on land;
- (f) Inert wastes and demolition wastes as defined in WAC 173-304-100 unless otherwise referred to in WAC 173-304-400, Solid waste handling facility standards; and
- (g) Problem wastes, as defined in WAC 173-304-100.

(2) Locational standards. All applicable solid waste facilities shall be subject to the following locational standards:

(a) Geology. No facility shall be located over a holocene fault, in subsidence areas, or on or adjacent to geologic features which could compromise the structural integrity of the facility.

(b) Ground water.

(i) No facility shall be located at a site where the bottom of the lowest liner is any less than ten feet above the seasonal high level of ground water in the uppermost aquifer, or five feet when a hydraulic gradient control system or the equivalent has been installed to control ground water fluctuations;

- (ii) No landfill shall be located over a sole source aquifer; and
- (iii) No facility's active area shall be located closer than one thousand feet to a down-gradient drinking water supply well, in use and existing at the time of the county's adoption of the comprehensive solid waste management plan unless the owner or operator can show that the active area is no less than ninety days travel time hydraulically to the nearest down-gradient drinking water supply well in the uppermost useable aquifer.
- (c) Natural soils. See WAC 173-304-400, such as WAC 173-304-460 (3)(c)(i), landfill liners;
- (d) Flooding. See WAC 173-304-400 such as WAC 173-304-460 (3)(d), landfill, floodplains;
- (e) Surface water. No facility's active area shall be located within two hundred feet measured horizontally, of a stream, lake, pond, river, or salt water body, nor in any wetland nor any public land that is being used by a public water system for watershed control for municipal drinking water purposes in accordance with WAC 248-54-660(4);
- (f) Slope. No facility's active area shall be located on any hill whose slope is unstable;
- (g) Cover material. See WAC 173-304-400, such as WAC 173-304-460 (3)(e), landfills, closure;
- (h) Capacity. See WAC 173-304-400, such as WAC 173-304-460, Landfilling standards, (for standards that vary according to capacity);
- (i) Climatic factors. See WAC 173-304-400 such as WAC 173-304-460(3) landfill standards, (for standards applicable to arid climates);
- (j) Land use. No facility shall be located:
 - (i) Within ten thousand feet of any airport runway currently used by turbojet aircraft or five thousand feet of any airport runway currently used by only piston-type aircraft unless a waiver is granted by the federal aviation administration. This requirement is only applicable where such facility is used for disposing of garbage such that a bird hazard to aircraft would be created;
 - (ii) In areas designated by the United States Fish and Wildlife Service or the department of game as critical habitat for endangered or threatened species of plants, fish, or wildlife;
 - (iii) So that the active area is any closer than one hundred feet to the facility property line for land zoned as nonresidential, except that the active area may be no closer than two hundred and fifty feet to the property line of adjacent land zoned as residential existing at the time of the county's adoption of the comprehensive solid waste management plan;
 - (iv) So as to be at variance with any locally-adopted land use plan or zoning requirement unless otherwise provided by local law or ordinance; and
 - (v) So that the active area is any closer than one thousand feet to any state or national park.
- (k) Toxic air emissions. See WAC 173-304-400 such as WAC 173-304-460 (2)(b), landfill performance standards.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-130, filed 10/28/85.]

WAC 173-304-190 Owner responsibilities for solid waste. The owner, operator, or occupant of any premise, business establishment, or industry shall be responsible for the

satisfactory and legal arrangement for the solid waste handling of all solid waste accumulated by them on the property.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-190, filed 10/28/85.]

WAC 173-304-195 Permit required. After approval by the department of the comprehensive solid waste plan required by RCW 70.95.100, no solid waste disposal site or facility shall be maintained, established, substantially altered, expanded or improved until the county, city or other person operating or owning such site has obtained a permit from the jurisdictional health department pursuant to the provisions of WAC 173-304-600.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-195, filed 10/28/85.]

WAC 173-304-200 On-site containerized storage, collection and transportation standards for solid waste. (1) Applicability. These standards apply to all persons storing containerized solid waste generated on-site, and to all persons who are engaged in the collection and transportation of solid waste of more than one single family residence or single family farm including collection and transportation of septage and septic tank pumpings.

(2) On-site storage standards.

(a) The owner or occupant of any premises, business establishment, or industry shall be responsible for the safe and sanitary storage of all containerized solid wastes accumulated at that premises.

(b) The owner, operator, or occupant of any premises, business establishment, or industry shall store containerized solid wastes in containers that meet the following requirements:

(i) Disposable containers shall be sufficiently strong to allow lifting without breakage and shall be thirty-two gallons in capacity or less where manual handling is practiced;

(ii) Reusable containers, except for detachable containers, shall be:

(A) Rigid and durable;

(B) Corrosion resistant;

(C) Nonabsorbent and water tight;

(D) Rodent-proof and easily cleanable;

(E) Equipped with a close fitting cover;

(F) Suitable for handling with no sharp edges or other hazardous conditions; and

(G) Equal to or less than thirty-two gallons in volume where manual handling is practiced.

(iii) Detachable containers shall be durable, corrosion-resistant, nonabsorbent, nonleaking and having either a solid cover or screen cover to prevent littering.

(3) Collection and transportation standards.

(a) All persons collecting or transporting solid waste shall avoid littering, or the creation of other nuisances at the loading point, during transport and for the proper unloading of the solid waste at a permitted transfer station, or other permitted solid waste handling site.

(b) Vehicles or containers used for the collection and transportation of solid waste shall be tightly covered or screened where littering may occur, durable and of easily cleanable construction. Where garbage is being collected or transported, containers shall be cleaned as necessary to prevent nuisances, odors and insect breeding and shall be maintained in good repair.

(c) Vehicles or containers used for the collection and transportation of any solid waste shall be loaded and moved in such manner that the contents will not fall, leak in quantities to cause a nuisance, or spill therefrom. Where such spillage or leakage does occur, the waste shall be picked up immediately by the collector or transporter and returned to the vehicle or container and the area otherwise properly cleaned.

(d) All persons commercially collecting or transporting solid waste shall inspect collection and transportation vehicles monthly, for repairs to containers such as missing or loose-fitting covers or screens, leaking containers, etc., and maintain such inspection records at the facility normally used to park such vehicles or such other location that maintenance records are kept. Such records shall be kept for a period of at least two years, and be made available upon the request of the jurisdictional health department.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-200, filed 10/28/85.]

WAC 173-304-300 Waste recycling facility standards. (1) Applicability.

(a) These standards apply to facilities engaged in recycling or utilization of solid waste on the land, including but not limited to:

(i) Noncontainerized composting in piles;

(ii) Utilization of sewage sludge, septage and other organic wastes on land for beneficial use;

(iii) Accumulation of wastes in piles for recycling or utilization.

(b) These standards do not apply to:

(i) Single family residences and single family farms engaged in composting of their own wastes;

(ii) Facilities engaged in the recycling of solid waste containing garbage, such as garbage composting, which are subject to WAC 173-304-400, Solid waste handling facility standards;

(iii) Facilities engaged in the storage of tires which are subject to WAC 173-304-400, Solid waste handling facility standards;

(iv) Problem wastes as defined in WAC 173-304-100;

(v) Facilities engaged in recycling of solid waste stored in surface impoundments which are subject to WAC 173-304-400, Solid waste handling facility standards; and

(vi) Woodwaste or hog fuel piles to be used as fuel or raw materials stored temporarily in piles being actively used so long as the criteria of WAC 173-304-300 (3)(c)(i) are met.

(c) These standards do not apply to any facility that recycles or utilizes solid wastes in containers, tanks, vessels, or in any enclosed building, including buy-back recycling centers.

(2) Effective dates. All existing facilities recycling solid waste not in conformance with this section shall be placed upon a compliance schedule under WAC 173-304-600(1) to assure compliance within two years of the effective date of this regulation.

(3) Waste recycling requirements.

(a) All applicable solid waste recycling facilities shall apply for and obtain a solid waste permit under WAC 173-304-600, permits.

(b) Applicable waste recycling facilities shall submit annual reports to the jurisdictional health department and the department by March 1 of the following year for which the data is collected on forms supplied by the department. The annual reports shall include quantities and types of waste recycled for purposes of determining progress towards achieving the goals of waste reduction, waste recycling, and treatment in accordance with RCW 70.95.010(4). Such facilities may request and be assured of confidentiality for their reports in accordance with chapter 42.17 RCW and RCW 43.21A.160.

(c) All facilities storing solid waste in outdoor piles or surface impoundments for the purpose of waste recycling shall be considered to be storing or disposing of solid waste if:

(i) At least fifty percent of the material has not been shown to have been recycled in the past three years and any material has been on-site more than five years; or

(ii) Ground water or surface water, air, and/or land contamination has occurred or will likely occur under current conditions of storage or in case of fire, or flood.

Upon such a determination by the jurisdictional health department that (c)(i) or (ii) of this subsection are met, the jurisdictional health department may require a permit application and issuance of a permit under WAC 173-304-600 of these rules.

(d) Waste recycling facilities shall allow jurisdictional health department and department representatives entry for inspection purposes and to determine compliance with these rules at reasonable times.

(e) All applicable waste recycling facilities shall not conflict with the county comprehensive solid waste management plan required by WAC 173-304-011 of these rules.

(f) All waste recycling facilities shall comply with applicable local, state and federal laws and regulations, including but not limited to environmental regulations and laws.

(4) Sewage sludge utilization requirements.

In addition to the requirements of subsection (3) of this section, all facilities utilizing sewage sludge, including septage shall comply with the department's *Municipal and Domestic Sludge Utilization Guidelines* WDOE 82-11, dated September 1982 or as hereafter amended. Facilities utilizing sewage sludge on the land in a manner not consistent with nor meeting the requirement of the guidelines are required to meet the landspreading disposal standards of WAC 173-304-450.

(5) Woodwaste and other organic sludge utilization requirements.

(a) Facilities utilizing woodwaste not otherwise excluded under WAC 173-304-015, shall comply with these recycling standards. Applying woodwaste and other primarily organic sludges such as pulp and paper mill treatment sludges to the land shall be in a manner consistent with the *Municipal and Domestic Sludge Utilization Guidelines* WDOE 82-11 dated September 1982 or as hereafter amended. Only agricultural or silvicultural sites where such sludges are demonstrated to have soil conditioning or fertilizer value shall be acceptable, provided that the woodwaste and other primarily organic sludges are applied as a soil conditioner or fertilizer in accordance with accepted agricultural and silvicultural practice. Facilities utilizing woodwaste or other primarily organic sludges on the land in a manner not consistent with nor meeting the requirement of the guidelines are required to meet the landspreading disposal standards of WAC 173-304-450.

(b) Facilities utilizing woodwaste or other primarily organic sludges shall also comply with the standards of subsection (3) of this section.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-300, filed 10/28/85.]

WAC 173-304-400 Solid waste handling facility standards. (1) Applicability. The standards of WAC 173-304-405 through 173-304-490 are the solid waste handling facility standards and apply to all solid waste handling facilities, except for:

- (a) Waste recycling facilities, whose standards are spelled out in WAC 173-304-300;
- (b) On-site containerized storage, collection and transportation facilities which are spelled out in WAC 173-304-200;
- (c) Single family residences and single family farms whose year round occupants engage in solid waste handling of the single family's solid waste on-site;
- (d) Problem wastes as defined in WAC 173-304-100;
- (e) Solid waste handling facilities that have engaged in closure and closed before the effective date of this regulation; and
- (f) Domestic wastewater facilities and industrial wastewater facilities otherwise regulated by federal, state, or local water pollution permits except for any portion that utilizes or engages in landspreading disposal sludges or solid residues directly on the land.

(2) Standards for permits. The standards of WAC 173-304-405 through 173-304-490 shall be used as the basis for permitting as required in WAC 173-304-600.

(3) Effective dates.

(a) All existing facilities not in conformance with the following sections of the facility standards shall be placed upon compliance schedules under WAC 173-304-600 (1)(c) to assure full compliance within eighteen months of the effective date of this regulation for:

- (i) The general facility standards, WAC 173-304-405;
- (ii) The transfer stations, baling and compaction standards, WAC 173-304-410;
- (iii) Ground water monitoring required in WAC 173-304-490;
- (iv) The landfill operating and maintenance standards, WAC 173-304-460(4);
- (v) The tire pile standards of WAC 173-304-420(4); and
- (vi) The landspreading disposal standards of WAC 173-304-450(5).

(b) All applicable solid waste facilities shall be in compliance with the general closure and post-closure standards of WAC 173-304-407 and the financial assurance standards of WAC 173-304-467 and 173-304-468 by twelve months after the effective date of WAC 173-304-407, 173-304-467, and 173-304-468, except for owners or operators of existing facilities that have a closure plan approved by the jurisdictional health department in a solid waste permit issued before the effective date of these amendments and are closing before November 27, 1989. Existing solid waste facilities shall be placed upon compliance schedules under WAC 173-304-600 (1)(c) to assure compliance by the effective date of this subsection.

(c) All existing solid waste facilities not in conformance with facility standards other than those in (a) and (b) of this subsection shall be placed upon compliance schedules under WAC 173-304-600 (1)(c) to assure full compliance within four years of the effective date of this regulation.

(d) All new and expanded facilities other than those in (b) of this subsection shall meet the facility standards of WAC 173-304-405 to 173-304-490 after the effective date of this regulation.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-400, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-400, filed 10/28/85.]

WAC 173-304-405 General facility requirements. (1) Applicability. All applicable solid waste handling facilities shall meet the requirements of this section.

(2) Plan of operation. Each owner or operator shall develop, keep and abide by a plan of operation approved as part of the permitting process in WAC 173-304-600. The plan shall describe the facilities' operation and shall convey to site operating personnel the concept of operation intended by the designer. The plan of operation shall be available for inspection at the request of the jurisdictional health officer. The facility must be operated in accordance with the plan or the plan must be so modified with the approval of the jurisdictional health department. Owners or operators of drop boxes may develop a generic plan of operation applicable to all such drop boxes, owned or operated.

Each plan of operation shall include:

- (a) How solid wastes are to be handled on-site during its active life;
- (b) How inspections and monitoring are conducted and their frequency;
- (c) Actions to take if there is a fire or explosion;
- (d) Actions to take if leaks are detected;
- (e) Corrective action programs to take if ground water is contaminated;
- (f) Actions to take for other releases (e.g. failure of run-off containment system);
- (g) How equipment such as leachate collection and gas collection equipment are to be maintained;
- (h) A safety plan or procedure; and
- (i) Other such details as required by the jurisdictional health department.

(3) Recordkeeping. Each owner or operator shall maintain daily operating records on the weights (or volumes), number of vehicles entering and, if available, the types of wastes received. Major deviations from the plan of operation shall also be noted on the operating record.

(4) Reporting. Each owner or operator shall prepare and submit a copy of an annual report to the jurisdictional health department and the department by March 1 of each year. The annual report shall cover facility activities during the previous year and must include the following information:

- (a) Name and address of the facility;
- (b) Calendar year covered by the report;
- (c) Annual quantity, in tons, or volume, in cubic yards, and estimated in-place density in pounds per cubic yard of solid waste handled, by type of solid waste if available, for each type of treatment, storage, or disposal facility, including applicable recycling facilities; and
- (d) Results of ground water monitoring required in WAC 173-304-490.

(5) Inspections. The owner or operator shall inspect the facility to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of

wastes to the environment or 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. The owner or operator shall keep an inspection log or summary including at least the date and time of inspection, the printed name and the handwritten signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action. The log or summary must be kept at the facility or other convenient location if permanent office facilities are not on-site, for at least three years from the date of inspection. Inspection records shall be available to the jurisdictional health department upon request.

(6) Recording with county auditor. Maps and a statement of fact concerning the location of the disposal site shall be recorded as part of the deed with the county auditor not later than three months after closure. Records and plans specifying solid waste amounts, location and periods of operation shall be submitted to the local zoning authority or the authority with jurisdiction over land use and be made available for inspection.

(7) State and local requirements. All solid waste disposal facilities shall comply with all state and local requirements such as zoning land use, fire protection, water pollution prevention, air pollution prevention, nuisance and aesthetics.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-405, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-405, filed 10/28/85.]

WAC 173-304-407 General closure and post-closure requirements. (1)

Applicability. The requirements of subsections (2), (3), (4), and (5) of this section apply to all solid waste handling facilities. The requirements of subsections (6), (7), and (8) of this section apply to:

- (a) Landfills subject to WAC 173-304-460 including limited purpose landfills under WAC 173-304-460(5);
- (b) Surface impoundments under WAC 173-304-430 (2)(g) closed with waste remaining in place;
- (c) Woodwaste landfills under WAC 173-304-462; and
- (d) Landspreading disposal facilities under WAC 173-304-450(2).

(2) Effective dates. Existing facilities subject to the requirements of this section shall meet the applicable facility standards of this section within twelve months of the effective date of this regulation. All new or expanded facilities subject to the requirements of this section shall meet the applicable facility standards on the effective date of this regulation.

(3) Closure performance standard. Each owner or operator shall close their facility in a manner that:

- (a) Minimizes the need for further maintenance;
- (b) Controls, minimizes, or eliminates threats to human health and the environment from post-closure escape of solid waste constituents, leachate, landfill gases, contaminated rainfall or waste decomposition products to the ground, ground water, surface water, and the atmosphere; and
- (c) Prepares the facility for the post-closure period.

(4) Closure plan and amendment(s). Closure as defined in WAC 173-304-100(11), includes but is not limited to grading, seeding, landscaping, contouring, and/or screening. For interim solid waste handling sites, closure includes waste removal and decontamination of the site.

(a) Each owner or operator shall develop, keep and abide by a plan of closure approved by the jurisdictional health department as part of the permitting process in WAC 173-304-600.

(b) The closure plan shall project time intervals at which sequential partial closure is to be implemented, and identify closure cost estimates and projected fund withdrawal intervals for the associated closure costs, from the approved financial assurance instrument.

(c) Each owner or operator shall not commence disposal operations in any part of a facility until a closure plan for the entire facility has been approved by the jurisdictional health department, and until a financial assurance instrument has been provided, as required by applicable laws and regulations.

(d) The jurisdictional health department shall approve, disapprove, or require amendment of the closure plan as part of the permitting process of WAC 173-304-600 in accordance with applicable laws and regulations.

(e) Each owner and operator shall close the facility in accordance with the approved closure plan and all approved amendments.

(5) Closure procedures.

(a) Each owner and operator shall notify the jurisdictional health department and where applicable, the financial assurance instrument trustee, of the intent to implement the closure plan in part or whole, no later than one hundred eighty days prior to the projected final receipt of waste at the entire facility unless otherwise specified in the closure plan.

(b) The owner or operator shall commence implementation of the closure plan in part or whole within thirty days after receipt of the final volume of waste and/or attaining the final landfill elevation at part of or at the entire facility as identified in the approved facility closure plan unless otherwise specified in the closure plan.

(c) Waste shall not be accepted for disposal or for use in closure except as identified in the closure plan approved by the jurisdictional health department, as required in subsection (3)(a) of this section.

(d) When facility closure is completed in part or whole, each owner and operator shall submit the following to the jurisdictional health department:

(i) Facility closure plan sheets signed by a professional engineer registered in the state of Washington and modified as necessary to represent as-built changes to final closure construction as approved in the closure plan;

(ii) Certification by the owner or operator, and a professional engineer registered in the state of Washington that the site has been closed in accordance with the approved closure plan.

(e) The jurisdictional health department shall notify the owner or operator and the department of ecology of the date when the facility post-closure period has begun, which period shall commence when the jurisdictional health department has verified the facility has been closed in accordance with the specifications of the approved closure plan and the closure requirements of this section.

(6) Post-closure performance standard. Each owner or operator shall provide post-closure activities to allow for continued facility maintenance and monitoring of air, land, and water as long as necessary for the facility to stabilize and to protect human health and the environment.

(7) Post-closure plan and amendment. For disposal facilities; post-closure includes ground water monitoring; surface water monitoring; gas monitoring; and maintenance of the facility, facility structures, and monitoring systems for their intended use for a period of twenty years and any other activities deemed appropriate by the jurisdictional health department.

(a) Each owner or operator shall develop, keep and abide by a post-closure plan approved as a part of the permitting process in WAC 173-304-600. The post-closure plan shall address facility maintenance and monitoring activities for at least a twenty-year period or until the site becomes stabilized (i.e., little or no settlement, gas production or leachate generation), and monitoring of ground water, surface water, and gases can be safely discontinued.

(b) The post-closure plan shall project time intervals at which post-closure activities are to be implemented, and identify post-closure cost estimates and projected fund withdrawal intervals from the selected financial assurance instrument, where applicable, for the associated post-closure costs.

(c) Each owner or operator shall not commence disposal operations in any part of a facility until a post-closure plan for the entire facility has been approved by the jurisdictional health department, and until a financial assurance instrument has been provided where applicable, as required by WAC 173-304-467.

(d) Each owner or operator shall complete the post-closure activities in accordance with the approved post-closure plan and schedule. Facility post-closure activities shall be completed in accordance with the approved post-closure plan or the plan shall be so amended with the approval of the jurisdictional health department.

(e) The jurisdictional health department may determine that a facility post-closure plan is invalid and require an owner or operator to amend the facility post-closure plan.

(i) The health department may direct facility post-closure activities, in part or whole, to cease until the post-closure plan amendment has received written approval by the health department.

(ii) When the health department determines a facility post-closure amendment is required, the health department shall, after consultation with the owner/operator, designate a compliance schedule for submittal of the amendment and its review and approval by the department.

(8) Post-closure procedures.

(a) Each owner or operator shall commence post-closure activities after completion of closure activities outlined in subsection (5)(d)(i) and (ii) of this section. The jurisdictional health department may direct that post-closure activities cease until the owner or operator receives a notice to proceed with post-closure activities.

(b) When post-closure activities are complete, the owner or operator shall certify to the jurisdictional health department, signed by the owner or operator, and a professional engineer registered in the state of Washington stating why post-closure activities are no longer necessary (i.e., little or no settlement, gas production, or leachate generation).

(c) If the jurisdictional health department finds that post-closure monitoring has established that the facility is stabilized (i.e., little or no settlement, gas production, or leachate generation), the health department may authorize the owner or operator to discontinue post-closure maintenance and monitoring activities.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-407, filed 10/4/88.]

WAC 173-304-410 Transfer stations, baling and compaction systems, and drop box facilities. (1) Applicability. All transfer stations, baling and compaction systems and drop boxes receiving solid waste from off-site shall meet the requirements of this section. Facilities receiving solid waste from on-site shall meet the requirements of WAC 173-304-200.

(2) Transfer stations, baling and compacting systems standards. Transfer stations, baling and compaction systems shall be designed, constructed, and operated so as to:

(a) Be surrounded by a fence, trees, shrubbery, or natural features so as to control access and be screened from the view of immediately adjacent neighbors, unless the tipping floor is fully enclosed by a building;

(b) Be sturdy and constructed of easily cleanable materials;

(c) Be free of potential rat harborages, and provide effective means to control rodents, insects, birds and other vermin;

(d) Be adequately screened to prevent blowing of litter and to provide effective means to control litter;

(e) Provide protection of the tipping floor from wind, rain or snow other than below grade bins or detachable containers;

(f) Have an adequate buffer zone around the operating area to minimize noise and dust nuisances, and for transfer stations, baling, or compaction systems, a buffer zone of fifty feet from the active area to the nearest property line in areas zoned residential;

(g) Comply with local zoning and building codes including approved local variances and waivers;

(h) Provide pollution control measures to protect surface and ground waters, including run-off collection and discharge designed and operated to handle a twenty-four hour, twenty-five year storm and equipment cleaning and washdown water;

(i) Provide all-weather approach roads, exit roads, and all other vehicular areas;

(j) Provide pollution control measures to protect air quality including a prohibition against all burning and the development of odor and dust control plans to be made a part of the plan of operation in WAC 173-304-405(2);

(k) Prohibit scavenging;

(l) Provide attendant(s) on-site during hours of operation;

(m) Have a sign that identifies the facility and shows at least the name of the site, and, if applicable, hours during which the site is open for public use, what constitutes materials not to be accepted and other necessary information posted at the site entrance;

(n) Have communication capabilities to immediately summon fire, police, or emergency service personnel in the event of an emergency; and

(o) Remove all wastes at closure, as defined in WAC 173-304-100, from the facility to a permitted facility.

(3) Drop box facility standards. Drop box facilities, as defined in WAC 173-304-100, shall:

(a) Be constructed of durable water tight materials with a lid or screen on top that prevents the loss of materials during transport and access by rats and other vermin;

(b) Be located in an easily identifiable place accessible by all-weather roads;

(c) Be designed and serviced as often as necessary to ensure adequate dumping capacity at all times. Storage of solid waste outside the drop boxes is prohibited;

- (d) Comply with subsection (2)(m) of this section, signs; and
- (e) Remove all remaining wastes at closure, as defined in WAC 173-304-100, to a permitted facility, and remove the drop box from the facility.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-410, filed 10/28/85.]

WAC 173-304-420 Piles used for storage and treatment--Facility standards. (1)
Applicability.

(a) This section is applicable to solid wastes stored or treated in piles as defined in WAC 173-304-100 where putrescible wastes (other than garbage) are in place for more than three weeks, other wastes not intended for recycling are in place for more than three months, and garbage is in place for more than three days. These standards are also applicable to composting or storing of garbage and sludge in piles, and to tire piles where more than eight hundred tires are stored at one facility.

(b) Other solid wastes stored or treated in piles prior to waste recycling including compost piles of vegetative waste, piles of woodwaste used for fuel or raw materials are subject to WAC 173-304-300.

(c) Waste piles stored in fully enclosed buildings are not subject to these standards, provided that no liquids or sludges with free liquids are added to the pile.

(d) Inert wastes and demolition wastes are not subject to these standards.

(2) Requirements. All owners and operators shall:

(a) Comply with the requirements of the General facility requirements, WAC 173-304-405;

(b) Design piles located in a one hundred year flood plain to:

(i) Comply with local flood plain management ordinances and chapter 508-60 WAC, Administration of flood control zones; and

(ii) To avoid washout or restriction of flow; and

(c) Remove all solid wastes from the pile at closure to another permitted facility.

(3) Requirements for putrescible wastes or wastes likely to produce leachate.

(a) Waste piles shall be placed upon a surface such as sealed concrete, asphalt, clay or an artificial liner underlying the pile, to prevent subsurface soil and potential ground water contamination and to allow collection of run-off and leachate. The liner shall be designed of sufficient thickness and strength to withstand stresses imposed by pile handling vehicles and the pile itself;

(b) Run-off systems shall be installed, designed and maintained to handle a twenty-four hour, twenty-five year storm event;

(c) Waste piles having a capacity of greater than ten thousand cubic yards shall have either:

(i) A ground water monitoring system that complies with WAC 173-304-490; or

(ii) A leachate detection, collection and treatment system.

For purposes of this subsection, capacity refers to the total capacity of all putrescible or leachate-generating piles at one facility (i.e., two, five thousand cubic yard piles will subject the facility to the requirements of this subsection).

(d) Run-on prevention systems shall be designed and maintained to handle the maximum flow from a twenty-five year storm event; and

(e) A jurisdictional health department may require that the entire base or liner shall be inspected for wear and integrity and repaired or replaced by removing stored wastes or otherwise providing inspection access to the base or liner; the request shall be in writing and cite the reasons including valid ground water monitoring or leachate detection data leading the jurisdictional health department to request such an inspection, repair or replacement.

(4) Requirements for tire piles. Owners or operators shall:

(a) Control access to the tire pile by fencing;

(b) Limit the tire pile to a maximum of one-half acre in size;

(c) Limit the height of the tire pile to twenty feet;

(d) Provide for a thirty foot fire lane between tire piles; and

(e) Provide on-site fire control equipment.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-420, filed 10/28/85.]

WAC 173-304-430 Surface impoundment standards. (1) Applicability.

(a) These standards are applicable to solid wastes that are liquids or sludges containing free liquids as defined in WAC 173-304-100 and applicable under WAC 173-304-015(2) and are stored or treated in surface impoundments;

(b) These standards are also applicable to sludges and septage stored or treated in surface impoundments; and

(c) These standards are not applicable to:

(i) Surface impoundments whose facilities and discharges are otherwise regulated under federal, state, or local water pollution permits; and

(ii) Retention or detention basins used to collect and store stormwater runoff.

(2) Requirements. All surface impoundments must be designed, constructed, and operated so as to:

(a) Meet the performance standards of WAC 173-304-460(2);

(b) Have an in-place or imported soil liner of at least two feet of 1×10^{-7} cm/sec permeability or an equivalent combination of any thickness greater than two feet and a greater permeability to protect the underlying aquifers or a thirty mil reinforced artificial liner placed on top of a structurally stable foundation to support the liners and solid waste and to prevent settlement that would destroy the liner; natural soils shall be recompacted to achieve an equivalent permeability. Owners or operators shall be allowed to use alternative designs, operating practices and locational characteristics which prevent migration of solid waste constituents or leachate into the ground or surface waters at least as effectively as the liners described in this subsection;

(c) Avoid washout including the use of an extended liner or dikes or restriction of flow in the one hundred year floodplain and to comply with local floodplain management ordinances and chapter 508-60 WAC, Administration of flood control zones;

(d) Have dikes designed with slopes so as to maintain the structural integrity under conditions of a leaking liner and capable of withstanding erosion from wave action;

(e) Have the freeboard equal to or greater than eighteen inches to avoid overtopping from wave action, overfilling, or precipitation;

(f) Have either a ground water monitoring system, or a leachate detection, collection and treatment system, for surface impoundments having a capacity of more than two million gallons unless the jurisdictional health department and the department require either for smaller surface impoundments. For purposes of this subsection, capacity refers to the total capacity of all surface impoundments on-site (i.e., two, one million gallon surface impoundments on one site will trigger these monitoring requirements);

(g) Be closed in a manner which removes all solid wastes including liners, etc. to another permitted facility and the site returned to its original or acceptable topography except that surface impoundments closed with the waste remaining in place shall meet the requirements of WAC 173-304-407 and 173-304-130;

(h) A jurisdictional health department may require that the liner be inspected for wear and integrity and repaired or replaced by removing stored solid wastes or otherwise inspecting the liner or base at any time. The request shall be in writing and cite the reasons including valid ground water monitoring or leachate detection data leading to such an inspection and repair;

(i) Surface impoundments containing septage will also be subject to the department's "criteria for sewage works design" used to review plans for septage surface impoundments; and

(j) Surface impoundments that have the potential to impound more than ten acre-feet of waste measured from the top of the dike and which would be released by a failure of the containment dike shall be reviewed and approved by the dam safety section of the department.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-430, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-430, filed 10/28/85.]

WAC 173-304-440 Energy recovery and incinerator standards. (1) Applicability. These standards apply to all facilities designed to burn more than twelve tons of solid waste per day, except for facilities burning woodwaste or gases recovered at a landfill.

(2) Requirements for energy recovery facilities and incinerators.

(a) Incinerators and energy recovery facilities storing putrescible wastes shall be confined to storage compartments specifically designed to store wastes temporarily in piles, surface impoundments, tanks or containers. The storage facilities shall meet the facility standards of WAC 173-304-400. Storage of wastes other than in the specifically designed storage compartments is prohibited. Equipment and space shall be provided in the storage and charging areas, and elsewhere as needed, to allow periodic cleaning as may be required in order to maintain the plant in a sanitary and clean condition;

(b) All residues from energy recovery facilities or incinerator facilities shall be used, handled or disposed of as solid or dangerous wastes according to these standards or the standards of the dangerous waste regulation, chapter 173-303 WAC;

(c) Each owner or operator of an energy recovery facility or incinerator facility shall comply with WAC 173-304-405. The plan of operation shall address alternative storage, and/or disposal plans for all breakdowns that would result in overfilling of the storage facility;

(d) Energy recovery facilities and incinerators must be designed, constructed and operated in a manner to comply with appropriate state and local air pollution control authority emission and operating requirements;

(e) Each owner or operator shall close their energy recovery facility or incinerator by removing all ash, solid wastes and other residues to a permitted facility;

(f) Each owner or operator of an energy recovery facility or incinerator shall be required to provide recycling facilities in a manner equivalent to WAC 173-304-460 (4)(f); and

(g) Owners or operators of energy recovery facilities or incinerators shall not knowingly dispose of, treat, store or otherwise handle dangerous waste unless the requirements of chapter 173-303 WAC are met.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-440, filed 10/28/85.]

WAC 173-304-450 Landspreading disposal standards. (1) Applicability. These standards apply to facilities that engage in landspreading disposal of solid wastes. These standards do not apply to:

(a) Facilities utilizing sludge, woodwaste or other primarily organic sludges according to the *Municipal and Domestic Sludge Utilization Guidelines* WDOE 82-11, specified in WAC 173-304-300 (4) and (5);

(b) Agricultural solid wastes resulting from the operation of a farm including farm animal manure and agricultural residues; and

(c) Inert wastes and demolition wastes.

(2) Owners or operators of landspreading disposal facilities shall meet the minimum functional standards for performance of WAC 173-304-460(2) and the general facilities standards of WAC 173-304-405.

(3) Owners or operators of landspreading disposal facilities shall meet the locational standards of WAC 173-304-130.

(4) Minimum functional standard for design. Owners or operators of landspreading disposal facilities shall design landspreading facilities so as to:

(a) Provide interim waste storage facilities that meet the requirements of WAC 173-304-400 standards (i.e., for piles, surface impoundments, etc.);

(b) Collect and treat all run-off from a twenty-four hour, twenty-five year storm, and divert all run-on for the maximum flow of a maximum twenty-five year storm around the active area;

(c) Avoid standing water anywhere on the active area;

(d) Avoid slopes and other features that will lead to soil and waste erosion, unless contour plowing or other measures are taken to avoid erosion;

(e) Monitor ground water according to WAC 173-304-490; and

(f) Control access to site by fencing or other means and erect signs.

(5) Minimum functional standards for maintenance and operation. Owners or operators of landspreading disposal facilities shall maintain and operate the facilities so as to:

(a) Avoid any landspreading disposal of garbage or medical waste;

(b) Analyze solid wastes according to the requirements spelled out in the *Municipal and Domestic Sludge Utilization Guidelines* WDOE 82-11;

(c) Avoid applying wastes at rates greater than ten times agronomic rates using the proposed cover crop, or depths greater than would allow for discing the soil by tracked vehicles;

(d) Provide discing of soils during the growing season and after each application of waste to maintain aerobic soil conditions, minimize odors and lessen run-off;

(e) Avoid applying waste to any active area having standing water;

(f) Conform to the operating plan and the requirements of WAC 173-304-405;

(g) Avoid food chain crops during the active life of the facility and until demonstrated to be safe, after closure, according to the closure and post-closure plans filed with the plan of operation. Specific approval in writing from the jurisdictional health department is required for any landspreading disposal facility that is used to raise food crops after closure. Any new owner or operator of a closed landspreading disposal facility shall notify the jurisdictional health department within sixty days of the purchase; and

(h) Provide for a written contract between landowners, waste generators, waste haulers and waste operators requiring compliance with rules as a condition of the contract.

(6) Minimum functional standards for closure.

(a) All owners or operators of landspreading disposal facilities shall close in such a manner as to comply with WAC 173-304-407;

(b) Financial assurance. All owners or operators of landspreading disposal facilities shall have a written estimate, in current dollars, of the cost of closing the facility. The closure cost estimate must equal the cost of closure at the point in the operating life of the facility when the extent and manner of operation would make closure the most expensive, as indicated by the closure plan.

In addition, all facilities shall have a written post-closure estimate, in current dollars, the cost of post-closure monitoring and maintenance during the post-closure period.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-450, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-450, filed 10/28/85.]

WAC 173-304-460 Landfilling standards. (1) Applicability. These standards apply to facilities that dispose of solid waste in landfills except for:

(a) Inert wastes and demolition wastes landfills, that must meet WAC 173-304-461 standards; and

(b) Woodwaste landfills that must meet WAC 173-304-462 standards.

(2) Minimum functional standards for performance.

(a) Ground water. An owner or operator of a landfill shall not contaminate the ground water underlying the landfill, beyond the point of compliance. Contamination and point of compliance are defined in WAC 173-304-100.

(b) Air quality and toxic air emissions.

(i) An owner or operator of a landfill shall not allow explosive gases generated by the facility whose concentration exceeds:

(A) Twenty-five percent of the lower explosive limit for the gases in facility structures (excluding gas control or recovery system components);

(B) The lower explosive limit for the gases at the property boundary or beyond; and

(C) One hundred parts per million by volume of hydrocarbons (expressed as methane) in off-site structures.

(ii) An owner or operator of a landfill shall not cause a violation of any ambient air quality standard at the property boundary or emission standard from any emission of landfill gases, combustion or any other emission associated with a landfill.

(c) Surface waters. An owner or operator of a landfill shall not cause a violation of any receiving water quality standard or violate chapter 90.48 RCW from discharges of surface runoff, leachate or any other liquid associated with a landfill.

(3) Minimum functional standards for design.

(a) Minimizing liquids. All owners or operators of landfills shall minimize liquids admitted to active areas of landfills by:

(i) Covering according to WAC 173-304-460 (4)(d);

(ii) Prohibiting the disposal of noncontainerized liquids or sludges containing free liquids in landfills unless approved by the jurisdictional health department;

(iii) Designing the landfill to prevent all the run-on of surface waters and other liquids resulting from a maximum flow of a twenty-five year storm into the active area of the landfill;

(iv) Designing the landfill to collect the run-off of surface waters and other liquids resulting from a twenty-four hour, twenty-five year storm from the active area and the closed portions of a landfill;

(b) Leachate systems. All owners or operators of landfills shall:

(i) Install a leachate collection system sized according to water balance calculations or using other accepted engineering methods either of which shall be approved by the jurisdictional health department;

(ii) Install a leachate collection system so as to prevent no more than two feet of leachate developing at the topographical low point of the active area; and

(iii) Install a leachate treatment, or a pretreatment system if necessary in the case of discharge to a municipal waste water treatment plant, to meet the requirements for permitted discharge under chapter 90.48 RCW and the Federal Clean Water Act (PL 95-217).

(c) Liner designs. All owners or operators of landfills shall use liners of one of the following designs:

(i) Standard design. The liner shall be constructed of at least a four feet thick layer of recompacted clay or other material with a permeability of no more than 1×10^{-7} cm/sec and sloped no less than two percent; or

(ii) Alternative design. The design shall have two liners:

(A) An upper liner of at least fifty mils thickness made of synthetic material; and

(B) A lower liner of at least two feet thickness of recompacted clay or other material with a permeability of no more than 1×10^{-6} cm/sec and sloped no less than two percent; or

(iii) Equivalent design. The design shall use alternative methods, operating practices and locational characteristics which will minimize the migration of solid waste constituents or leachate into the ground or surface water at least as effectively as the liners of (c)(i) and (ii) of this subsection; or

(iv) Arid design. This design will apply to locations having less than twelve inches of precipitation annually, and, in lieu of (c)(i), (ii), and (iii) of this subsection, shall consist of vadose zone moisture monitoring, provided that:

(A) Waste material is no less than ten feet above the seasonal high level of ground water in the uppermost aquifer; and

(B) Any evidence of leachate or waste constituents detected in the vadose zone that violates or could be expected to violate the performance standard of WAC 173-304-460(2) shall cause the owner or operator to:

(I) Take corrective action, and either

(II) Close the facility according to these rules, or

(III) For all future expansions at that facility, meet the liner requirement of (c)(i) or (ii) of this subsection.

(v) Small landfill designs. For a landfill whose design and permit allow a total capacity at closure of two hundred thousand cubic yards or less, the need for a liner and leachate collection system shall be determined on a case-by-case basis by the jurisdictional health department in consultation with the department.

(d) Floodplains. All owners or operators of landfills that are located in a one hundred year floodplain shall:

(i) Comply with local floodplain management ordinances and chapter 508-60 WAC, Administration of flood control zones; and

(ii) Design the landfill so that the landfill entrance or exit roads or practices shall not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain or result in washout of solid waste, so as to pose a hazard to human life, wildlife, land or water resources.

(e) Closure. All owners and operators shall design landfills so that at closure:

(i) At least two feet of 1×10^{-6} cm/sec or lower permeability soil or equivalent shall be placed upon the final lifts unless the landfill is located in an area having mean annual precipitation of less than twelve inches in which case at least two feet of 1×10^{-5} cm/sec or lower permeability soil or equivalent shall be placed upon the final lifts. Artificial liners may replace soil covers provided that a minimum of fifty mils thickness is used;

(ii) The grade of surface slopes shall not be less than two percent, nor the grade of side slopes more than thirty-three percent; and

(iii) Final cover of at least six inches of topsoil be placed over the soil cover and seeded with grass, other shallow rooted vegetation or other native vegetation.

(f) Gas control.

(i) All owners and operators shall design landfills, having a permitted capacity of greater than ten thousand cubic yards per year, so that methane and other gases are continuously collected, and

(A) Purified for sale;

(B) Flared; or

(C) Utilized for its energy value.

(ii) Collection and handling of landfill gases shall not be required if it can be shown that little or no landfill gases will be produced or that landfill gases will not support combustion; in such cases installation of vents shall be required.

(g) Other requirements. All owners and operators of landfills shall design landfills to:

(i) Be fenced at the property boundary or use other means to impede entry by the public and animals. A lockable gate shall be required at the entry to the landfill;

(ii) Monitor ground water according to WAC 173-304-490 using a design approved by the local jurisdictional health department with the guidance of the department. The jurisdictional health department may also require monitoring of:

(A) Surface waters, including run-off;

- (B) Leachate;
- (C) Subsurface landfill gas movement and ambient air; and
- (D) Noise.

(iii) Weigh all incoming waste on scales for landfills having a permitted capacity of greater than ten thousand cubic yards per year or provide an equivalent method of measuring waste tonnage capable of estimating total annual solid waste tonnage to within plus or minus five percent;

(iv) Provide for employee facilities including shelter, toilets, hand washing facilities and potable drinking water for landfills having the equivalent of three or more full-time employees;

(v) Erect a sign at the site entrance that identifies at least the name of site, if applicable, the hours during which the site is open for public use, unacceptable materials and an emergency telephone number. Other pertinent information may be required by the jurisdictional health department;

(vi) Provide on-site fire protection as determined by the local and state fire control jurisdiction;

(vii) Prevent potential rat and other vectors (such as insects, birds, and burrowing animals) harborages in buildings, facilities, and active areas;

(viii) Provide the unloading area(s) to be as small as possible, consistent with good traffic patterns and safe operation;

(ix) Provide approach and exit roads to be of all-weather construction, with traffic separation and traffic control on-site, and at the site entrance; and

(x) Provide communication between employees working at the landfill and management offices on-site and off-site (such as telephones) to handle emergencies.

(4) Minimum functional standards for maintenance and operation.

(a) Operating plans. All owners or operators of landfills shall maintain and operate the facility so as to conform to the approved plan of operation.

(b) Operating details. All owners or operators of landfills shall operate the facility so as to:

(i) Control road dust;

(ii) Perform no open burning unless permitted by the jurisdictional air pollution control agency or the department under the Washington Clean Air Act, chapter 70.94 RCW. Garbage shall not be open burned.

(iii) Collect scattered litter as necessary to avoid a fire hazard or an aesthetic nuisance;

(iv) Prohibit scavenging;

(v) Conduct on-site reclamation in an orderly sanitary manner, and in a way that does not interfere with the disposal site operation;

(vi) Insure that at least two landfill personnel are on-site with one person at the active face when the site is open to the public for landfills with a permitted capacity of greater than fifty thousand cubic yards per year;

(vii) Control insects, rodents and other vectors; and

(viii) Insure that reserve operational equipment shall be available to maintain and meet these standards.

(c) Boundary posts. All owners or operators of landfills shall clearly mark the active area boundaries authorized in the permit, with permanent posts or using equivalent method clearly visible for inspection purposes.

(d) Compaction and daily cover. All owners or operators of landfills shall:

- (i) Thoroughly compact the solid waste before succeeding layers are added; and
- (ii) Cover compacted waste containing garbage fully with at least six inches of compacted cover material after each day of operation. The jurisdictional health department may allow less frequent covering by considering:
 - (A) The characteristics of the solid waste;
 - (B) The climatic and geologic setting;
 - (C) The size of the facility; and
 - (D) The potential for nuisance conditions.
- (e) Monitoring systems. All owners and operators of landfills shall maintain the monitoring system required in subsection (3)(g)(ii) of this section.
- (f) Recycling required.
 - (i) All owners or operators of landfills at which the general public delivers household solid waste shall provide the opportunity for the general public to recycle cans, bottles, paper and other material for which a market exists and brought to the landfill site:
 - (A) During the normal hours of operation;
 - (B) In facilities convenient to the public (i.e., near entrance to the gate).
 - (ii) Owners or operators may demonstrate alternative means to providing an opportunity to the general public to recycle household solid waste.
- (g) Disposal of dangerous waste prohibited. Owners or operators of landfills shall not knowingly dispose, treat, store, or otherwise handle dangerous waste unless the requirements of the dangerous waste regulation, chapter 173-303 WAC are met.
- (5) Limited purpose landfill standards.
 - (a) Limited purpose landfills shall meet the following requirements:
 - (i) The general facility standards of WAC 173-304-405;
 - (ii) The general closure and post-closure standards of WAC 173-304-407;
 - (iii) The performance standards of WAC 173-304-460(2);
 - (iv) The financial assurance standards of WAC 173-304-467 and 173-304-468; and
 - (v) The ground water monitoring standards of WAC 173-304-490.
 - (b) In addition, limited purpose landfills must meet all other standards of WAC 173-304-130 and 173-304-460 unless the owner or operator applies for relief from each of these requirements as part of his permit application and includes evidence or reasons why the nature of the waste, the disposal site and other factors can protect the environment and the public health.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-460, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-460, filed 10/28/85.]

WAC 173-304-461 Inert waste and demolition waste landfilling facility requirements. (1) Applicability. These standards apply to facilities that landfill more than two thousand cubic yards of inert wastes and demolition wastes, as defined in WAC 173-304-100, including facilities that use inert waste and demolition waste as a component of fill. Inert wastes and demolition wastes used as road building materials are excluded from this section. These standards do not apply to asbestos containing waste regulated under the federal 40 CFR Part 61 rules and the dangerous waste regulation, chapter 173-303 WAC.

(2) Inert wastes and demolition waste landfilling facilities shall not be subject to the Locational standards for disposal sites, WAC 173-304-130 except for WAC 173-304-130 (2)(f), slope.

(3) Owners or operators of inert waste and demolition waste landfill shall maintain a record of the weights or volumes and types of waste disposed of at each site.

(4) Owners or operators of inert wastes and demolition landfills shall employ measures to prevent emission of fugitive dusts, when weather conditions or climate indicate that transport of dust off-site is liable to create a nuisance. Preventative measures include watering of roads and covering.

(5) Timbers, wood and other combustible waste shall be covered as needed during the summer months to avoid a fire hazard.

(6) Owners or operators of inert wastes and demolition landfills shall close the facility by leveling the wastes to the extent practicable and shall fill any voids posing a physical hazard for persons after closure and to maintain an aesthetic appearance. A minimum of one foot of soil cover shall be used to close landfills.

(7) Owners or operators of inert waste and demolition waste landfills shall obtain a permit, as set forth in WAC 173-304-600 from the jurisdictional health department.

(8) Owners or operators of inert wastes and demolition landfills shall meet the requirements of WAC 173-304-405(7), recording with the county auditor.

(9) Owners or operators of inert waste or demolition waste landfills shall not accept any other form of waste except inert waste and demolition waste.

(10) Owners or operators of inert waste and demolition waste landfills shall prevent unauthorized disposal during off-hours by controlling entry (i.e., lockable gate or barrier) when the facility is not being used.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-461, filed 10/28/85.]

WAC 173-304-462 Woodwaste landfilling facility requirements. (1) Applicability. These requirements apply to facilities that landfill more than two thousand cubic yards of woodwaste including facilities that use woodwaste as a component of fill. Woodwaste is defined in WAC 173-304-100. These standards are not applicable to woodwaste landfills on forest lands regulated under the Forest Practices Act, chapter 76.09 RCW.

(2) Minimum functional standards.

(a) Woodwaste landfills are not subject to WAC 173-304-130 standards, Locational standards for disposal sites, except for WAC 173-304-130 (2)(e) surface water locational standards and WAC 173-304-130 (2)(b)(iii) down gradient drinking water supply wells. Woodwastes may be used as a component of fill within a shoreline and associated wetlands only if a demonstrated and proven technology to prevent ground and surface water contamination is used.

(b) Owners or operators of woodwaste landfills shall maintain a record of the weights or volumes of waste disposed of at each facility.

(c) Owners or operators of woodwaste landfills shall not accept any other wastes except woodwaste.

(d) Owners or operators of woodwaste landfills shall prevent run-on from a maximum twenty-five year storm.

(e) All wood waste landfills having a capacity of greater than ten thousand cubic yards at closure shall either:

(i) Have a ground water monitoring system that complies with WAC 173-304-490 and the woodwaste landfill meet the performance standards of WAC 173-304-460(2); or

(ii) Have a leachate collection and treatment system.

(f) Owners or operators of woodwaste landfills shall not deposit woodwaste in lifts to a height of more than ten feet per lift with at least one foot of cover material between lifts to avoid hot spots and fires in the summer and to avoid excessive build-up of leachate in the winter, and shall compact woodwaste as necessary to prevent voids.

(g) Owners or operators of woodwaste landfills shall prevent unauthorized disposal during off-hours by controlling entry (i.e., lockable gate or barrier), when the facility is not being used.

(h) Owners or operators of woodwaste landfills shall close the facility by leveling and compacting the wastes and applying a compacted soil cover of at least two feet thickness.

(i) Owners or operators of woodwaste landfills shall obtain a permit as set forth in WAC 173-304-600 from the jurisdictional health department.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-462, filed 10/28/85.]

WAC 173-304-463 Problem waste landfills. (Reserved.)

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-463, filed 10/28/85.]

WAC 173-304-467 Financial assurance for public facilities. (1) Applicability.

(a) These standards apply to all new and expanded landfill disposal facilities, and to existing landfill disposal facilities that have not been closed on or before November 27, 1989. Landfill disposal facilities include:

(i) All solid waste facilities operated as landfills under WAC 173-304-460, including limited purpose landfills under WAC 173-304-460(5);

(ii) Facilities operated as surface impoundments under WAC 173-304-430 that are closed with the waste remaining in place and therefore required to meet the requirements of WAC 173-304-407; and

(iii) Woodwaste landfills operated under WAC 173-304-462;

(b) For the purposes of this section, landfill disposal facilities are divided into the following ownership/use categories:

(i) A privately-owned facility that accepts waste from the general public;

(ii) A publicly-owned facility that accepts waste from the general public.

(c) For the purposes of this section, publicly-owned or operated facilities may set up one account for both closure and post-closure care of each facility.

(2) Cost estimate for closure.

(a) Each owner or operator shall prepare a written closure cost estimate as part of the facility closure plan. The closure cost estimate shall be in current dollars and represent the cost of closing the facility in accordance with the closure requirements in WAC 173-304-407.

(i) The cost estimate shall be based on a reasonable cost estimate for completing design, purchase, construction, and other activities as identified in the facility closure plan as required under WAC 173-304-407;

(ii) The closure plan shall project intervals for withdrawal of closure funds from the closure financial assurance instrument to complete the activities identified in the approved closure plan;

(iii) The closure cost estimate shall not be reduced by allowance for salvage value of equipment, waste, or the resale value of property or land;

(b) Each owner or operator shall prepare a new closure cost estimate in accordance with (a) and (c) of this subsection whenever:

(i) Changes in operating plans or facility design affect the closure plan;

(ii) There is a change in the expected year of closure that affects the closure plan; or

(iii) The jurisdictional health department directs the owner or operator to revise the closure plan or closure cost estimate.

(c) Each owner or operator shall review the closure cost estimate annually thirty days prior to the anniversary date of the first closure cost estimate. The review will examine all factors, including inflation, involved in estimating the closure cost. Any cost changes must be factored into a revised closure cost estimate and submit the revised cost estimate to the jurisdictional health department for review and approval.

(d) During the operating life of the facility, the owner or operator shall make the latest closure cost estimate prepared in accordance with (a) and (b) of this subsection, and when this estimate has been adjusted in accordance with (c) of this subsection, made available for review.

(3) Financial assurance account for closure. Each owner or operator of an applicable landfill disposal facility shall establish a financial assurance account in an amount that, over the life of the facility, will accumulate funds to be equal to the closure cost estimate prepared in accordance with subsection (2) of this section unless otherwise specified.

(a) Landfill disposal facilities that accept waste from the general public shall choose from the following options or combination of options for accounting for the financial assurance account:

(i) For landfill disposal facilities owned or operated by municipal corporations, the closure and post-closure reserve account shall be handled in one of the following ways:

(A) Cash and investments accumulated and restricted for closure with an equivalent amount of fund balance reserved in the fund accounting for solid waste activity; or

(B) The cash and investments held in a nonexpendable trust fund.

(C) Other approved method.

(ii) Closure trust fund established with an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The wording of the trust agreement must be acceptable to the local health department. The purpose of the closure trust fund is to receive and manage any funds paid by the owner or operator and to disburse those funds only for closure activities as identified in the approved closure plan.

(b) For private disposal facilities that accept public waste, established closure financial assurance accounts shall not constitute an asset of the facility owner or operator.

(c) During the operating life of the facility, the owner or operator must review the closure cost estimate thirty days before each anniversary of the date on which the first closure cost estimate was prepared. The review shall examine all factors, including inflation, involved in estimating the closure cost estimate. Any changes in costs shall be factored into a revised closure cost estimate. The new estimate shall be submitted to the jurisdictional health department for review and approval.

(d) For disposal facilities of this section, any income in excess of the closure cost estimate accruing to the established closure financial assurance account will be at the owner's discretion as to the use of said funds.

(e) Excess moneys remaining in the closure financial assurance account after the completion of all identified closure activities will be released to the facility owner or operator.

(4) Cost estimate for post-closure.

(a) Each owner or operator shall prepare a written post-closure cost estimate as part of the facility post-closure plan. The post-closure cost estimate shall be in current dollars and represent the total cost of completing post-closure activities for the facility for at least a twenty-year post-closure period in accordance with the post-closure requirements in WAC 173-304-407.

(i) The post-closure cost estimate shall be based on a reasonable cost estimate for completing post-closure monitoring, maintenance, and other activities identified in the approved facility post-closure plan as required under WAC 173-304-407;

(ii) The post-closure plan shall project annual or other intervals for withdrawal of post-closure funds from the post-closure financial assurance instrument to complete the activities identified in the approved post-closure plan;

(iii) The post-closure cost estimate shall not be reduced by allowance for salvage, value of equipment, waste, or resale value of property or land.

(b) Each owner or operator shall prepare a new post-closure cost estimate for the remainder of the post-closure care twenty-year period in accordance with (a) and (c) of this subsection, whenever:

(i) Change in the post-closure plan increases or decreases the cost of post-closure care; or

(ii) The jurisdictional health department directs the owner or operator to revise the post-closure plan or post-closure cost estimate.

(c) During the operating life of the facility, the owner or operator shall review the post-closure cost estimate thirty days prior to each anniversary of the date on which the first post-closure cost estimate was prepared. The review shall examine all factors, including inflation, involved in estimating the post-closure cost estimate. Any changes in costs must be factored into a revised post-closure cost estimate. The new estimate must be submitted to the jurisdictional health department for approval.

(d) During the operating life of the facility, the owner or operator shall keep the latest post-closure cost estimate prepared in accordance with (a) and (b) of this subsection, available for review.

(5) Financial assurance account for post-closure. Each owner or operator of a landfill disposal facility shall establish a financial assurance account in an amount equal to the post-closure cost estimate prepared in accordance with subsection (4) of this section.

(a) Applicable landfill disposal facilities that accept waste from the general public shall choose from the following options or combinations of options for accounting for the financial assurance account:

(i) For landfill disposal facilities owned or operated by municipal corporations, the post-closure reserve shall be handled in one of the following ways:

(A) Cash and investments accumulated and restricted for post-closure with an equivalent amount of fund balance reserved in the fund accounting for solid waste activity;

(B) Cash and investments held in a nonexpendable trust fund.

(C) Other approved method.

(ii) Post-closure trust fund established with an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The wording of the trust agreement must be acceptable to the department of ecology. The purpose of the post-closure trust fund is to receive and manage any funds paid by the owner or operator and to disburse those funds only for post-closure activities as identified in the approved post-closure plan.

(b) For disposal facilities as categorized in subsection (1)(b) of this section, established post-closure financial assurance accounts shall not constitute an asset of the facility owner or operator.

(c) For applicable disposal facilities of this section any income accruing to the established post-closure financial assurance account will be at the owner's discretion as to the use of said excess funds.

(d) Excess moneys remaining in the post-closure financial assurance account after the completion of all identified post-closure activities shall be released to the facility owner or operator.

(6) Closure/post-closure financial assurance account establishment and reporting.

(a) Closure and post-closure financial assurance funds shall be generated at each facility by transferring a percentage of the facility user fees to the selected financial assurance instrument at the schedule specified in the closure and post-closure plans, such that adequate closure and post-closure funds will be generated to ensure full implementation of the approved closure and post-closure plans.

(b) Each facility owner or operator must establish a procedure with the financial assurance instruments trustee for notification of nonpayment of funds to be sent to the jurisdictional health department and the department of ecology.

(c) Each owner or operator shall file with the department of ecology an annual audit of the financial assurance accounts established for closure and post-closure activities, and a statement of the percentage of user fees, as applicable, diverted to the financial assurance instruments.

(i) For landfill disposal facilities owned and operated by municipal corporations, the closure reserve account shall be audited according to the audit schedule of the office of state auditor and shall be filed with the department of ecology, including each of the post-closure care years.

(ii) For landfill disposal facilities not owned or operated by municipal corporations:

(A) Annual audits shall be conducted by a certified public accountant licensed in the state of Washington, and shall be filed with the department of ecology no later than March 31 of each year for the previous calendar year, including each of the post-closure care years.

(B) The audit shall also include calculations demonstrating the proportion of closure completed during the preceding year as specified in the closure and post-closure plans.

(d) Existing landfill disposal facilities may submit a written request with their annual audit to the department of ecology requesting a waiver from utilizing user fees to generate the moneys necessary for the closure and/or post-closure financial assurance account.

(i) The waiver request should provide documentation to demonstrate the facility user fees are prohibitively high, and include alternate method(s) for funding the facility's closure and/or post-closure financial assurance account;

(ii) The waiver request review procedure will be according to WAC 173-304-700.

(7) Authorization for financial assurance account fund withdrawal for closure and post-closure activities.

(a) Each owner or operator will withdraw funds from the closure and/or post-closure financial assurance instrument as specified in the approved closure/post-closure plans;

(b) If the withdrawal of funds from the financial assurance instrument exceeds by more than five percent the withdrawal schedule stated in the approved closure and/or post-closure plan, the closure and/or post-closure plan shall be amended.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-467, filed 10/4/88.]

WAC 173-304-468 Financial assurance for private landfill disposal facilities. (1)
Applicability.

(a) For the purposes of this regulation private landfill disposal facilities are privately-owned facilities that do not accept waste from the general public and dispose of only their own generated waste.

(b) These standards apply to all new and expanded landfill disposal facilities, and to existing landfill disposal facilities that have not been closed on or before November 27, 1989. Landfill disposal facilities include:

(i) Facilities operated as surface impoundments under WAC 173-304-430 that are closed with waste remaining in place and therefore required to meet the requirements of WAC 173-304-407; and

(ii) Woodwaste landfills operated under WAC 173-304-462.

(2) Cost estimates for closure and post-closure.

(a) Each owner or operator shall prepare separate written closure and post-closure cost estimates as part of the facility closure and post-closure plans. The cost estimates shall be in current dollars and represent the cost of closing or post-closure care of the facility for a period of twenty years in accordance with the closure requirements in WAC 173-304-407.

(i) The cost estimate shall be based on a reasonable cost estimate for completing design, purchase, construction, and other activities as identified in the facility closure or post-closure plan as required under WAC 173-304-407;

(ii) The closure and post-closure plans shall project intervals for withdrawal of funds from the closure or post-closure financial assurance instrument to complete the activities identified in the approved closure or post-closure plan;

(iii) The closure and post-closure cost estimate shall not be reduced by allowance for salvage value of equipment, waste, or the resale value of property or land.

(b) Each owner or operator shall prepare a new closure or post-closure cost estimate in accordance with (a) and (c) of this subsection whenever:

- (i) Changes in operating plans or facility design affect the closure or post-closure plans;
- (ii) There is a change in the expected year of closure that affects the closure plan; or
- (iii) The jurisdictional health department directs the owner or operator to revise the closure or post-closure plan or closure or post-closure cost estimate.

(c) Each owner or operator shall review the closure and post-closure cost estimate thirty days prior to the anniversary date of the date on which the first closure and post-closure cost estimate was prepared. The review shall examine all factors, including inflation, involved in estimating the closure and post-closure cost. Any cost changes shall be factored into a revised closure or post-closure cost estimate and submit the revised cost estimate to the jurisdictional health department and the department of ecology.

(d) During the operating life of the facility, the owner or operator must keep the latest closure and post-closure cost estimate prepared in accordance with (a) and (b) of this subsection, and when this estimate has been adjusted in accordance with (c) of this subsection, available for review.

(e) The department of ecology will evaluate each cost estimate for completeness, and may accept, or require a revision of the cost estimate in accordance with its evaluation.

(3) Financial assurance mechanism for closure and post-closure. Each owner or operator of an applicable landfill disposal facility shall establish financial assurance mechanisms in an amount equal to the closure cost estimate and post-closure cost estimate prepared in accordance with subsection (2) of this section.

(a) Applicable landfill disposal facilities shall provide one or more of the following financial assurance instruments:

(i) Closure and post-closure trust funds established with an entity which has authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The wording of the trust agreement must be acceptable to the department of ecology. The purpose of the closure and post-closure trust funds is to receive and manage any funds paid by the owner or operator and to disburse those funds only for closure or post-closure activities as identified in the approved closure and post-closure plan;

(ii) Surety bond guaranteeing payment into a closure and post-closure trust fund issued by a surety company listed as acceptable in Circular 570 of the United States Treasury Department or as hereafter amended. The wording of the surety bond(s) must be acceptable to the department. A standby closure and post-closure trust fund must also be established by the permittee. The purpose of the standby closure or post-closure trust fund is to receive any funds that may be paid by the operator or surety company. The bond must guarantee that the permittee will either fund the standby closure or post-closure trust in an amount equal to the penal sum of the bond before the site stops receiving waste. The surety shall become liable on the bond obligation if the permittee fails to perform as guaranteed by the bond. The surety may not cancel the bond until at least one hundred twenty days after the notice of cancellation has been received by both the permittee and the local health department. If the permittee has not provided alternate financial assurance acceptable under this section within ninety days of the cancellation notice, the surety must pay the amount of the bond into the standby closure or post-closure trust account;

(iii) Surety bond guaranteeing performance of closure or post-closure issued by a surety company listed as acceptable in Circular 570 of the United States Treasury Department or as

hereafter amended. The wording of the surety bond must be acceptable to the department of ecology. A standby closure and post-closure trust fund must also be established by the permittee. The purpose of the standby closure or post-closure trust fund is to receive any funds that may be paid by the surety company. The bond must guarantee that the permittee will perform final closure or post-closure activities. The surety shall become liable on the bond obligation if the permittee fails to perform as guaranteed by the bond. The surety may not cancel the bond until at least one hundred twenty days after the notice of cancellation has been received by the permittee and the local health department. If the permittee has not provided alternative financial assurance acceptable under this section within ninety days of the cancellation notice, the surety must pay the amount of the bond into the standby closure or post-closure trust account;

(iv) Closure or post-closure irrevocable letter of credit issued by 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. The wording of the letter of credit must be acceptable to the department. Standby closure and post-closure trust funds must also be established by the permittee. The purpose of the standby trust funds is to receive any funds deposited by the issuing institution resulting from a draw on the letter of credit. The letter of credit must be irrevocable and issued for a period of at least one year unless the issuing institution notifies both the permittee and the local health department at least one hundred twenty days before the current expiration date. If the permittee fails to perform closure and post-closure activities according to the closure or post-closure plan and permit requirements, or if the permittee fails to provide alternate financial assurance acceptable to the department within ninety days after notification that the letter of credit will not be extended, the local health department may draw from the letter of credit;

(v) Closure and post-closure insurance policies issued by an insurer who is licensed to transact the business of insurance or is eligible as an excess or surplus lines insurer in one or more states. The working of the certificate of insurance must be acceptable to the department. Each insurance policy must guarantee that the funds will be available to complete those activities identified in the approved closure and post-closure plans. The policy must also guarantee that the insurer will be responsible for paying out funds for activities identified in either the closure or post-closure plan. The policy must provide that the insurance is automatically renewable and that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. If there is a failure to pay the premium, the insurer may not terminate the policy until at least one hundred twenty days after the notice of cancellation has been received by both the permittee and the local health department. Termination of the policy may not occur and the policy must remain in full force and effect if: The local health department determines the facility has been abandoned; or closure has been ordered by the local health department or a court of competent jurisdiction, or the permittee has been named as debtor in a voluntary or involuntary proceeding under Title 11 U.S.C. (Bankruptcy); or the premium due is paid. The permittee is required to maintain the policy in full force and until an alternative financial assurance guarantee is provided or when the permit is terminated.

(vi) Financial test and corporate guarantee for closure and post-closure. A private corporation meeting the financial test may provide a corporate guarantee that closure and post-closure activities will be completed according to the approved closure and post-closure plans

and permit requirements. To qualify, a private corporation must meet the criteria of either (a)(vi)(A) or (B) of this subsection:

(A) Financial test. To pass the financial test the permit 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; or a ratio of current assets to current liabilities greater than 1.5;

(II) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates;

(III) Tangible net worth of at least ten million dollars; and

(IV) Assets in the United States amounting to at least ninety percent of its total assets or at least six times the sum of the current closure and post-closure cost estimates.

(B) Alternative financial test. To pass the alternative financial test, the permittee must have:

(I) A current rating of AAA, AA, A, or BBB as issued by *Standard and Poor's* or Aaa, Aa, A, or Bbb as issued by *Moody's*;

(II) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates;

(III) Tangible net worth of at least ten million dollars; and

(IV) Assets in the United States amounting to at least ninety percent of its total assets or at least six times the sum of the current closure and post-closure cost estimates.

(C) The permittee shall demonstrate that it passes the financial test at the time the closure plan is filed and reconfirm that annually ninety days after the end of the corporation's fiscal year by submitting the following items to the department of ecology:

(I) A letter signed by the permittee's chief financial officer that provides the information necessary to document that the permittee passes the financial test; that guarantees that the funds to finance closure and post-closure activities according to the closure or post-closure plan and permit requirements are available; that guarantees that the closure and post-closure will be completed according to the closure or post-closure plan and permit requirements; that guarantees that within thirty days after written notification from the jurisdictional health department that the permittee no longer meets the criteria of the financial test the permittee shall provide an alternative form of financial assurance consistent with the requirements of this section; that guarantees that the permittee's chief financial officer will notify the jurisdictional health department within fifteen days any time that the permittee no longer meets the criteria of the financial test or is named as debtor in a voluntary or involuntary proceeding under Title 11 U.S.C. (Bankruptcy); and that acknowledges that the corporate guarantee is a binding obligation on the corporation and that the chief financial officer has the authority to bind the corporation to the guarantee;

(II) A copy of the independent certified public accountant's report on examination of the permittee's financial statements for the latest completed fiscal year;

(III) A special report from the permittee's independent certified public accountant (CPA) stating that the CPA has compared the data which the letter from the permittee's 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 statement and that no matters came to the CPA's attention which caused the CPA to believe that the specified data should be adjusted;

(IV) The jurisdictional health department may, based on a reasonable belief that the permittee no longer meets the criteria of the financial test, require reports of the financial condition at any time from the permittee in addition to the annual report. If the jurisdictional health department finds, on the basis of such reports or other information that the permittee no longer meets the criteria of the financial test, the permittee shall provide an alternative form of financial assurance consistent with the requirements of this section, within thirty days after notification by the jurisdictional health department.

(b) For applicable disposal facilities of this section, any income in excess of the cost estimate(s) accruing to the established closure or post-closure financial assurance account will be at the owner's discretion as to the use of said surplus funds.

(c) A permittee may meet the requirements of this section by obtaining a written guarantee from the parent corporation of the permittee. The guarantor must meet one of the financial tests described in (a)(vi)(A) or (B) of this subsection, and must provide the documentation required by (a)(vi)(C) of this subsection. The terms of the guarantee must provide that:

(i) If the permittee fails to perform final closure and, where required, provide post-closure care of a facility covered by the guarantee in accordance with the approved closure and post-closure plans, the guarantor will do so or establish a trust fund as specified in (a)(i) of this subsection in the name of the permittee.

(ii) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the permittee, to the jurisdictional health department and to the department of ecology. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the permittee and the department of ecology, as evidenced by the return receipts.

(iii) If the permittee fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the jurisdictional health department or the department of ecology within ninety days after receipt by both the permittee, the jurisdictional health department, and the department of ecology of a notice of cancellation of the guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the permittee.

(4) Closure/post-closure trust fund account establishment and reporting.

(a) Each owner or operator shall file with the local health department an annual audit of the financial assurance accounts established for closure and post-closure activities.

(b) Annual audits shall be conducted by a certified public accountant licensed in the state of Washington, and shall be filed with the department of ecology no later than March 31 of each year for the previous calendar year, including each of the post-closure care years.

(c) The audit shall also include calculations demonstrating the proportion of closure completed during the preceding year as specified in the closure and post-closure plans.

(5) Authorization for financial assurance account fund withdrawal for closure and post-closure activities.

(a) Each owner or operator shall withdraw funds from the closure and/or post-closure financial assurance instrument as specified in the approved closure/post-closure plans;

(b) If the withdrawal of funds from the financial assurance instrument exceeds by more than five percent the withdrawal schedule stated in the approved closure and/or post-closure plan the closure and/or post-closure plan shall be amended.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-468, filed 10/4/88.]

WAC 173-304-470 Other methods of solid waste handling. (1) Applicability. This section applies to other methods of solid waste handling such as a material resource recovery system for municipal waste not specifically identified elsewhere in this regulation, nor excluded from this regulation.

(2) Requirements. Owners and operators of other methods of solid waste handling shall:

(a) Comply with the requirements in WAC 173-304-405;

(b) Obtain a permit under WAC 173-304-600 from the jurisdictional health department, by submitting an application containing information required in WAC 173-304-600 (3)(a), and such other information as may be required by the jurisdictional health department and the department, including:

(i) Preliminary engineering reports and plans and specifications; and

(ii) A closure plan.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-470, filed 10/28/85.]

WAC 173-304-490 Ground water monitoring requirements. (1) Applicability. These requirements apply to owners and operators of landfills, piles, landspreading disposal facilities, and surface impoundments that are required to perform ground water monitoring under WAC 173-304-400.

(2) Ground water monitoring requirements.

(a) The ground water monitoring system must consist of at least one background or upgradient well and three down gradient wells, installed at appropriate locations and depths to yield ground water samples from the upper most aquifer and all hydraulically connected aquifers below the active portion of the facility.

(i) Represent the quality of background water that has not been affected by leakage from the active area; and

(ii) Represent the quality of ground water passing the point of compliance. Additional wells may be required by the jurisdictional health department in complicated hydrogeological settings or to define the extent of contamination detected.

(b) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must allow collection of representative ground water samples. Wells must be constructed in such a manner as to prevent contamination of the samples, the sampled strata, and between aquifers and water bearing strata and in accordance with chapter 173-160 WAC, Minimum standards for construction and maintenance of water wells.

(c) The ground water monitoring program must include at a minimum, procedures and techniques for:

(i) Decontamination of drilling and sampling equipment;

(ii) Sample collection;

(iii) Sample preservation and shipment;

(iv) Analytical procedures and quality assurance;
(v) Chain of custody control; and
(vi) Procedures to ensure employee health and safety during well installation and monitoring.

(d) Sample constituents.

(i) All facilities shall test for the following parameters:

(A) Temperature;

(B) Conductivity;

(C) pH;

(D) Chloride;

(E) Nitrate, nitrite, and ammonia as nitrogen;

(F) Sulfate;

(G) Dissolved iron;

(H) Dissolved zinc and manganese;

(I) Chemical oxygen demand;

(J) Total organic carbon; and

(K) Total coliform.

(ii) The jurisdictional health department in consultation with the department may specify additional or fewer constituents depending upon the nature of the waste; and

(iii) Test methods used to detect the parameters of (d)(i) of this subsection shall be EPA Publication Number SW-846, *Test Methods for Evaluating Solid Waste - Physical/Chemical Methods* except for total coliform which shall use the latest edition of *Standard Methods for the Examination of Water and Wastewater*.

(e) The ground water monitoring program must include a determination of the ground water surface elevation each time ground water is sampled.

(f) The owner or operator shall use a statistical procedure for determining whether a significant change over background has occurred. The jurisdictional health department will approve such a procedure with the guidance of the department.

(g) The owner or operator must determine ground water quality at each monitoring well at the compliance point at least quarterly during the life of an active area (including the closure period) and the postclosure care period. The owner or operator must express the ground water quality at each monitoring well in a form necessary for the determination of statistically significant increases.

(h) The owner or operator must determine and report the ground water flow rate and direction in the uppermost aquifer at least annually.

(i) If the owner or operator determines that there is a statistically significant increase for parameters or constituents at any monitoring well at the compliance point, the owner or operator must:

(i) Notify the jurisdictional health department of this finding in writing within seven days of receipt of the sampling data. The notification must indicate what parameters or constituents have shown statistically significant increases;

(ii) Immediately resample the ground water in all monitoring wells and determine the concentration of all constituents listed in the definition of contamination in WAC 173-304-100 including additional constituents identified in the permit and whether there is a statistically significant increase such that the ground water performance standard has been exceeded, and notify the jurisdictional health department within fourteen days of receipt of the sampling data.

(j) The jurisdictional health department may require corrective action programs including facility closure if the performance standard of WAC 173-304-460 (2)(a) is exceeded and, in addition, may revoke any permit and require reapplication under WAC 173-304-600.

(3) Corrective action program. An owner or operator required to establish a corrective action program under this section must, at a minimum with the approval of the jurisdictional health officer:

(a) Implement a corrective action program that reduces contamination and if possible prevents constituents from exceeding their respective concentration limits at the compliance point by removing the constituents, treating them in place, or other remedial measures;

(b) Begin corrective action according to a written schedule after the ground water performance standard is exceeded;

(c) Terminate corrective action measures once the concentrations of constituents are reduced to levels below the limits under WAC 173-304-460 (2)(a).

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-490, filed 10/28/85.]

WAC 173-304-600 Permit requirements for solid waste facilities. (1) Applicability.

(a) All facilities which are subject to the standards of WAC 173-304-130, 173-304-300, and 173-304-400 are required to obtain permits. Permits are not required for single family residences and single family farms dumping or depositing solid waste resulting from their own activities on to or under the surface of land owned or leased by them when such action does not create a nuisance, violate statutes, ordinances, or regulations, including this regulation.

(b) Permits are not required for corrective actions at solid waste handling facilities performed by the state and/or in conjunction with the United States Environmental Protection Agency to implement the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), or corrective actions taken by others to comply with a state and/or federal cleanup order provided that:

(i) The action results in an overall improvement of the environmental impact of the site;

(ii) The action does not require or result in additional waste being delivered to the site or increase the amount of waste or contamination present at the site;

(iii) The facility standards of WAC 173-304-400 are met; and

(iv) The jurisdictional health department is informed of the actions to be taken and is given the opportunity to review and comment upon the proposed corrective action plans.

(c) Effective dates. The effective dates are as follows:

(i) The permit requirements of this section apply to all existing waste handling facilities eighteen months after the effective date of this regulation.

(ii) Between the effective date of this regulation and eighteen months thereafter, existing facilities will operate under the terms and conditions of existing permits valid on the effective date of this regulation. Jurisdictional health departments shall incorporate compliance schedules into valid existing permits; such compliance schedules shall insure that existing facilities meet the effective dates of WAC 173-304-400(3).

(iii) New and expanded waste handling facilities shall meet the requirements of this section on the effective date of this regulation.

(2) Procedures for permits.

(a) Any owner or operator subject to the permit requirements who intends to operate a facility must apply for a permit with the jurisdictional health department. Filing shall not be complete until two copies of the application have been signed by the owner and operator and received by the jurisdictional health department, and the applicant has filed an environmental checklist required under the State Environmental Policy Act rules, chapter 197-11 WAC.

(b) Applications for a permit must contain the information set forth in subsection (3) of this section.

(c) Once the jurisdictional health department determines that an application for a permit is factually complete, it shall refer one copy to the appropriate regional office of the department for review and comment.

(d) The jurisdictional health department shall investigate every application to determine whether the facilities meet all applicable laws and regulations, conforms with the approved comprehensive solid waste handling plan and complies with all zoning requirements.

(e) The jurisdictional health department may establish reasonable fees for permits and renewal of permits. All permit fees collected by the health department shall be deposited in the county treasury in the account from which the health department's operating expenses are paid.

(f) The department shall report to the jurisdictional health department its findings on each permit application within forty-five days of receipt of a complete application or inform the jurisdictional health department as to the status of the application. Additionally, the department shall recommend for or against the issuance of each permit by the jurisdictional health department.

(g) When the jurisdictional health department has evaluated all pertinent information, it may issue a permit. Every completed solid waste permit application shall be approved or disapproved within ninety days after its receipt by the jurisdictional health department or the applicant shall be informed as to the status of the application.

(h) Except for applications specified in subsection (3)(h) of this section every permit issued by a jurisdictional health department shall be on a format prescribed by the department and shall contain specific requirements necessary for the proper operation of the permitted site or facility including the requirement that final engineering plans and specifications be submitted for approval to the jurisdictional health department.

(i) All issued permits must be filed with the department no more than seven days after the date of issuance.

(j) The owner or operator of a facility shall apply for renewal of the facility's permit annually. The jurisdictional health department shall annually:

(i) Review the original application for compliance with these regulations and submit such additional information as spelled out in subsection (4) of this section;

(ii) Review information collected from inspections, complaints, or known changes in the operations;

(iii) Collect the renewal fee;

(iv) Renew the permit; and

(v) File the renewed permit with the department no more than seven days after the date of issuance. The department shall review and may appeal the renewal as set forth in RCW 70.95.185 and 70.95.190.

(3) Application contents for permits for new or expanded facilities.

(a) All permit applications except for inert waste, demolition waste, special purpose landfills, woodwaste landfill and recycling facilities applications, which are specified in (h) of this subsection, shall contain the following:

- (i) A general description of the facility;
- (ii) The types of waste to be handled at the facility;
- (iii) The plan of operation required by WAC 173-304-405(2);
- (iv) The form used to record weights or volumes required by WAC 173-304-405(3);
- (v) An inspection schedule and inspection log required by WAC 173-304-405(5); and
- (vi) Documentation to show that any domestic or industrial waste water treatment facility, such as a leachate treatment system, is being reviewed by the department under chapter 173-240 WAC.

(b) Application contents for permits for new or expanded landfill facilities. In addition to the requirements of (a) of this subsection, each landfill application for a permit must contain:

- (i) A geohydrological assessment of the facility that addresses:
 - (A) Local/regional geology and hydrology, including faults, unstable slopes and subsidence areas on site;
 - (B) Evaluation of bedrock and soil types and properties;
 - (C) Depths to ground water and/or aquifer(s);
 - (D) Direction and flow rate of local ground water;
 - (E) Direction of regional ground water;
 - (F) Quantity, location and construction (where available) of private and public wells within a two thousand foot radius of site;
 - (G) Tabulation of all water rights for ground water and surface water within a two thousand foot radius of the site;
 - (H) Identification and description of all surface waters within a one-mile radius of the site;
 - (I) Background ground and surface water quality assessment, and for expanded facilities, identification of impacts of existing facilities of the applicant to date upon ground and surface waters from landfill leachate discharges;
 - (J) Calculation of a site water balance;
 - (K) Conceptual design of a ground water and surface water monitoring system, including proposed installation methods for these devices and where applicable a vadose zone monitoring plan;
 - (L) Land use in the area, including nearby residences; and
 - (M) Topography of the site and drainage patterns.
- (ii) Preliminary engineering report/plans and specifications that address:
 - (A) How the facility will meet the locational standards of WAC 173-304-130;
 - (B) Relationship of facility to county solid waste comprehensive plan and the basis for calculating the facility's life;
 - (C) The design of bottom and side liners;
 - (D) Identification of borrow sources for daily and final cover, and soil liners;
 - (E) Interim/final leachate collection, treatment, and disposal;
 - (F) Landfill gas control and monitoring;
 - (G) Trench design, fill methods, elevation of final cover and bottom liner, and equipment requirements; and
 - (H) Closure/post-closure design, construction, maintenance, and land use.

- (iii) An operation plan that addresses:
 - (A) Operation and maintenance of leachate collection, treatment, and disposal systems;
 - (B) Operation and maintenance of landfill gas control systems;
 - (C) Monitoring plans for ground water, surface water, and landfill gases to include sampling technique, frequency, handling, and analyses requirements;
 - (D) Safety and emergency accident/fire plans;
 - (E) Routine filling, grading, cover, and housekeeping;
 - (F) Record system to address records on weights (or volumes), number of vehicles and the types of waste received;
 - (G) Vector control plans; and
 - (H) Noise control.

- (iv) Closure plan to address:
 - (A) Estimate of closure season/year;
 - (B) Capacity of site in volume and tonnage;
 - (C) Maintenance of active fill versus completed, final covered acreage;
 - (D) Estimated closure construction timing and notification procedures;
 - (E) Inspection by regulatory agencies.
- (v) Post-closure plan to address:
 - (A) Estimated time period for post-closure activities;
 - (B) Site monitoring of landfill gas, ground water, and surface water;
 - (C) Deed clause changes, land use, and zoning restrictions;
 - (D) Maintenance activities to maintain cover and run-off systems; and
 - (E) Identification of final closure costs including cost calculations and the funding mechanism.

(c) Application contents for new or expanded transfer stations, drop box facilities, and baling and compaction systems requiring a permit. In addition to the requirements of (a) of this subsection, each applicable application for a permit must contain preliminary engineering report/plans and specifications that address:

- (i) The proposed facility's zoning status;
- (ii) The relationship to the county solid waste comprehensive plan and the area to be served by the facility; and
- (iii) The facility design to address how the facility shall meet requirements of WAC 173-304-410, including closure.

(d) Application contents for new or expanded surface impoundments requiring a permit. In addition to the requirements of (a) of this subsection, each applicable application for a permit must contain:

- (i) A geohydrological assessment of the facility that addresses all of the factors of (b)(i) of this subsection;
- (ii) Preliminary engineering report/plans and specifications that address, where applicable:
 - (A) How the proposed facility will meet the locational standards of WAC 173-304-130;
 - (B) The relationship of facility to the county solid waste comprehensive plan;
 - (C) The design of liners and foundation to be incorporated in the facilities design including the design leachate of collection and treatment systems;
 - (D) The design of ground water monitoring;

- (E) The design of dikes including calculations on dike stability analyses under conditions of liner failure;
- (F) Other design details, including sludge cleanout and disposal, overflowing alarms and inlet design; and
- (G) Closure/post-closure design, construction maintenance and land use.
- (iii) An operation plan that addresses:
 - (A) Operation and maintenance of leachate collection system, or ground water monitoring;
 - (B) Operation and maintenance of overflowing equipment or details of filling and emptying techniques;
 - (C) Inspection of dikes and liners for integrity; and
 - (D) Safety and emergency plans.
- (iv) A closure plan to address:
 - (A) Estimate of closure year and cost;
 - (B) Methods of removing wastes, liners and any contaminated soils, and location of final disposal;
 - (C) Closure timing and notification procedures; and
 - (D) Final inspection by regulatory agencies.
- (e) Application contents for new or expanded piles requiring a permit. In addition to the requirements of (a) of this subsection, each application for a permit must contain:
 - (i) Preliminary engineering reports/plans and specifications that address:
 - (A) How the proposed facility will meet the locational standards of WAC 173-304-130;
 - (B) The relationship of the facility to the county solid waste comprehensive plan and zoning;
 - (C) The design of the liner or sealed surface upon which the liner rests, including an analysis of the liners ability to withstand the stress;
 - (D) The design of the run-on and run-off system;
 - (E) The design to avoid washout when the pile is located in a one hundred year floodplain; and
 - (F) Maximum elevation and boundaries of the waste pile.
 - (ii) An operation plan that addresses:
 - (A) Methods of adding or removing wastes from the pile and equipment used;
 - (B) Inspection of the liner for integrity; and
 - (C) Safety and emergency plans.
 - (iii) A closure plan to address:
 - (A) Estimate of closure year and cost;
 - (B) Methods of removing wastes, liners and any contaminated soils, and location of final disposal;
 - (C) Closure timing and notification procedures; and
 - (D) Final inspection by regulatory agencies.
- (f) Application contents for new or expanded energy recovery and incinerator facilities requiring a permit. In addition to the requirements of (a) of this subsection, each application for a permit must contain:
 - (i) Preliminary engineering reports/plans and specifications that address:
 - (A) The relationship of the facility to the county solid waste comprehensive plan and zoning;

(B) The design of the storage and handling facilities on-site for incoming waste as well as fly ash, bottom ash and any other wastes produced by air or water pollution controls; and

(C) The design of the incinerator or thermal treater, including changing or feeding systems, combustion air systems, combustion or reaction chambers, including heat recovery systems, ash handling systems, and air pollution and water pollution control systems.

Instrumentation and monitoring systems design shall also be included.

(ii) An operation plan that addresses:

(A) Cleaning of storage areas as required by WAC 173-304-440 (2)(a);

(B) Alternative storage plans for breakdowns as required in WAC 173-304-440 (2)(c);

(C) Inspection to insure compliance with state and local air pollution laws and to comply with WAC 173-304-405(5). The inspection log or summary must be submitted with the application; and

(D) How and where the fly ash, bottom ash and other solid wastes will be disposed of.

(iii) A closure plan to address:

(A) Estimate of closure year and cost;

(B) Methods of closure and methods of removing wastes, equipment, and location of final disposal;

(C) Closure timing and notification procedures; and

(D) Final inspection by regulatory agencies.

(g) Application contents for new or expanded landspreading disposal facilities requiring a permit. In addition to the requirements of (a) of this subsection, each application for a permit must contain:

(i) A geohydrological assessment of the facility that addresses all of the factors of (b)(i) of this subsection;

(ii) Preliminary engineering reports/plans and specifications that address:

(A) How the proposed facility will meet the locational standards of WAC 173-304-130;

(B) The relationship of the facility to the county solid waste comprehensive plan and the basis for calculating the facility's life;

(C) Waste analyses and methods to periodically sample and analyze solid waste;

(D) Design of interim waste storage facilities if such facilities are not otherwise permitted by the department;

(E) Design of run-on and run-off systems;

(F) A contour map of the active area showing contours to the nearest foot;

(G) A ground water and surface water monitoring program; and

(H) Access barriers such as fences, and warning signs.

(iii) An operation plan that addresses:

(A) Operation and maintenance of run-off and run-on systems;

(B) Methods of taking ground water samples and for maintaining ground water monitoring systems;

(C) Methods of applying wastes to meet the requirements of WAC 173-304-450 (2)(d):

(I) Estimated multiples of agronomic rates;

(II) Frequency of discing; and

(III) Avoidance of standing water.

(D) The written contract required between landowners, waste generators and waste operators.

(iv) Closure plan to address:

- (A) Estimate of closure season/year;
- (B) Capacity of site in volume and tonnage;
- (C) Year-to-year maintenance of the active area versus completed, final covered acreage;
- (D) Closure construction timing and notification procedures; and
- (E) Final inspection by regulatory agencies.
- (v) Post-closure plan to address:
 - (A) Estimated time period for post-closure activities;
 - (B) Site monitoring of ground water;
 - (C) Deed clause changes, land use, and zoning restrictions;
 - (D) Maintenance activities to maintain cover and run-off systems;
 - (E) Plans for food chain crops being grown on the active areas, after closure; and
 - (F) Identification of final closure costs including cost calculations and the funding mechanism.

(h) Application contents for new or expanded inert waste and demolition waste, special purpose landfill, woodwaste landfills, and recycling facilities.

Applications for permits subject to the standards of WAC 173-304-300, 173-304-460(5), 173-304-461, and 173-304-462 shall be on forms whose content shall be specified by the jurisdictional health department.

(4) Application contents for existing facilities renewing permits. All owners or operators of existing facilities shall renew permits or application forms specified in subsection (3) of this section. Previous information submitted to the jurisdictional health department may be referred to on the application forms. Changes in operating methods or other changes must be noted on the application in order to be authorized by permit.

(5) Inspections. As a minimum, annual inspections of all permitted solid waste facilities shall be performed by the jurisdictional health department. Any duly authorized officer, employee, or representative of the jurisdictional health officer or his designee having jurisdiction may enter and inspect any property, premises or place at any reasonable time for the purpose of determining compliance with this chapter, and relevant laws and regulations. Findings shall be noted and kept on file. A copy of the inspection report or annual summary shall be furnished to the site operator.

[Statutory Authority: RCW 70.95.215. 88-20-066 (Order 88-28), § 173-304-600, filed 10/4/88. Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-600, filed 10/28/85.]

WAC 173-304-700 Variances. (1) Any person who owns or operates a solid waste facility may apply to the jurisdictional health officer for a variance from any section of this regulation. The application shall be accompanied by such information as the jurisdictional health department may require. The jurisdictional health department may grant such variance, but only after due notice or a public hearing if requested, if it finds that:

(a) The solid waste handling practices or location do not endanger public health, safety or the environment; and

(b) Compliance with the regulation from which variance is sought would produce hardship without equal or greater benefits to the public.

(2) No variance shall be granted pursuant to this section until the jurisdictional health department has considered the relative interests of the applicant, other owners of property likely to be affected by the handling practices and the general public.

(3) Any variance or renewal shall be granted within the requirements of subsection (1) of this section and for time period and conditions consistent with the reasons therefor, and within the following limitations:

(a) If the variance is granted on the ground that there is no practicable means known or available for the adequate prevention, abatement, or control of pollution involved, it shall be only until the necessary means for prevention, abatement or control become known and available and subject to the taking of any substitute or alternative measures that the jurisdictional health department may prescribe;

(b) The jurisdictional health department may grant a variance conditioned by a time table if:

(i) Compliance with the regulation will require spreading of costs over a considerable time period; and

(ii) The time table is for a period that is needed to comply with the regulation.

(4) Any variance granted pursuant to this section may be renewed on terms and conditions and for periods which would be appropriate on initial granting of a variance. No renewal thereof shall be granted, unless following a public hearing on the complaint or due notice, the jurisdictional health department finds the renewal is justified. No renewal shall be granted except on application. Any such application shall be made at least sixty days prior to the expiration of the variance. Immediately upon receipt of an application for renewal, the jurisdictional health department shall give public notice of such application in accordance with rules and regulations of the jurisdictional health department.

(5) An application for a variance, or for the renewal thereof, submitted to the jurisdictional health department shall be approved or disapproved by the jurisdictional health department within ninety days of receipt unless the applicant and the jurisdictional health department agree to a continuance.

(6) No variance shall be granted by a jurisdictional health department except with the approval and written concurrence of the department prior to action on the variance by the jurisdictional health department.

(7) Variances granted by a jurisdictional health department will be accepted as variances under this regulation.

(8) Public notice shall be given by mailing a notice of the variance application to persons who have written to the jurisdictional health department asking to be notified of all variance requests.

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-700, filed 10/28/85.]

WAC 173-304-9901 Maximum contaminant levels for ground water. Maximum contaminant levels for ground water shall be those specified in chapter 248-54 WAC, as the primary drinking water standards. Analytical methods for these contaminants may be found in the Code of Federal Regulations 40 CFR Part 141. (These contaminant levels are to be considered interim levels for the purpose of regulating solid waste handling facilities and shall

be used until such time as the department establishes ground water quality standards for all types of activities impacting ground water.)

[Statutory Authority: Chapter 43.21A RCW. 85-22-013 (Order 85-18), § 173-304-9901, filed 10/28/85.]

Appendix F
Chapter 174-351
Criteria for Municipal Solid Waste Landfills

Chapter 173-351 WAC

CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

| | |
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WAC 173-351-010 Purpose, applicability and effective dates. (1) Purpose. The purpose of this regulation is to establish minimum statewide standards for all municipal solid waste landfill (MSWLF) units under the authority of chapter 70.95 RCW as amended in order that jurisdictional health departments can enact ordinances equally as or more stringent than this regulation and to have jurisdictional health departments implement such ordinances through a permit system set forth in Section 700. It is also the purpose of this regulation to implement rule making by the Environmental Protection Agency (EPA) under the authority of subtitle D of the Resource Conservation and Recovery Act (RCRA), as amended in 1984, and under the authority of Section 405(d) of the Clean Water Act as amended. The Clean Water Act required EPA "to establish standards for sewage sludge that is co-disposed with municipal solid waste." EPA satisfied both statutory requirements with the publication of 40 CFR Part 258-Criteria For

Municipal Solid Waste Landfills on October 9, 1991. These minimum statewide criteria ensure the protection of human health and the environment.

(2) Applicability.

(a) These criteria apply to new MSWLF units, existing MSWLF units, and lateral expansions, except as otherwise specifically provided in this regulation; all other solid waste disposal facilities and practices that are not regulated under subtitle C of RCRA and chapter 70.105 RCW are subject to the criteria contained in 40 CFR Part 257, Criteria For Classification of Solid Waste Disposal Facilities, and/or chapter 173-304 WAC as amended.

Note: These rules do not apply to facilities that receive only inert and demolition waste, wood waste, industrial solid wastes, or other types of solid waste (other than household waste) disposed of in limited purpose landfills regulated in chapter 173-304 WAC, minimum functional standards for solid waste handling. Co-disposal of any solid waste with household waste is governed by these rules.

(b) These criteria do not apply to MSWLF units that do not receive waste on or after the effective date of this chapter. MSWLF units that stopped receiving waste prior to October 9, 1991, are subject to closure and post-closure rules under chapter 173-304 WAC, the Minimum Functional Standards for Solid Waste Handling. MSWLF units that received waste on and after October 9, 1991, but stop receiving waste prior to the effective date of this rule:

(i) Are also subject to federal closure rules under 40 CFR Part 258.60(a);

(ii) Will be subject to all the requirements of this regulation unless otherwise specified, if such MSWLF units fail to meet the federal closure rules under 40 CFR Part 258.60(a) by April 9, 1994, and the closure standards of chapter 173-304 WAC; except that jurisdictional health departments may grant time extensions to complete closure under 40 CFR Part 258.60(a) by October 9, 1994; and

(iii) Will be subject to the ground water monitoring and corrective action requirements of WAC 173-351-400 and the permitting requirements of WAC 173-351-700 if such MSWLF units are part of a multi-unit ground water monitoring system of WAC 173-351-450(4).

(c) All MSWLF units that receive waste on or after the effective date of this chapter must comply with this chapter by the effective date of this chapter unless:

(i) Later effective dates are specified elsewhere in this chapter, such as WAC 173-351-400 (1)(b), ground water monitoring and WAC 173-351-600 (4)(c); or

(ii) The MSWLF unit is an existing MSWLF unit or an existing lateral expansion of an existing unit that:

(A) Disposed of 100 tons per day or less of solid waste during a representative period prior to the effective date of this chapter;

(B) Does not dispose of more than an average of 100 tons per day of solid waste each month between the effective date of this chapter and April 9, 1994; and

(C) Is not on the National Priorities List (NPL) as found in Appendix B to 40 CFR Part 300.

(d) MSWLF units that meet conditions of (c) of this subsection are exempt from all requirements of this rule but must meet the final cover requirement specified in 40 CFR 258.60(a) and the requirements of chapter 173-304 WAC. The final cover must be installed by October 9, 1994. Owners or operators of MSWLF units described in (c) and (d) of this section that fail to complete cover installation by October 9, 1994, will be subject to all requirements of this chapter, unless otherwise specified.

(e) MSWLF units failing to satisfy these criteria are considered open dumps for purposes of state solid waste management planning under RCRA.

(f) MSWLF units failing to satisfy these criteria constitute open dumps, which are prohibited under section 4005 of RCRA.

(g) MSWLF units containing sewage sludge and failing to satisfy these criteria violate Sections 309 and 405(e) of the Federal Clean Water Act.

Note: All state codes standards, rules and regulations cited in this chapter are available by writing to the Department of Ecology, P.O. Box 4-7600, Olympia, Washington 98504-7600, or call 1-800-RECYCLE for the location of the nearest regional office of the department.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-010, filed 10/26/93, effective 11/26/93.]

WAC 173-351-100 Definitions. Unless otherwise noted, all terms contained in this part are defined by their plain meaning. This section contains definitions for terms that appear throughout this regulation; additional definitions appear in the specific sections to which they apply.

"Active area" means that part of a facility that includes the active portion and portions of a facility that recycle, store, treat, or dispose of solid (including liquid) wastes. The active area includes leachate treatment facilities and runoff ponds. It excludes run-on ponds and on-site roads which are used for any purpose; on-site roads are considered part of the buffer zone. See active portion and buffer zone definition below.

"Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with WAC 173-351-500, Closure and post-closure care.

"Active portion" means that part of a facility or MSWLF unit that has received or is receiving wastes and that has not been closed in accordance with WAC 173-351-500, Closure and post-closure care.

"Airport." See WAC 173-351-130 (2)(d)(i).

"Areas susceptible to mass movement." See WAC 173-351-130 (7)(b)(iv).

"Arid" means locations in the state of Washington having less than twelve inches (30 centimeters) of precipitation annually.

"Biosolids" means municipal sewage sludge that is a primarily organic, semisolid product resulting from the wastewater treatment process, that can be beneficially recycled and meets all requirements under chapter 70.95J RCW. Biosolids includes septic tank sludge, also known as septage, that can be beneficially recycled and meets all requirements of chapter 70.95J RCW.

"Bird hazard." See WAC 173-351-130 (2)(d)(ii).

"Buffer zone" means that part of a facility which lies between the active area and the property boundary.

"Closure" means those actions taken by the owner or operator of a MSWLF unit or facility to cease disposal operations and to ensure that a MSWLF unit or facility is closed in conformance with applicable regulations at the time of such closures and to prepare the site for the post-closure period. Closure is considered part of operation. See definition of operation.

"Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

"Composite layer." See WAC 173-351-500 (1)(i)(B).

"Composite liner." See WAC 173-351-300 (2)(a)(ii).

"Construction quality assurance" means a planned system of activities that provide assurance that a facility is constructed as specified in the design and that the materials used in construction are manufactured according to specifications. Construction quality assurance includes inspections, verifications, audits, and evaluations of materials and workmanship necessary to determine and document the quality of the constructed facility.

"Construction quality control" means a planned system of activities that is used to directly monitor and control the quality of a construction project. Construction quality controls are the measures under taken by the contractor or installer to determine compliance with requirements for workmanship and materials put forth in the plans and specification for the construction project.

"Contaminate" means to allow to discharge a substance into ground water that would cause:

The concentration of that substance in the ground water to exceed the maximum contamination level specified in chapter 173-200 WAC; or

A statistically significant increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminant level specified in chapter 173-200 WAC; or

A statistically significant increase above background in the concentration of a substance which:

Is not specified in chapter 173-200 WAC; and

Is present in the solid waste; and

Has been determined to present a substantial risk to human health or the environment in the concentrations found at the point of compliance by the jurisdictional health department in consultation with the department and the department of health.

"Dangerous wastes" means any solid waste designated as dangerous waste under chapter 173-303 WAC, the Dangerous waste regulations.

"Demolition waste" means solid waste, largely inert waste resulting from the demolition or razing of buildings, roads and other man-made structures.

"Demonstration" means a showing by the owner or operator that human health and the environment can be protected as equally as a given requirement in the regulation. A demonstration is made in the application for a permit under WAC 173-351-700. A successful demonstration allows or authorizes an activity authorized for the life of the facility unless an alternative time period is approved by the jurisdictional health department.

"Department" means the department of ecology.

"Disease vectors." See WAC 173-351-200 (3)(b).

"Displacement." See WAC 173-351-130 (5)(b)(ii).

"Disposal" or "deposition" means the discharge, deposit, injection, dumping, leaking, or placing of any solid waste into or on any land or water.

"Establish" means to construct a new or laterally expanded MSWLF unit.

"Existing MSWLF unit" means any municipal solid waste landfill unit that is receiving solid waste as of the appropriate dates specified in WAC 173-351-010 (2)(c). Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good waste management practices, including operating plans approved under chapter 173-304 WAC. For the purposes of this rule, any existing horizontal expansion approved by the jurisdictional health department for which as-built plans documenting construction prior to the

effective date of this chapter, have been prepared and submitted to the jurisdictional health department shall be considered an existing MSWLF unit.

"Fault." See WAC 173-351-130 (5)(b)(i).

"Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

"Floodplain." See WAC 173-351-130 (3)(b)(i).

"Free liquids." See WAC 173-351-200(9).

"Gas condensate." See WAC 173-351-200 (9)(c)(ii).

"Ground water" means water below the land surface in a zone of saturation.

"Holocene." See WAC 173-351-130 (5)(b)(iii).

"Household waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including household hazardous waste) (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). This term does not include commercial, industrial, inert and demolition waste, or wood waste.

Note:Sanitary waste in septic tanks that is not disposed of in a MSWLF unit is subject to other state and federal rules.

"Hydrostratigraphic unit" means any water-bearing geologic unit or units hydraulically connected or grouped together on the basis of similar hydraulic conductivity which can be reasonably monitored; several geologic formations or part of a geologic formation may be grouped into a single hydrostratigraphic unit; perched sand lenses may be considered a hydrostratigraphic unit or part of a hydrostratigraphic unit, for example.

Note:'Hydraulically connected' denotes water-bearing units which can transmit water to other transmissive units.

"Inert waste" means noncombustible, nondangerous solid wastes that are likely to retain their physical and chemical structure under expected conditions of disposal, including resistance to biological attack and chemical attack from acidic rain water.

"Industrial solid wastes" means solid waste or waste by-products generated by manufacturing or industrial processes such as scraps, trimmings, packing, pallets, and other discarded materials not otherwise designated as dangerous waste under chapter 173-303 WAC, the Dangerous waste regulations. This term does not include commercial, inert, demolition, construction, woodwaste, mining waste, or oil and gas waste but does include lunch room, office, or other similar waste generated by employees at the industrial facility.

"Jurisdictional health department" means city, county, city-county, or district public health department as defined in chapters 70.05, 70.08, and 70.46 RCW.

"Landfill." See "Facility."

"Lateral expansion" means a horizontal expansion of the waste boundaries of an existing MSWLF unit that is not an existing horizontal expansion. (See also definition of "existing MSWLF unit.")

"Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

"Lithified earth material." See WAC 173-351-200 (6)(b)(iii).

"Liquid waste." See WAC 173-351-200 (9)(c)(i).

"Lower explosive limit." See WAC 173-351-200 (4)(d).

"Maximum horizontal acceleration in lithified earth material." See WAC 173-351-200 (6)(b)(ii).

"Modification" means a substantial change in the design or operational plans including removal of a design element of a MSWLF unit previously set forth in a permit application or a disposal or processing activity that is not approved in the permit. To be considered a substantial change, a modification must be reasonably related to a specific requirement of this rule. Lateral expansions, a fifty percent increase or greater in design volume capacity or changes resulting in significant adverse environmental impacts that have lead a responsible official to issue a declaration of significance under WAC 197-11-736 shall not be considered a modification but would require permit reissuance under these rules.

"Municipal sewage sludge" means a semisolid substance consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a publicly owned wastewater treatment plant. For the purposes of this rule sewage sludge generated from publicly owned leachate waste treatment works that receive sewage from on-site sanitary facilities shall not be considered to be municipal sewage sludge.

"Municipal solid waste landfill unit (MSWLF unit)" means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under chapter 173-304 WAC, the Minimum functional standards for solid waste handling or chapter 173-218 WAC, Underground injection control program. A MSWLF unit also may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally-exempt small quantity generator waste, and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion.

"New MSWLF unit" means any municipal solid waste landfill unit that has not received waste prior to the effective date of this regulation.

"Nonarid" means locations in the state of Washington having equal to or more than twelve inches (30 centimeters) of precipitation annually.

"Nuisance" means unlawfully doing an act, or omitting to perform a duty, which act or omission either annoys, injures, or endangers the comfort, repose, health or safety of others, offends decency, or unlawfully interferes with, obstructs or tends to obstruct, any lake or navigable river, bay, stream, canal, or basin, or any public park, square, street or highway; or in any way renders other persons insecure in life, or in the use of property.

"100-year flood." See WAC 173-351-130 (3)(b)(ii).

"Open burning" means the combustion of solid waste without:

Control of combustion air to maintain adequate temperature for efficient combustion;

Containment of the combustion reaction in an enclosed device so as to provide sufficient residence time and mixing for complete combustion; and

Control of the emission of the combustion products.

"Operator" means the person(s) responsible for the overall operation of a facility or part of a facility.

"Operation" means those actions taken by an owner or operator of a facility or MSWLF unit beginning with waste acceptance at a facility or MSWLF unit up to and including closure of the facility or MSWLF unit.

"Owner" means the person(s) who owns a facility or part of a facility.

"Point of compliance" means the point located on land owned by the owner of the MSWLF unit, and is no more than one hundred fifty meters (four hundred ninety-two feet) from the waste management unit boundary; see also WAC 173-351-300 (2)(c).

"Poor foundation conditions." See WAC 173-351-130 (7)(b)(ii).

"Post-closure" means those actions taken by an owner or operator of a facility or MSWLF unit after closure.

"Purchase" means execution of a long term lease, securing of options to purchase or execution of agreements to purchase.

"Qualified ground-water scientist." See WAC 173-351-400(2).

"Random inspection." See WAC 173-351-200 (1)(b)(ii).

"Regulated dangerous waste." See WAC 173-351-200 (1)(b)(i).

"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" means that part of the earth's crust in which all voids are filled with water.

"Seismic impact zone." See WAC 173-351-130 (6)(b)(i).

"Sewage sludge" means a semisolid substance consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a wastewater treatment system, that does not meet the requirements of chapter 70.95J RCW.

"Sludge" means any solid, semisolid, 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 wastewater treatment plant.

"Sole source aquifer." See WAC 173-351-140 (1)(b)(vii).

"Solid waste" means all putrescible and nonputrescible solid and semisolid wastes including, but not limited to garbage, rubbish, ashes, industrial wastes, commercial waste, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, discarded commodities and recyclable materials.

"Structural components." See WAC 173-351-130 (7)(b)(ii).

"Unstable area." See WAC 173-351-130 (7)(b)(i).

"Vadose zone" means that portion of a geologic formation in which soil pores contain some water, the pressure of that water is less than atmospheric, and the formation occurs above the zone of saturation.

"Vulnerability." See WAC 173-351-140 (1)(b).

"Waste management unit" means a MSWLF unit.

"Waste management unit boundary" means a vertical surface located at the hydraulically down gradient limit of the unit. This vertical surface extends down into the hydrostratigraphic unit(s) identified in the hydrogeologic report.

"Waters of the state" means lakes, rivers, ponds, streams, inland waters, underground waters, salt water, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

"Wetlands." See WAC 173-351-130 (4)(b).

"Woodwaste" means solid waste consisting of wood pieces or particles generated as a by-product or waste from the manufacturing of wood products, handling and storage of raw materials and trees and stumps.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-100, filed 10/26/93, effective 11/26/93.]

WAC 173-351-120 Consideration of other local, state, and federal laws. The owner or operator of a municipal solid waste landfill unit must comply with any other applicable federal, state, and local rules, laws, regulations, or other requirements.

Note: Except for 40 CFR Part 258.60(f) and 258.60(g) set forth in WAC 173-351-010 (2)(b)(ii), 40 CFR Part 258 is not an applicable federal rule for purposes of this section.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258.93-22-016, § 173-351-120, filed 10/26/93, effective 11/26/93.]

WAC 173-351-130 Location restrictions. (1) Applicability.

(a) On and after the effective date of this chapter, all MSWLF units shall meet the locational restrictions of this section unless otherwise specified.

(b) Existing MSWLF units that cannot make the demonstration specified in subsection (2)(a) of this section, pertaining to airports, subsection (3)(a) of this section, pertaining to floodplains, subsection (7)(a) of this section, pertaining to unstable areas, must close by October 9, 1996, and conduct post-closure in accordance with WAC 173-351-500, Closure and post-closure care.

(c) The deadline for closure required by (b) of this subsection may be extended up to two years if the owner or operator demonstrates to the jurisdictional health department during the permitting process of WAC 173-351-700 that:

- (i) There is no available alternative disposal capacity; and
- (ii) There is no immediate threat to human health and the environment.

Note: Owners or operators of MSWLFs should be aware that the state department of health has adopted a state wellhead protection program in accordance with section 1428 of the Safe Drinking Water Act. Owners and operators should also be aware of locational restrictions which may exist through the process of designating and implementing Ground Water Management Areas, under chapter 173-100 WAC, and through the Special Protection Areas of chapter 173-200 WAC.

(2) Airport safety.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and/or lateral expansions that are located within ten thousand feet (three thousand forty-eight meters) of any airport runway end used by turbojet aircraft or within five thousand feet (one thousand twenty-four meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

(b) Owners or operators proposing to site new MSWLF units and/or lateral expansions within a five-mile (eight kilometer) radius of any airport runway end used by turbojet or piston-type aircraft must notify the effected airport and the Federal Aviation Administration (FAA).

(c) The owner or operator must place the demonstration required by (a) of this subsection in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department.

(d) For purposes of this subsection:

(i) "Airport" means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(ii) "Bird hazard" means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

(3) Floodplains.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department.

(b) For purposes of this subsection:

(i) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(ii) "100-year flood" or "base flood" means a flood that has a one-percent or less chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in one hundred years on the average over a significantly long period.

(iii) "Washout" means the carrying away of solid waste by waters of the base flood.

(4) Wetlands.

(a) New MSWLF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations during the permit process of WAC 173-351-700:

(i) The construction and operation of the MSWLF unit will not:

(A) Cause or contribute to violations of chapter 173-201A WAC, Water quality standards for surface waters of the state of Washington and chapter 173-200 WAC, Water quality standards for ground waters of the state of Washington;

(B) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Federal Clean Water Act or chapter 173-220 WAC, the National Pollutant discharge elimination system permit program;

(C) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973; and

(D) Violate any requirement under the Federal Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(ii) The MSWLF unit will not cause or contribute to significant degradation of wetlands. The owner or operator must demonstrate during the permit process of WAC 173-351-700 the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:

(A) Erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the MSWLF unit;

(B) Erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;

(C) The volume and chemical nature of the waste managed in the MSWLF unit;

(D) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(E) The potential effects of catastrophic release of solid waste to the wetland and the resulting impacts on the environment; and

(F) Any additional factors, as necessary, to demonstrate during the permit process of WAC 173-351-700 that ecological resources in the wetland are sufficiently protected.

(iii) Where applicable under Section 404 of the Federal Clean Water Act or applicable state wetlands laws and regulations (e.g. chapter 173-22 WAC, Adoption of designations of wetlands associated with shorelines of the state), the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;

(iv) To the extent required under Section 404 of the Federal Clean Water Act steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by:

(A) Avoiding impacts to wetlands to the maximum extent practicable as required by (a)(iii) of this subsection;

(B) Minimizing unavoidable impacts to the maximum extent practicable; and

(C) Finally offsetting remaining unavoidable wetlands impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration and maintenance of existing degraded wetlands or creation of man-made wetlands);

(v) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(b) For purposes of this subsection, "wetlands" means those areas that are defined in 40 CFR 232.2(r): Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include, but are not limited to, swamps, marshes, bogs, and similar areas.

(5) Fault areas.

(a) New MSWLF units and lateral expansions shall not be located within two hundred feet (sixty meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates during the permit process of WAC 173-351-700 that an alternative setback distance of less than two hundred feet (sixty meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment.

(b) For the purposes of this subsection:

(i) "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

(6) Seismic impact zones.

(a) New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates during the permit process of WAC 173-351-700 to the jurisdictional health department that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department.

(b) For the purposes of this subsection:

(i) "Seismic impact zone" means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull, will exceed 0.10g in two hundred fifty years.

(ii) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ninety percent or greater probability that the acceleration will not be exceeded in two hundred fifty years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(iii) "Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

(7) Unstable areas.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF units will not be disrupted. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

(i) On-site or local soil conditions that may result in significant differential settling;

(ii) On-site or local geologic or geomorphologic features; and

(iii) On-site or local human-made features or events (both surface and subsurface).

(b) For purposes of this subsection:

(i) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, and areas susceptible to mass movements.

(ii) "Structural components" means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the MSWLF that is necessary for protection of human health and the environment.

(iii) "Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a MSWLF unit.

(iv) "Areas susceptible to mass movement" means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the MSWLF unit, because of natural or human-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-130, filed 10/26/93, effective 11/26/93.]

WAC 173-351-140 Other location restrictions. (1) Ground water.

(a) Liner separation. No new MSWLF unit or lateral expansion shall be located at a site where the bottom of the lowest liner is any less than ten feet (three meters) above the seasonal high level of ground water in any water bearing unit which is horizontally and vertically extensive, hydraulically recharged and volumetrically significant as to harm or endanger the integrity of the liner at any time, unless a demonstration during the permit process of WAC 173-351-700 can be made that a hydraulic gradient control system or the equivalent can be installed to control ground water fluctuations and maintain a five foot (1.5 meter) separation between the controlled seasonal high level of ground water in the identified water-bearing unit and the bottom of the lowest liner. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department.

This demonstration must include:

(i) A hydrogeologic report required in WAC 173-351-490 including a discussion showing the effects from subsoil settlement, changes in surrounding land uses affecting ground water levels, liner leakage or other impacts will not bring any hydrostratigraphic unit to within five feet (1.5 meters) of the bottom of the lowest liner during the active life, closure and post-closure of the MSWLF unit;

(ii) Any currently available ground/surface water quality data for aquifers, springs, or streams in direct hydrologic contact with landfill's active area;

(iii) A showing that any gradient-control discharges to ground water will not adversely impact existing ground water/surface water users or the instream flow of surface waters in direct hydrologic contact or continuity with the landfill's hydraulic gradient control system;

(iv) Conceptual engineering drawings of the proposed MSWLF unit and discussion as to how the hydraulic gradient control system will not affect the structural integrity nor performance of the liner;

(v) Design specifications for the proposed ground and surface water monitoring systems; and

(vi) Preliminary engineering drawings of the hydraulic gradient control system (if applicable).

(b) Sole source aquifers. No new MSWLF unit or lateral expansion shall be located over a designated sole source aquifer unless the owner or operator can demonstrate during the permit process of WAC 173-351-700 that the sole source aquifer is not vulnerable to potential ground water contamination from the active area. Vulnerability is defined as the propensity or likelihood of a sole source aquifer to become contaminated should the integrity of the engineering control (including liners) fail; it is a measure of the propensity to deteriorate the water quality of a sole source aquifer, and takes into account an assessment of the physical barriers, the physical movement of contaminants, the hydraulic properties of the subsurface lithology; the rate of a contaminant plume movement; the physical and chemical characteristics of contaminants; and it also includes an assessment of the likelihood and ease for contaminant removal or clean-up, or the arrest of contamination, so as to not impact any further portion of the designated sole source aquifer. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department. Such a vulnerability demonstration must include the submission of a hydrogeologic report as required in WAC 173-351-490 and additionally must meet the following performance criteria:

- (i) Demonstrates the presence of confining units or other lithology that will prevent the migration of ground water contamination;
- (ii) Addresses the fate and transport of contaminants, including interactions in the lithologic framework, hydrogeochemical facies, contaminant travel times;
- (iii) Defines and summarizes the ground water budgets for the active area and the sole source aquifer including recharge and discharge areas and includes flow net diagrams;
- (iv) Provides a contingency and ground water assessment plan for the immediate arrest of any ground water contamination and steps to assess the extent of contamination;
- (v) Design specifications for the proposed ground and surface water monitoring systems;
- (vi) Is prepared by a hydrogeologist or other professional ground water scientist in accordance with WAC 173-351-400(2); and
- (vii) "Sole source aquifer" means an aquifer designated by the Environmental Protection Agency pursuant to Section 1424e of the Safe Drinking Water Act (PL 93-523).

(c) Drinking water supply wells. No new MSWLF unit or lateral expansion active area shall be located closer than one thousand feet (three hundred meters) to any drinking water supply well, in use and existing at the time of the purchase of the property containing the active area unless the owner or operator can demonstrate during the permit process of WAC 173-351-700 that the active area is no less than a ninety-day hydraulic travel time to the nearest down-gradient drinking water supply well in the first useable aquifer. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department. Such a demonstration must include:

- (i) A hydrogeologic report required in WAC 173-351-490; and the necessary calculations for showing compliance with the ninety-day travel time; the ninety-day travel time shall be based on the peak or full pumping capacity of installed nearby wells and include potentiometric surface maps showing well capture zones and radius of influence;
 - (ii) Any currently available ground/surface water quality data for aquifers, springs, or streams in direct hydrologic contact with landfill's active area;
 - (iii) The waste management unit boundaries at facility closure;
 - (iv) Design specifications for the proposed ground and surface water monitoring systems;
- and
- (v) A statement that the demonstration has been prepared by a hydrogeologist or qualified ground water scientist in accordance with 173-351-400(2).

(2) Surface water. No new MSWLF unit or lateral expansion active area shall be located within two hundred feet (sixty-one meters) measured horizontally from the ordinary high water mark, of a shoreline of the state as defined in RCW 90.58.030 (which includes some wetlands associated with waters of the state), nor any public land that is being used by a public water system for watershed control for municipal drinking water purposes in accordance with WAC 246-290-450.

See also wetlands in WAC 173-351-130(4). Local wetlands protection ordinances should be consulted to determine if greater setbacks are required.

- (3) Land use. No new MSWLF unit or lateral expansion shall be located:
 - (a) In areas designated by the United States Fish and Wildlife Service or the department of wildlife as critical habitat for endangered or threatened species of plants, fish, or wildlife;
 - (b) So that the active area is any closer than one hundred feet (thirty meters) to the facility property line for land zoned as nonresidential or for unzoned lands, except that the active area shall be no closer than two hundred fifty feet (seventy-six meters) to the property line of

adjacent land zoned as residential, existing at the time of the purchase of the property containing the active area.

(c) So as to be at variance with any locally-adopted land use plan or zoning requirement unless otherwise provided by local law or ordinance; and

(d) So that the active area is any closer than one thousand feet (three hundred meters) to any state or national park.

(4) Toxic air emissions. See WAC 173-351-200 (5)(a).

(5) Cover material. See WAC 173-351-200 (2)(a).

(6) Capacity. See WAC 173-351-010 (2)(c).

(7) Climatic factors. See WAC 173-351-300 (2)(b) for climatic factors.

(8) Natural soils. See WAC 173-351-300(2) for soil liner standards.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-140, filed 10/26/93, effective 11/26/93.]

WAC 173-351-200 Operating criteria. (1) Procedures for excluding the receipt of dangerous waste.

(a) Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of regulated dangerous wastes including polychlorinated biphenyls (PCB) waste as defined in chapter 173-303 WAC, the Dangerous waste regulations.

This program must include, at a minimum:

(i) Random inspections of incoming loads unless the owner or operator takes other steps (for example, instituting source controls and restricting the type of waste received) to ensure that incoming loads do not contain regulated dangerous waste or PCB wastes;

(ii) Records of any inspections;

(iii) Training of facility personnel to recognize regulated dangerous waste and PCB wastes; and

(iv) Immediate notification of the department and the jurisdictional health department if a regulated dangerous waste or PCB waste is discovered at the facility.

(b) For purposes of this subsection:

(i) "Regulated dangerous waste" means a solid waste that is a dangerous waste as defined in WAC 173-303-070, Designation of dangerous waste, including asbestos not managed in accordance to 40 CFR Part 61, that is not excluded from regulation as a dangerous waste under WAC 173-303-071 or was not generated by an exempted small quantity generator as defined in WAC 173-303-070; and

(ii) "Random inspection" means:

(A) Discharging a random waste load onto a suitable surface. A suitable surface shall be chosen to avoid interference with operations so that sorted waste can be distinguished from other loads of uninspected waste, so as to avoid litter and to contain runoff;

(B) Viewing the contents prior to actual disposal of the waste; and

(C) Allowing the facility owner or operator to return excluded wastes to the hauler, arrange for disposal of excluded wastes at a facility permitted to manage dangerous waste, or take other measures to prevent disposal of the excluded wastes at the facility.

(2) Cover material requirements.

(a) Except as provided in (b) of this subsection, the owners or operators of all MSWLF units must cover disposed solid waste with six inches (fifteen centimeters) of earthen material, i.e., soils, at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

(b) Alternative materials of an alternative thickness other than at least six inches (15 centimeters) of earthen material may be approved by the jurisdictional health department if the owner or operator demonstrates during the permit process of WAC 173-351-700 that the alternative material and thickness control disease vectors, fires, odors, blowing litter, provides adequate access for heavy vehicles, will not adversely affect gas or leachate composition and controls and scavenging without presenting a threat to human health and the environment.

(c) The jurisdictional health department may grant a temporary waiver not to exceed three months from the requirement of (a) and (b) of this subsection if the owner or operator demonstrates that there are extreme seasonal climatic conditions that make meeting such requirements impractical.

(3) Disease vector control.

(a) Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

(b) For purposes of this subsection, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

(4) Explosive gases control.

(a) Owners or operators of all MSWLF units must ensure that:

(i) The concentration of methane gas generated by the facility does not exceed twenty-five percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components);

(ii) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary or beyond; and

(iii) The concentration of methane gases does not exceed one hundred parts per million by volume of methane in off-site structures.

(b) Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of (a)(i) and (ii) of this subsection are met.

(i) The type and frequency of monitoring must be determined based on the following factors:

(A) Soil conditions;

(B) The hydrogeologic conditions surrounding the facility;

(C) The hydraulic conditions surrounding the facility; and

(D) The location of facility structures and property boundaries.

(ii) The minimum frequency of monitoring shall be quarterly.

Note: All gas monitoring wells shall be constructed and decommissioned to ensure protection of the ground water and to prevent ground water contamination and follow the requirements of chapter 173-160 WAC, Minimum standards for construction and maintenance of wells, unless otherwise approved by the jurisdictional health department.

(c) If methane gas levels exceeding the limits specified in subsection (4)(a)(i) or (ii) of this section are detected, the owner or operator must:

(i) Immediately take all necessary steps to ensure protection of human health including:

(A) Notifying the jurisdictional health department;

(B) Where subsection (4)(a)(ii) of this section is exceeded, monitoring of off-site structures for compliance with subsection (4)(a)(iii) of this section;

(C) Daily monitoring of methane gas levels unless otherwise authorized by the jurisdictional health department; and

(D) Evacuation of buildings affected by landfill gas shall be determined by the jurisdictional health department and fire department.

(ii) Within seven calendar days of detection, place in the operating record, the methane gas levels detected and a description of the steps taken to protect human health; and

(iii) Within sixty days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the jurisdictional health department that the plan has been implemented. The plan shall describe the nature and extent of the problem and the remedy.

(iv) The jurisdictional health department may establish alternative schedules for demonstrating compliance with (c)(ii) and (iii) of this subsection.

(d) For purposes of this subsection, "lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at twenty-five degrees C and atmospheric pressure.

(5) Air criteria.

(a) Owners or operators of all MSWLF units must ensure that the units not violate any applicable requirements developed under the Washington state implementation plan approved or promulgated by the Federal Environmental Protection Agency pursuant to Section 110 of the Federal Clean Air Act, as amended.

(b) Open burning of solid waste is prohibited at all MSWLF units, except: For the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees or debris from emergency cleanup operations, provided that such open burning is not inconsistent with policies, regulations, and permits administered by the jurisdictional air pollution control agency or the department under the Washington Clean Air Act, chapter 70.94 RCW. Household waste shall not be open burned.

(6) Access requirements. Owners or operators of all MSWLF units must control public access and prevent unauthorized vehicular traffic, illegal dumping of wastes, and controls to keep animals out by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment. A lockable gate shall be required at each entry to the facility.

(7) Run-on/run-off control systems.

(a) Owners or operators of all MSWLF units must design, construct, and maintain:

(i) A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a twenty-five year storm;

(ii) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a twenty-four hour, twenty-five year storm.

(b) Run-off from the active portion of the landfill unit must be handled in accordance with WAC 173-351-200(8).

(8) Surface water requirements. MSWLF units shall not:

(a) Cause a discharge of pollutants into waters of the state, including wetlands, that violates any requirements of chapter 90.48 RCW, Water pollution control, including, but not limited to, chapter 173-201A WAC, Water quality standards for surface waters of the state of Washington, chapter 173-220 RCW, the National pollutant discharge elimination system permit program and chapter 173-216 WAC, State waste discharge permit program.

(b) Cause the discharge of a nonpoint source of pollution to waters of the state, including wetlands, that violates any requirement of an area-wide or state-wide water quality management plan that has been approved under Section 208 or 319 of the Federal Clean Water Act, as amended.

(9) Liquids restrictions.

(a) Bulk or noncontainerized liquid waste may not be placed in MSWLF units unless:

(i) The waste is household waste other than septic waste; or

(ii) The waste is leachate or gas condensate derived from the MSWLF unit, or water added in a controlled fashion and necessary for enhancing decomposition of solid waste, as approved during the permitting process of WAC 173-351-700, whether it is a new or existing MSWLF, or lateral expansion and the MSWLF unit:

(A) Is designed with a leachate collection system and composite liner as described in WAC 173-351-300 (2)(a)(i) and (ii) or (iii); and

(B) Is accepting leachate, condensate or water resulting from an emergency in disposing of such liquids.

The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department.

Note: Condensate and leachate are subject to designation to determine whether either is a dangerous waste under chapter 173-303 WAC.

(b) Containers holding liquid waste may not be placed in a MSWLF unit unless:

(i) The container is a small container similar in size to that normally found in household waste;

(ii) The container is designed to hold liquids for use other than storage; or

(iii) The waste is household waste.

(c) For purposes of this subsection:

(i) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846.

(ii) "Gas condensate" means the liquid generated as a result of gas recovery processes at the MSWLF unit.

(10) Recordkeeping requirements.

(a) The owner or operator of a MSWLF unit must record and retain the required information as it becomes available. The operating record must be retained at or near the facility in an operating record or in an alternative location approved by the jurisdictional health department during the permitting process of WAC 173-351-700. The required information includes:

(i) Copies of all initial, renewal, reissued and modified permit applications including all demonstrations, and issued permits;

(ii) Inspection records, training procedures, and notification procedures required in subsection (1) of this section, Procedures for excluding the receipt of hazardous waste, and inspection documents associated with the plan of operation, WAC 173-351-210 (1)(b).

(iii) Gas monitoring results from monitoring and any remediation plans required by WAC 173-351-200(4);

(iv) Any demonstration, certification, declaration of construction, finding, monitoring, testing, or analytical data as required by WAC 173-351-400 (Ground water monitoring systems and corrective action);

(v) Major deviations from the plan of operation required in WAC 173-351-210; and

(vi) Daily records of weights or volumes of solid waste and, if available, types of waste received at the facility.

(b) The owner or operator must notify the jurisdictional health department when the documents from (a) of this subsection have been placed in or added to the operating record, unless:

- (i) Such documents have been made a part of a permit application under this regulation;
- (ii) Notification occurs under the renewal application requirements of WAC 173-351-730 (3)(b)(iv); or
- (iii) The documents are daily records of weights or volumes specified in WAC 173-351-200 (10)(a)(vi).

(c) The jurisdictional health department can set alternative schedules during the permitting process of WAC 173-351-700 for recordkeeping and notification requirements as specified in (a) and (b) of this subsection, except for the notification requirements in WAC 173-351-130 (2)(b), the Federal Aviation Administration and in WAC 173-351-440 (6)(c), notification of land owners under assessment monitoring.

(d) All information contained in the operating record must be furnished upon request to the jurisdictional health department or be made available at all reasonable times for inspection by the jurisdictional health department and the department.

(11) Annual reports. Each owner or operator shall prepare and submit a copy of an annual report to the jurisdictional health department and the department by April 1 of each year. The annual report shall:

- (a) Include information on facility activities during the previous year;
- (b) Be on forms supplied by the department; and
- (c) Include the following information:
 - (i) Facility location;
 - (ii) Facility contact;
 - (iii) Operational and/or post-closure information;
 - (iv) Permit status;
 - (v) Compliance information;
 - (vi) Facility capacity information;
 - (vii) Information on ground water monitoring as required in WAC 173-351-415(1) except, prior to the effective date of the ground water monitoring requirements of WAC 173-351-400, ground water monitoring information and existing summaries collected under ground water monitoring systems installed according to chapter 173-304 WAC.
 - (viii) Information on violation of ambient standards for surface water and explosive gases whose monitoring is required by chapter 173-351 WAC or performed as part of the permit issued under WAC 173-351-700; and
 - (ix) Other information as required.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-200, filed 10/26/93, effective 11/26/93.]

WAC 173-351-210 Plan of operation. Each owner or operator shall develop, keep, and abide by a plan of operation approved as part of the permitting process in WAC 173-351-700. The plan of operation shall describe the facilities' operation and shall convey to site operating

personnel the concept of operation intended by the designer. The plan of operation shall be available for inspection at the request of the jurisdictional health officer. The facility must be operated in accordance with the plan of operation or the plan must be so modified with the approval of the jurisdictional health department.

Each plan of operation shall include:

- (1) How solid wastes are to be handled on-site during its active life including transportation, routine filling, grading, cover, and housekeeping;
- (2) How inspections are conducted and their frequency;
- (3) Actions to take if there is a fire or explosion;
- (4) Actions to take for sudden releases (e.g., failure of run-off containment system);
- (5) How equipment such as leachate collection and gas collection equipment are to be operated and maintained;
- (6) A safety plan or procedure; and
- (7) Other such details as required by the jurisdictional health department.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-210, filed 10/26/93, effective 11/26/93.]

WAC 173-351-220 Additional operating criteria. All owners or operators of MSWLF units shall operate the facility so as to:

- (1) Control road dust;

Note: Operators should carefully select dust suppressants approved by the jurisdictional health departments that do not pose a threat to surface or ground water quality.

- (2) Collect scattered litter as necessary to prevent vector harborage, a fire hazard, an aesthetic nuisance, or adversely affect wildlife or its habitat;
- (3) Prohibit scavenging;
- (4) Landfill personnel. All landfills shall:
 - (a) Ensure that at least two landfill personnel are on-site with one person at the active portion when the site is open to the public for landfills with a permitted capacity of greater than fifty thousand cubic yards per year; and
 - (b) Comply with the certification requirements of chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities.

Note: The definition of operators in chapter 173-300 WAC is not the same as the definition of operator in this rule.

- (5) Ensure that reserve operational equipment shall be available to maintain and meet these standards;
- (6) Clearly mark the active area boundaries authorized in the permit, with permanent posts or using equivalent method clearly visible for inspection purposes;
- (7) Thoroughly compact the solid waste before succeeding layers are added except for the first lift over a liner;
- (8) Maintain the monitoring system required in WAC 173-351-400, Ground water monitoring systems and corrective action, WAC 173-351-200(4), explosive gas monitoring of this regulation and any other monitoring specified in the permit issued in WAC 173-351-700.
- (9) Require recycling.
 - (a) All owners and operators shall provide the opportunity for the general public to conveniently recycle cans, bottles, paper, and other material brought to the landfill site and for

which a market exists or as required according to the most recently adopted county comprehensive solid waste management plan:

- (i) During the normal hours of operation; and
- (ii) In facilities convenient to the public (i.e., near entrance to the gate).

(b) Owners or operators shall conduct recycling activities in an orderly, sanitary manner and in a way that does not interfere with MSWLF operations.

(c) Owners or operators may demonstrate during the permit process of WAC 173-351-700 alternative means to providing an opportunity to the general public to recycle household solid waste including other conveniently located facilities which offer recycling opportunities.

(10) Prohibiting disposal of municipal sewage sludge or biosolids in MSWLF units.

(a) The disposal of municipal sewage sludge or biosolids or any material containing municipal sewage sludge or biosolids in a MSWLF unit is prohibited unless the municipal sewage sludge or biosolids or material containing municipal sewage sludge or biosolids is not a liquid as defined in this rule, and such disposal is specifically approved as part of a valid NPDES permit, or a valid permit issued in accordance with chapter 70.95J RCW and rules promulgated under that authority.

(b) Notwithstanding WAC 173-351-220 (10)(a), the jurisdictional health department may allow disposal of municipal sewage sludge or biosolids, or any material containing municipal sewage sludge or biosolids in a landfill on a temporary basis if the jurisdictional health department determines that a potentially unhealthful circumstance exists and other management options are unavailable or would pose a threat to human health or the environment.

(c) In accordance with (b) of this subsection upon determination that a potentially unhealthful circumstance exists, the jurisdictional health department shall notify the department in writing, of its findings and basis for its determination. In its notification, the jurisdictional health department shall state the date on which disposal is approved to commence, any conditions and the date after which continued disposal shall be prohibited.

(d) For the purposes of this regulation, the use of sewage sludge or biosolids or any material containing sewage sludge or biosolids, which is subject to regulation under 40 CFR Part 503 and or chapter 70.95J RCW, as daily cover or as an amendment to daily cover shall be considered disposal.

(11) Disposal of dangerous waste prohibited. Owners or operators of landfills shall not knowingly dispose, treat, store, or otherwise handle dangerous waste unless the requirements of the Dangerous waste regulation, chapter 173-303 WAC are met.

(12) Jurisdictional health department inspection of activities. In accordance with RCW 70.95.190, employees of the jurisdictional health department or their agents may enter upon, inspect, sample, and move freely about the premises of any MSWLF, after presentation of credentials.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-220, filed 10/26/93, effective 11/26/93.]

WAC 173-351-300 Design criteria. (1) Applicability. Existing MSWLF units are not subject to this section. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management, including operating plans approved under chapter 173-304 WAC.

(2) New MSWLF units and lateral expansions shall be constructed:

(a) For nonarid landfills, in accordance with a standard design as follows:

(i) A composite liner as defined in (a)(ii) of this subsection and a leachate collection system that is designed and constructed to maintain less than a 1 foot (30 cm) depth of leachate over the liner.

Note: Leachate head in leachate pump sump areas, only, shall not be allowed to exceed two feet (60 cm).

(ii) For purpose of this section, "composite liner" means a system consisting of two components; the upper component must consist of a minimum of 60 mil thickness high density polyethylene (HDPE) geomembrane. The lower component must consist of at least a two-foot (60 cm) layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. The geomembrane must be installed in direct and uniform contact with the compacted soil component. Thinner geomembranes of other than high density polyethylene may be used provided that a demonstration can be made that the alternative has equivalent mechanical strength, permeability, chemical resistance and other factors under conditions of construction and use. Minimum thickness of geomembranes other than high density polyethylene shall be 30 mils.

(iii) Equivalent liner designs and liner materials may be used provided a demonstration during the permitting process of WAC 173-351-700 can be made that the liner is equivalent to the composite liner design:

- (A) With respect to hydraulic effectiveness as shown by the use of the hydraulic evaluation of landfill performance (HELP) model or other approved models or methods;
- (B) With respect to mechanical strength;
- (C) With respect to chemical resistance;
- (D) With respect to potential physical damage during construction and operation;
- (E) With respect to attenuative capacity; and
- (F) And other factors identified by the jurisdictional health department and the department on a case-by-case basis.

(b) For arid landfills, in accordance with a design that ensures that the maximum contaminant levels listed in Table 1 of this section will not be exceeded in the hydrostratigraphic unit(s) identified in the hydrogeologic characterization/report at the relevant point of compliance as specified during the permitting process in WAC 173-351-700. When approving a design that complies with the arid landfill design of (b) of this subsection, the jurisdictional health department shall consider at least the following factors:

- (i) The hydrogeologic characteristics of the facility and surrounding land;
- (ii) The climatic factors of the area; and
- (iii) The volume, physical and chemical characteristics of the leachate.

Note: When determining the need for a liner in arid settings and its ability to meet the performance standard of this section, considering (b)(i), (ii), and (iii) of this subsection, the owner or operator may use:

- (A) Existing information such as vadose zone, ground water monitoring, or leachate characterization that has previously been conducted at the facility;
- (B) Contaminant transport modeling in accordance with the requirements of WAC 173-351-480; and/or
- (C) Other information determined as appropriate and relevant by the jurisdictional health department.

(c) The relevant point of compliance approved during the permitting process in WAC 173-351-700, shall be no more than one hundred fifty meters (four hundred ninety-two feet) from the waste management unit boundary and shall be located on land owned by the owner of the MSWLF unit. In approving the relevant point of compliance the jurisdictional health department shall consider at least the following factors:

- (i) The hydrogeologic characteristics of the facility and surrounding land;
- (ii) The volume, and physical/chemical characteristics of the leachate;
- (iii) The quantity and quality, and direction, of flow of ground water;
- (iv) The proximity and withdrawal rate of the ground water users;
- (v) The availability of alternative drinking water supplies;
- (vi) The existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water, and whether the ground water is currently used or reasonably expected to be used for drinking water;
- (vii) Public health, safety, and welfare effects; and
- (viii) Practical capability of the owner or operator.

TABLE 1

| CHEMICAL | Maximum Contaminant Levels (MCL (mg/l)) |
|---------------------------------|-----------------------------------------|
| ARSENIC | 0.00005 |
| BARIUM | 1.0 |
| BENZENE | 0.001 |
| CADMIUM | 0.01 |
| CARBON TETRACHLORIDE | 0.0003 |
| CHROMIUM (HEXAVALENT) | 0.05 |
| 2,4-DICHLOROPHENOXY ACETIC ACID | 0.1 |
| 1,4-DICHLOROBENZENE | 0.004 |
| 1,2-DICHLOROETHANE | 0.0005 |
| 1,1 DICHLOROETHYLENE | 0.007 |
| ENDRIN | 0.0002 |
| FLUORIDE | 4 |
| LINDANE | 0.00006 |
| LEAD | 0.05 |
| MERCURY | 0.002 |
| METHOXYCHLOR | 0.1 |
| NITRATE | 10 |

| | |
|------------------------------------|---------|
| SELENIUM | 0.01 |
| SILVER | 0.05 |
| TOXAPHENE | 0.00008 |
| 1,1,1-TRICHLOROETHANE | 0.20 |
| TRICHLOROETHYLENE | 0.003 |
| 2,4,5-TRICHLOROPHENOXY ACETIC ACID | 0.01 |
| VINYL CHLORIDE | 0.00002 |

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-300, filed 10/26/93, effective 11/26/93.]

WAC 173-351-400 Ground water monitoring systems and corrective action.

(1) Applicability.

(a) The requirements of WAC 173-351-400 through WAC 173-351-490 apply to MSWLF units whose owners and operators are required to perform ground water monitoring under chapter 173-351 WAC.

(b) Owners and operators of MSWLF units must comply with the ground water monitoring requirements of this regulation according to the following schedule:

(i) Existing MSWLF units and lateral expansions less than one mile (1.6 kilometers) from a drinking water intake (surface or subsurface) must be in compliance with the ground water monitoring requirements specified in WAC 173-351-400 through 173-351-450, and 173-351-490 by October 9, 1994;

Note: A drinking water intake is any surface water or ground water intake that is used for the purposes of drinking water i.e., water supply wells.

(ii) Existing MSWLF units and lateral expansions greater than one mile (1.6 kilometers) from a drinking water intake (surface or subsurface) must be in compliance with the ground water monitoring requirements specified in WAC 173-351-400 through 173-351-450, and 173-351-490 by October 9, 1995;

(iii) New MSWLF and lateral expansions units must be in compliance with the ground water monitoring requirements specified in WAC 173-351-400 through 173-351-450, and 173-351-490 before waste can be placed in the MSWLF unit.

(c) Existing MSWLF units and lateral expansions with ground water contamination as defined under WAC 173-304-100 and chapter 173-200 WAC must begin an assessment ground water monitoring program under WAC 173-351-440 by October 9, 1994.

(d) Interim ground water monitoring programs. Prior to the compliance schedules in (b) of this subsection, all existing MSWLF units and lateral expansions must either:

(i) Continue to monitor under WAC 173-304-490; or

(ii) Begin to monitor under this section.

(e) All MSWLF units closed in accordance with chapter 173-304 WAC must continue to monitor ground water in accordance with chapter 173-304 WAC.

(2) Personnel qualifications. For the purposes of this regulation, a "qualified ground water scientist" must be a hydrogeologist, geologist, engineer, or other scientist who meets all of the following criteria:

(a) Has received a baccalaureate or post-graduate degree in the natural sciences or engineering; and

(b) Has sufficient training and experience in ground water hydrology and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding ground water monitoring, contaminant fate and transport, and corrective action.

(3) A qualified ground water scientist is required to prepare the following reports, demonstrations and information:

(a) The hydrogeologic report(s) of WAC 173-351-490;

(b) The ground water monitoring program(s) including the ground water monitoring system design and well placement of WAC 173-351-405; the ground water sampling and analysis plan of WAC 173-351-410; the detection monitoring program(s) of WAC 173-351-430; and the assessment monitoring program(s) of WAC 173-351-440;

(c) Any demonstration(s) under WAC 173-351-430 (4)(c) or 173-351-440 (6)(e), or 173-351-140(1);

(d) Any modification(s) proposals/requests to the approved ground water monitoring program in accordance with WAC 173-351-450; and

(e) Any ground water modeling demonstrations made under WAC 173-351-480.

Note: A hydrogeologist or other qualified ground water scientist is **NOT** required for the actual ground water sampling.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-400, filed 10/26/93, effective 11/26/93.]

WAC 173-351-405 Performance standards for ground water monitoring system designs. Ground water monitoring well placement. The ground water monitoring system design shall meet the following performance criteria:

(1) A sufficient number of wells must be installed at appropriate locations and depths to yield representative ground water samples from those hydrostratigraphic units which have been identified as the earliest target hydraulic pathways and conduits of flow for ground water and contaminant movement, and storage.

(2) The number, spacing, and depths of monitoring wells must be based on the site characteristics including the area of the MSWLF unit and the hydrogeological characterization of WAC 173-351-490, and requires a demonstration based on all of the following information:

(a) A ground water flow path analysis which supports why the chosen hydrostratigraphic unit best serves the installation of a detection or assessment ground water monitoring well system capable of providing early warning detection of any ground water contamination.

(b) Documentation and calculations of all of the following information:

(i) Hydrostratigraphic unit thicknesses including confining units and transmissive units;

(ii) Vertical and horizontal ground water flow directions including seasonal, man-made, or other short term fluctuations in ground water flow;

(iii) Stratigraphy and lithology;

- (iv) Hydraulic conductivity; and
- (v) Porosity and effective porosity.
- (3) Hydraulically placed upgradient wells (background wells) must meet the following performance criteria:
 - (a) Must be installed in ground water that has not been affected by leakage from a MSWLF unit; or
 - (b) If hydrogeologic conditions do not allow for the determination of a hydraulically placed upgradient well then sampling at other monitoring wells which provide representative background ground water quality may be allowed; and
- (4) Hydraulically placed down-gradient wells (compliance wells) must meet the following performance criteria:
 - (a) Represent the quality of ground water passing the relevant point of compliance specified by the jurisdictional health department. The downgradient monitoring system must be installed at the relevant point of compliance specified by the jurisdictional health department during the permitting process of WAC 173-351-700. Additional wells may be required by the jurisdictional health department based upon areal extent of the MSWLF unit, complex hydrogeologic settings or to define the extent of contamination under WAC 173-351-440 and 173-351-450.
 - (b) When physical obstacles preclude installation of ground water monitoring wells at the relevant point of compliance at existing units, the downgradient monitoring system may be installed at the closest practicable distance hydraulically down gradient from the relevant point of compliance that ensures detection of ground water contamination in the chosen hydrostratigraphic unit.
- (5) All monitoring wells must be cased in a manner that maintains the integrity of the bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of samples. The annular space between the bore hole and well casing above the sampling depth must be sealed to prevent contamination of samples and ground water. All wells must be constructed in accordance with chapter 173-160 WAC, Minimum standards for construction and maintenance of water wells and chapter 173-162 WAC, Regulation and licensing of well contractors and operators. All wells must be clearly labeled, capped, and locked.
- (6) The owner or operator must apply for a permit modification under WAC 173-351-720(5) or must apply during the renewal process of WAC 173-351-720 (1)(i), for any proposed changes to the design, installation, development, and decommission of any monitoring wells, piezometers, and other measurement, sampling, and analytical devices. Upon completing changes, all documentation, including date of change, new well location maps, boring logs, and well diagrams must be submitted to the jurisdictional health department and must be placed in the operating record of WAC 173-351-200(10).
- (7) All monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.
- (8) The ground water monitoring system and hydrogeologic report including any changes to the ground water monitoring system shall be prepared by a hydrogeologist or other qualified ground water scientist and include a statement of personnel qualifications.
- (9) The prepared ground water monitoring system design and hydrogeologic report must be made a part of the permit application in accordance with WAC 173-351-730 (1)(b)(iii).

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-405, filed 10/26/93, effective 11/26/93.]

WAC 173-351-410 Ground water sampling and analysis requirements. (1) The ground water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground water quality at the background and downgradient wells installed in compliance with WAC 173-351-400 and with this section. The owner or operator must submit the sampling and analysis program documentation as a part of the permit application in accordance with WAC 173-351-730 (1)(b)(iii). The program must include procedures and techniques for:

- (a) Sample collection and handling;
- (b) Sample preservation and shipment;
- (c) Analytical procedures;
- (d) Chain-of-custody control;
- (e) Quality assurance and quality control;
- (f) Decontamination of drilling and sampling equipment;
- (g) Procedures to ensure employee health and safety during well installation and monitoring; and
- (h) Well operation and maintenance procedures.

(2) The ground water monitoring program must include sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground water samples or reflect an acceptable practical quantitation limit (PQL). Ground water samples shall not be field-filtered for organic constituents prior to laboratory analysis. All analyses must be sent to an accredited laboratory in accordance with chapter 173-50 WAC, Accreditation of environmental laboratories.

(3) Ground water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator must determine the rate and direction of ground water flow each time ground water is sampled. Ground water elevations in wells which monitor the same MSWLF unit must be measured within a period of time short enough to avoid any ground water fluctuations which could preclude the accurate determination of ground water flow rate and direction. All ground water elevations must be determined:

- (a) By a method that ensures measurement to the 0.01 (one/one hundredth) of a foot (3mm) relative to the top of the well casing; and
- (b) The orthometric elevation of the top of the well casing is related to a vertical benchmark based on the national geodetic vertical datum of 1929 (NGVD 29) and be established to 3rd order classification standards per federal geodetic control committee, or its successor, as specified in WAC 332-130-060.

(4) The owner or operator must establish background groundwater quality in hydraulically placed upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular ground water monitoring program that applies to the MSWLF unit, as determined under this section. Background ground water quality may be established at wells that are not located hydraulically upgradient from the MSWLF unit if it meets the requirements of WAC 173-351-400 through 173-351-490.

(5) The number of samples collected to establish water quality data must be consistent with the appropriate statistical procedures determined pursuant to WAC 173-351-420. The sampling procedures shall be those specified under WAC 173-351-430 for detection monitoring, WAC 173-351-440 for assessment monitoring, and WAC 173-351-440(6) of corrective action.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-410, filed 10/26/93, effective 11/26/93.]

WAC 173-351-415 Ground water reporting. (1) The annual report shall be included with the facility annual report as required in WAC 173-351-200(11) and shall be on forms developed by the department which will request the following information:

(a) A brief summary of statistical results and/or any statistical trends including any findings of any statistical increases for the year;

(b) A brief summary of ground water flow rate and direction for the year, noting any trends or changes;

(c) A xerox copy of all potentiometric surface maps developed for each quarter or approved semi-annual period; and

(d) A summary geochemical evaluation noting any changes or trends in the cation-anion balances, Trilinear diagrams and general water chemistry for each well.

(2) A quarterly ground water report shall be submitted to the jurisdictional health department and the department no later than sixty days after the receipt of the quarterly analytical data and shall include all of the following:

(a) All ground water monitoring data for the sampling period;

(b) All statistical calculations and summaries;

(c) Notification of any statistical increase and concentrations above MCL's;

(d) Static water level readings for each monitoring well for each sampling event;

(e) Potentiometric surface elevation maps depicting ground water flow rate and direction;

(f) Cation-anion balances and Trilinear diagrams; and

(g) Leachate analyses.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-415, filed 10/26/93, effective 11/26/93.]

WAC 173-351-420 Statistical methods for ground water monitoring. (1) The owner or operator must calculate and evaluate all of the following statistics using background ground water quality data:

(a) The background mean;

(b) The background variance;

(c) The standard deviation of the background data;

(d) The coefficient of variation of the background data;

(e) The standard error of the background data; and

(f) Other statistics testing for homogeneity of variance and the normality of the background data.

(2) The owner or operator must specify in the permit application in accordance with WAC 173-351-730 (1)(b)(iii) one of the following statistical methods to be used in evaluating ground water monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. The statistical methods to be used are:

(a) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit;

(b) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent;

(c) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent;

(d) A control chart approach that gives control limits for each constituent; or

(e) Another statistical test method that meets the performance standards of this section.

The owner or operator must place a justification for this alternative in the permit application in accordance with WAC 173-351-730 (1)(b)(iii). The justification must demonstrate that the alternative method meets the performance standards of this section.

(3) Any statistical method chosen under this section shall comply with the following performance standards, as appropriate:

(a) The statistical method used to evaluate ground water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data must be evaluated to determine if nonnormal conditions are due to laboratory or sampling error, poor well construction, seasonal or spatial variability, or actual site conditions. Transformed or a distribution-free theory test may be used, upon a determination of why nonnormal conditions exist. If the distributions for the constituents differ, more than one statistical method may be needed.

(b) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparison procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(c) If a control chart approach is used to evaluate ground water monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(d) If a tolerance interval or a prediction interval is used to evaluate ground water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the

population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(e) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (PQL) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(f) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(4) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular ground water monitoring program that applies to the MSWLF unit after each sampling event and as determined under this section.

(a) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground water quality of each parameter or constituent at each monitoring well designated pursuant to WAC 173-351-430 or 173-351-440 to the background value of that constituent, according to the statistical procedures and performance standards specified under this section.

(b) Within thirty days after receipt of the analytical data, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well (at all hydraulically placed upgradient and downgradient wells).

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-420, filed 10/26/93, effective 11/26/93.]

WAC 173-351-430 Detection monitoring program. (1) Detection monitoring is required at MSWLF units at all ground water monitoring wells defined under WAC 173-351-405. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in Appendix I and II of this regulation.

(2) Background data development.

(a) A minimum of eight independent samples shall be collected for each well (background and downgradient) and must be collected and analyzed for the Appendix I constituents for the first year of ground water monitoring.

(b) Each independent sampling event shall be no less than one month apart from the previous independent sampling event.

(c) Sampling for Appendix II parameters shall be done quarterly.

(d) MSWLF units which have previously developed background for those constituents listed in Appendix I will be waived from (a) of this subsection on a parameter by parameter basis providing all performance criteria of WAC 173-351-400 are met.

(3) Foreground data development. The monitoring frequency for all constituents listed in Appendix I and II shall be quarterly during the active life of the MSWLF unit including closure and the post-closure period and begins after the first year of background data development, for all monitoring wells (upgradient and downgradient).

Note: Foreground denotes the period of time following the development of the background data set, for all monitoring wells (upgradient and downgradient).

(4) If the owner or operator determines, pursuant to WAC 173-351-420, that there is a statistically significant increase over background for one or more of the constituents listed in Appendix I, at any monitoring well at the boundary specified under WAC 173-351-405, the owner or operator:

(a) Must, within fourteen days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and send the same notice to the jurisdictional health department and the department;

(b) Must establish an assessment monitoring program meeting the requirements of WAC 173-351-440 within ninety days except as provided for in (c) of this subsection;

(c) May demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. A report documenting this demonstration must be prepared by a hydrogeologist or other qualified ground water scientist and approved by the jurisdictional health department and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after ninety days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in WAC 173-351-440; and

(d) Must submit the assessment monitoring program to the jurisdictional health department at the end of ninety days as provided in (b) of this subsection.

(5) A geochemical evaluation of Appendix II parameters shall be conducted at each well on a quarterly basis and include all of the following methods:

(a) A cation-anion balance evaluating the difference between the cation and anion sums expressed in milliequivalents per liter; if a greater than a five to ten percent difference occurs then the owner or operator shall provide a summary explanation and examine whether the difference is due to a laboratory error, poor well conditions, or other ions not accounted for in natural or impacted ground water conditions; if the total cation-anion sums are less than 5.0 meq/liter then a ten percent difference threshold, may be used.

(b) A plot of cations and anions for each well on a trilinear diagram, as recommended in hydrogeologic texts and/or the department guidance documents.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258.93-22-016, § 173-351-430, filed 10/26/93, effective 11/26/93.]

WAC 173-351-440 Assessment monitoring program. (1) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in the Appendix I or in the alternative list approved in accordance with WAC 173-351-450, Alternative ground water monitoring programs.

(2) Within ninety days of triggering into an assessment monitoring program, and quarterly thereafter, the owner or operator must sample and analyze the ground water for all constituents identified in Appendix III of this part. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as a result of the complete Appendix III analysis, a minimum of four independent samples from each well (background and downgradient) must be

collected within a time period of one hundred eighty days, and analyzed to establish background for the constituents. Each independent sample shall be collected no less than one month apart from the previous sampling event.

(3) After obtaining the results from the initial or subsequent sampling events required in subsection (2) of this section, the owner or operator must:

(a) Within fourteen days, notify the jurisdictional health department of the increase, identifying the Appendix III constituent(s) that have been detected and place this notice in the operating record;

(b) Within ninety days, and on a quarterly basis thereafter, resample all wells, conduct analyses for all constituents in Appendix I and II, and, for those constituents in Appendix III that are detected in response to subsection (2) of this section, record their concentrations in the facility operating record and notify the jurisdictional health department. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events;

(c) Establish background concentrations for any constituents detected pursuant to subsection (2) of this section;

(d) Establish ground water protection standards for all constituents detected pursuant to subsection (2) or (3) of this section. The ground water protection standards shall be established in accordance with subsection (7) of this section; and

(e) Continue performing geochemical evaluations in accordance with WAC 173-351-430(5) on a quarterly basis.

(4) If the concentrations of all Appendix III constituents are shown to be at or below background values, using the statistical procedures in WAC 173-351-420, for two consecutive sampling events, and before returning to detection monitoring the owner or operator must:

(a) Notify the jurisdictional health department of this finding;

(b) Receive approval in writing from the jurisdictional health department; and

(c) Place the notice and the approval in (a) and (b) of this subsection in the operating record of WAC 173-351-200(10).

(5) If the concentrations of any Appendix III constituents are above background values, but all concentrations are below the ground water protection standard established under subsection (7) of this section, using the statistical procedures in WAC 173-351-420, the owner or operator must continue assessment monitoring in accordance with this section.

(6) If one or more Appendix III constituents are detected at statistically significant levels above the ground water protection standard established under subsection (7) of this section in any sampling event, the owner or operator must, within fourteen days of this finding, notify the jurisdictional health department, the department and all appropriate local government officials of the increase and place a notice in the operating record identifying the Appendix III constituents that have exceeded the ground water protection standard. The owner or operator also:

(a) Must characterize the chemical composition of the release, the contaminant fate and transport characteristics; the rate and extent of contamination in all ground water flow paths by installing additional monitoring wells;

(b) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with subsection (2) of this section;

(c) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with subsection (6) of this section; and

(d) Must initiate an assessment, selection, and implementation of corrective measures as required by chapter 173-340 WAC, the Model Toxics Control Act regulation; or

(e) May demonstrate that a source other than a MSWLF unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. A report documenting this demonstration must be prepared by a hydrogeologist or other qualified ground water scientist and approved by the jurisdictional health department and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the Appendix III constituents are at or below background as specified in subsection (4) of this section. Until a successful demonstration is made, the owner or operator must comply with this subsection (6) including initiating an assessment of corrective measures.

(7) The owner or operator:

(a) Must establish a ground water protection standard using the ground water quality criteria of chapter 173-200 WAC; and

(b) For constituents for which the background level is higher than the protection standard identified under (a) of this subsection, must use the background concentration for the constituents established from wells in accordance with WAC 173-351-405 through 173-351-430.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-440, filed 10/26/93, effective 11/26/93.]

WAC 173-351-450 Alternate ground water monitoring programs. (1) The owner or operator may propose changes and/or alternate ground water monitoring programs for detection after the second year of ground water monitoring under WAC 173-351-430, or the assessment monitoring program of WAC 173-351-440 as follows:

(a) An alternate ground water monitoring frequency for sampling and analysis of Appendix I and II constituents of no less than semiannual monitoring;

(b) A deletion or alternate ground water monitoring constituents for Appendix I, II and III;

(c) An appropriate subset of wells to be sampled and analyzed for Appendix III under WAC 173-351-440(2).

(2) All proposed changes in ground water monitoring frequency must be no less than semiannually for detection ground water monitoring and no less than quarterly for assessment monitoring. The owner or operator must apply for a permit modification under WAC 173-351-720(5) or must apply during the renewal process of WAC 173-351-720 (1)(i) for changes in ground water monitoring frequency making a demonstration based on the following information:

(a) A characterization of the hydrostratigraphic unit(s) including the unsaturated zone, transmissive and confining units and include all of the following:

(i) Hydraulic conductivity; and

(ii) Ground water flow rates.

(b) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring wells (minimum distance of travel); and

(c) Contaminant fate and transport characteristics.

(3) The owner or operator must apply for a permit modification under WAC 173-351-720(5) or must apply during the renewal process of WAC 173-351-720 (1)(i) for all proposed deletions or changes to ground water monitoring constituents of Appendix I, II, and III based on all of the following information:

Verification that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit, by:

(a) Leachate monitoring results consisting of those parameters listed in Appendix IV; all leachate monitoring shall be quarterly unless otherwise approved by the jurisdictional health department and the department;

(b) The types, quantities, and concentrations of constituents in wastes managed at the MSWLF unit;

(c) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the MSWLF unit;

(d) The detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(e) The concentration or values and coefficients of variation of monitoring parameters or constituents in the ground water background.

(4) Multi-unit ground water monitoring systems.

An owner or operator may propose during the permitting process of WAC 173-351-700 a multi-unit ground water monitoring system instead of separate ground water monitoring systems for each MSWLF unit, including MSWLF units which were closed in accordance with chapter 173-351, 173-304, or 173-301 WAC when the facility has several MSWLF units, provided the multi-unit system meets all of the requirements of WAC 173-351-400 through WAC 173-351-490 and will be as protective of human health and environment as individual ground water monitoring systems for each MSWLF unit. Permit approval for multi-unit ground water monitoring systems and programs will be based on the ability to provide early warning detection of any contaminant releases including:

(a) Number, spacing, and orientation of units;

(b) Hydrogeologic setting;

(c) Site history;

(d) Engineering design of the MSWLF units;

(e) Type of waste accepted at the MSWLF units; and

(f) Leachate analysis as referenced in subsection (3)(a) of this section.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-450, filed 10/26/93, effective 11/26/93.]

WAC 173-351-460 Role of jurisdictional health department in corrective action.

The jurisdictional health department:

(1) May participate in all negotiations, meetings, and correspondence between the owner and operator and the department in implementing the model toxics control action;

(2) May comment upon and participate in all decisions made by the department in assessing, choosing, and implementing a corrective action program;

(3) Shall require the owner or operator to continue closure and post-closure activities as appropriate under these rules, after corrective action measures are completed; and

(4) Shall continue to regulate all MSWLF units during construction, operation, closure and post-closure, that are not directly impacted by Model Toxics Control Act.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-460, filed 10/26/93, effective 11/26/93.]

WAC 173-351-465 Role of department of ecology in corrective action. The department shall carry out all the responsibilities assigned to it under the Model Toxics Control Act (MTCA), chapter 70.105D RCW, during the corrective action process.

Note: Ecology encourages and will support owners or operators who perform independent corrective action(s) consistent with MTCA.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-465, filed 10/26/93, effective 11/26/93.]

WAC 173-351-480 Ground water modeling. All ground water and contaminant fate and transport modeling must meet the following performance standards:

(1) The model shall have supporting documentation that establishes its ability to represent ground water flow and contaminant transport and any history of previous applications;

(2) The set of equations representing ground water movement and contaminant transport must be theoretically sound and well documented;

(3) The numerical solution methods must be based upon sound mathematical principles and be supported by verification and checking techniques;

(4) The model must be calibrated against site-specific field data;

(5) A sensitivity analysis shall be conducted to measure the model's responses to changes in the values assigned to major parameters, specified tolerances, and numerically assigned space and time discretizations;

(6) Mass balance calculations on selected elements in the model shall be performed to verify physical validity. Where the model does not prescribe the amount of mass entering the system as a boundary condition, this step may be ignored;

(7) The values of the model's parameters requiring site specific data shall be based upon actual field or laboratory measurements; and

(8) The values of the model's parameters which do not require site specific data shall be supported by laboratory test results or equivalent methods documenting the validity of the chosen parameter values.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-480, filed 10/26/93, effective 11/26/93.]

WAC 173-351-490 The hydrogeologic report contents. (1) The hydrogeologic report shall meet all of the following performance standards as follows:

(a) Examine existing site conditions for compliance with ground water and surface water location restrictions under WAC 173-351-130 and 173-351-140;

(b) Determine existing or background ground water quality conditions, including any ground water contamination; and

(c) Define a detection ground water monitoring program capable of immediate and early warning detection for potential contamination as required in WAC 173-351-400 and the information required in subsection (2) of this section.

(2) The hydrogeologic report contents shall include the following information:

(a) A summary of local and regional geology and hydrology, including faults, zones of joint concentrations, unstable slopes and subsidence areas on site; areas of ground water recharge and discharge; stratigraphy; erosional and depositional environments and facies interpretation(s);

(b) A borehole program which identifies all performance criteria of WAC 173-351-405 including lithology, soil/bedrock types and properties, preferential ground water flow paths or zones of higher hydraulic conductivity, the presence of confining unit(s) and geologic features such as fault zones, cross-cutting structures etc., and the target hydrostratigraphic unit(s) to be monitored.

(i) A minimum of twenty subsurface borings is required for MSWLF sites which are 50 acres or less in aerial extent. For sites greater than fifty acres, twenty borings, plus three borings for each additional ten acres thereafter, is required. Soil borings shall be established in a grid pattern with a boring in each major geomorphic feature such as topographic divides and lowlands;

(ii) Each boring will be of sufficient depth below the proposed grade of the bottom liner as to identify soil, bedrock and hydrostratigraphic unit(s) conditions as required in WAC 173-351-405.

(iii) The jurisdictional health department and the department may approve alternate methods including geophysical techniques, either surface or downhole including electric logging, some sonic logging, nuclear logging, seismic profiling, electromagnetic profiling and resistivity profiling in lieu of some of the number of borings required in the subsurface borehole program of (b)(i) of this subsection, provided sufficient hydrogeological site characterization can be accomplished and prior approval is obtained.

(iv) At each boring samples shall be collected from each lithologic unit and tested for all of the following:

(A) Particle size distribution by both sieve and hydrometer analyses in accordance with approved ASTM methods (D422 and D1120);

(B) Atterburg limits following approved ASTM methods (D4318); and

(C) Classification under the unified soil classification system, following ASTM standard D2487-85.

(iv) Each lithologic unit on site will be analyzed for:

(A) Moisture content, following approved ASTM methods (D2216); and

(B) Hydraulic conductivity by an in-situ field method or laboratory method approved by the jurisdictional health department and the department. All samples collected for the determination of permeability shall be collected by standard ASTM procedures.

(v) All boring logs shall be submitted with the following information:

(A) Soil and rock descriptions and classifications;

- (B) Method of sampling;
 - (C) Sample depth;
 - (D) Date of boring;
 - (E) Water level measurements;
 - (F) Soil test data;
 - (G) Boring location; and
 - (H) Standard penetration number of ASTM standard D1586-67.
- (vi) All borings not converted to monitoring wells or piezometers shall be carefully backfilled, plugged and recorded in accordance with WAC 173-160-420.
- (vii) During the borehole drilling program, any on-site drilling and lithologic unit identification must be performed by a hydrogeologist, geologist or other qualified ground water scientist who is trained to sample and identify soils and bedrock lithology.
- (c) Depths to ground water and hydrostratigraphic unit(s) including transmissive and confining units;
 - (d) Potentiometric surface elevations and contour maps; direction and rate of horizontal and vertical ground water flow;
 - (e) A description of regional ground water trends including vertical and horizontal flow directions and rates;
 - (f) All elevations and top of well casings shall be related to the national geodetic vertical datum of 1929 (NGVD 29) and the horizontal datum shall be in accordance with chapter 58.20 RCW, Washington Coordinate System and as amended per chapter 332-130 WAC.
 - (g) Quantity, location, and construction (where available) of private and public wells within a two thousand foot (six hundred ten meter) radius of site;
 - (h) Tabulation of all water rights for ground water and surface water within a two thousand foot (six hundred ten meter) radius of the site;
 - (i) Identification and description of all surface waters within a one-mile (1.6 kilometer) radius of the site;
 - (j) A summary of all previously collected ground water and surface water analytical data, and for expanded facilities, identification of impacts of existing facility of the applicant to date upon ground and surface waters from landfill leachate discharges;
 - (k) Calculation of a site water balance;
 - (l) Conceptual design of a ground water and surface water monitoring system, including proposed installation methods for these devices and where applicable a vadose zone monitoring plan, including well construction diagrams;
 - (m) Land use in the area, including nearby residences; and
 - (n) A topographic map of the site and drainage patterns; an outline of the waste management area and MSWLF units, property boundary, the proposed location of ground water monitoring wells;
 - (o) Geologic cross-sections.
- (3) Ground water flow path analysis. The hydrogeologic report shall include a summary ground water flow path analysis which includes all supportive documentation, and calculations of the performance criteria of WAC 173-351-405.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-490, filed 10/26/93, effective 11/26/93.]

WAC 173-351-500 Closure and post-closure care. (1) Closure criteria.

(a) Nonarid areas. Owners or operators of all MSWLF units located in areas having mean annual precipitation of equal to or greater than twelve inches, must install a final cover system that is designed to minimize infiltration and erosion.

(i) The final cover system must be designed and constructed to:

(A) Minimize infiltration through the closed MSWLF by the use of an anti-infiltration layer that contains a composite layer as defined in (a)(i)(B) of this subsection;

(B) For the purpose of this section, "composite layer" means a system consisting of two components; the upper component must consist of a minimum of 30 mil (0.76 mm) thickness of geomembrane (60 mils (1.5 mm) for high density polyethylene geomembranes). The lower component must consist of at least a two-foot (60 cm) layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-5} cm/sec. The geomembrane must be installed in direct and uniform contact with the compacted soil component;

(C) Minimize erosion of the final cover by use of an anti-erosion layer that contains a minimum of a one-foot (30 cm) layer of earthen material of which at least six inches (15 cm) of the uppermost layer is capable of sustaining native plant growth; and

(D) Address anticipated settlement (with a goal of achieving no less than two to five percent slopes after settlement), drainage and/or the need for drainage layers, gas generation and/or the need for gas layers, freeze-thaw, desiccation and stability and mechanical strength of the design.

(ii) The jurisdictional health department may approve an alternative final cover design equivalent to that specified in (a)(i) of this subsection that includes:

(A) An anti-infiltration layer that achieves an equivalent reduction in infiltration as the anti-infiltration layer specified in (a)(i)(A) and (B) of this subsection;

(B) An anti-erosion layer that provides equivalent protection from wind and water erosion as the anti-erosion layer specified in (a)(i)(C) of this subsection; and

(C) The additional design features of (a)(i)(D) of this subsection.

(b) Arid areas. Owners or operators of all MSWLF units located in arid areas must install a final cover system that is designed to minimize infiltration and erosion.

(i) The final cover system must be designed and constructed to:

(A) Minimize infiltration through the closed MSWLF by the use of an anti-infiltration layer that contains at least a two-foot (60 cm) layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-5} cm/sec;

(B) Minimize erosion of the final cover by use of an anti-erosion layer that contains a minimum of one-foot (30 cm) layer of earthen material of which at least six inches (15 cm) of the uppermost layer is capable of sustaining native plant growth; and

(C) Address anticipated settlement (with a goal of reaching two to five percent slopes after settlement), drainage and/or the need for drainage layers, gas generation and/or the need for gas layers, freeze-thaw, desiccation and stability and mechanical strength of the design.

(ii) The jurisdictional health department may approve an alternative final cover design to that specified in (b)(i) of this subsection that includes:

(A) An anti-infiltration layer that achieves an equivalent reduction in infiltration as the anti-infiltration layer specified in (b)(i)(A) of this subsection;

(B) An anti-erosion layer that provides equivalent protection from wind and water erosion as the anti-erosion layer specified in (b)(i)(B) of this subsection; and

(C) The additional design features of (b)(i)(C) of this subsection.

(c) The owner or operator must prepare a written closure plan that describes the steps necessary to close all MSWLF units at any point during its active life. The closure plan must be approved by the jurisdictional health department during the permit process of Section 700 and, at a minimum, must include the following information:

(i) A description of the final cover, designed in accordance with (a) or (b) of this subsection and the methods and procedures to be used to install the cover;

(ii) An estimate of the largest area of the MSWLF unit or all MSWLF units ever requiring a final cover as required under (a) or (b) of this subsection at any time during the active life;

(iii) An estimate of the maximum inventory of wastes ever on-site over the active life of the facility; and

(iv) A schedule for completing all activities necessary to satisfy the closure criteria in this subsection (1), Closure criteria including sequencing of each MSWLF unit and the use of intermediate cover.

(d) The owner or operator of existing MSWLF units must no later than the effective date of this chapter:

(i) Prepare a closure plan;

(ii) Place the closure plan in the operating record; and

(iii) Notify the jurisdictional health department that (d)(i) and (ii) of this subsection have occurred.

(e) One hundred eighty days (but no sooner than the effective date of this chapter) prior to beginning closure activities of each MSWLF unit or all MSWLF units as specified in (f) of this subsection, the owner or operator must:

(i) Notify the jurisdictional health department and the financial assurance trustee and/or insurer of the intent to close the MSWLF unit or all MSWLF units according to the approved closure plan; and

(ii) Submit final engineering closure plans for review, comment, and approval by the jurisdictional health department.

(f) The owner or operator must begin closure activities of each MSWLF unit or all MSWLF units no later than thirty days after the date on which the MSWLF unit or all MSWLF units receives the known final receipt of wastes or, if the MSWLF unit or all MSWLF units has remaining capacity and there is a reasonable likelihood that the MSWLF unit or all MSWLF units will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the jurisdictional health department if the owner or operator demonstrates during the permit process of WAC 173-351-700 that the MSWLF unit or all MSWLF units has the capacity to receive additional waste and the owner or operator has taken and will continue to take all steps including the application of intermediate cover necessary to prevent threats to human health and the environment from the unclosed MSWLF unit or all MSWLF units.

(g) The owner or operator of all MSWLF units must complete closure activities of each MSWLF unit or all MSWLF units in accordance with the closure plan within one hundred eighty days following the beginning of closure as specified in (f) of this subsection. Extensions of the closure period may be granted by the jurisdictional health department if the owner or operator demonstrates that closure will, of necessity, take longer than one hundred eighty days and he/she

has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWLF unit.

(h) Following closure of each MSWLF unit or all MSWLF units, the owner or operator must submit to the jurisdictional health department a certification or declaration of construction signed by an independent registered professional engineer verifying that closure has been completed in accordance with the approved final engineering plans and the closure plan.

(i) Notation on the deed.

(i) Following closure of all MSWLF units, the owner or operator must record a notation on the deed to the facility property, and send a copy of the notation as recorded to the jurisdictional health department.

(ii) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(A) The land has been used as a landfill facility; and

(B) Its use is restricted under subsection (2)(c)(iii) of this section.

(j) The owner or operator may request permission from the jurisdictional health department to remove the notation from the deed if all wastes (including any contaminated ground water and soils) are removed from the facility.

(2) Post-closure care requirements.

(a) Following closure of each MSWLF unit or all MSWLF units, the owner or operator must conduct post-closure care. Post-closure care must be conducted for thirty years, except as provided under (b) of this subsection and consist of at least the following:

(i) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, maintaining the vegetative cover (including cutting of vegetation when needed) or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(ii) Maintaining and operating the leachate collection system in accordance with the requirements in WAC 173-351-300 if applicable. The jurisdictional health department may recommend to the department and the department under its authority in chapter 90.48 RCW, the Water Pollution Control Act, may allow the owner or operator to stop managing leachate if the owner or operator demonstrates that leachate no longer poses a threat to human health and the environment;

(iii) Monitoring the ground water in accordance with the requirements of WAC 173-351-400, Ground water monitoring systems and corrective action and maintaining the ground water monitoring system, if applicable; and

(iv) Maintaining and operating the gas monitoring system in accordance with the requirements of WAC 173-351-200(4).

(b) The length of the post-closure care period may be:

(i) Decreased by the jurisdictional health department if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the jurisdictional health department; or

(ii) Increased by the jurisdictional health department if the jurisdictional health department determines that the lengthened period is necessary to protect human health and the environment.

(c) The owner or operator of all MSWLF units must prepare a written post-closure plan that is approved by the jurisdictional health department during the permit process of Section 700 and that includes, at a minimum, the following information:

(i) A description of the monitoring and maintenance activities required in (a) of this subsection for each MSWLF unit or all MSWLF units, and the frequency at which these activities will be performed;

(ii) Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

(iii) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements of this regulation. The jurisdictional health department may approve any other disturbance if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

(d) The owner or operator of existing MSWLF units must notify the jurisdictional health department that a post-closure plan has been prepared and placed in the operating record no later than the effective date of this regulation.

(e) Following completion of the post-closure care period for each MSWLF unit or all MSWLF units, the owner or operator must submit to the jurisdictional health department and the financial assurance trustee and/or insurer a certification or declaration of construction signed by an independent registered professional engineer verifying that post-closure has been completed in accordance with the post-closure plan.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-500, filed 10/26/93, effective 11/26/93.]

WAC 173-351-600 Financial assurance criteria. (1) Applicability and effective date.

(a) The requirements of this section apply to owners and operators of all MSWLF units.

(b) The requirements of this section are effective on the effective date of this rule, except as provided herein.

(2) Financial assurance for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF units ever requiring a final cover as required under WAC 173-351-500(1), Closure criteria, at any time during the active life in accordance with the closure plan. The owner or operator must place the detailed written estimate in the application for a permit under WAC 173-351-700 in order for the jurisdictional health department to determine whether a solid waste permit should be issued.

(i) The cost estimate must equal the cost of closing the largest area of the MSWLF unit or MSWLF units ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan see WAC 173-351-500 (1)(c)(ii).

(ii) During the active life of the MSWLF unit or MSWLF units, the owner or operator must annually adjust the closure cost estimate for inflation.

(iii) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under (b) of this subsection if changes to the closure plan or MSWLF unit conditions increase the maximum cost of closure at any time during the remaining active life.

(iv) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under (b) of this subsection if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF unit or all MSWLF units. The owner or operator must submit justification for the reduction of the closure cost estimate and the amount of financial assurance to the jurisdictional health department for approval as a condition of the solid waste permit.

(b) The owner or operator of each MSWLF unit or all MSWLF units must establish financial assurance for closure of the MSWLF unit or all MSWLF units in compliance with WAC 173-351-600(5), Allowable mechanisms. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with WAC 173-351-500 (1)(h) and (i).

(3) Financial assurance for post-closure care.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit or all MSWLF units in compliance with the post-closure plan developed under WAC 173-351-500(2). The post-closure cost estimate used to demonstrate, during the permit process of WAC 173-351-700, financial assurance in (b) of this subsection must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must place the detailed written estimate in the application for a permit under WAC 173-351-700 in order for the jurisdictional health department to determine whether a solid waste permit should be issued.

(i) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(ii) During the active life of the MSWLF unit or all MSWLF units and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(iii) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under (b) of this subsection if changes in the post-closure plan or MSWLF unit conditions increase the maximum costs of post-closure care.

(iv) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under (b) of this subsection if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must submit justification for the reduction of the post-closure cost estimate and the amount of financial assurance to the jurisdictional health department for approval as a condition of the solid waste permit.

(b) The owner or operator of each MSWLF unit or all MSWLF units must establish, in a manner in accordance with subsection (5) of this section, financial assurance for the costs of post-closure care as required under WAC 173-351-500(2). The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with WAC 173-351-500 (2)(e).

(4) Financial assurance for corrective action.

(a) An owner or operator of a MSWLF unit or all MSWLF units required to undertake a corrective action program under WAC 173-351-440(6) must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under WAC 173-351-440(6). The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action

plan for the entire corrective action period. The owner or operator must submit the corrective action cost estimate to the jurisdictional health department for approval.

(i) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with WAC 173-351-440(6).

(ii) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under (b) of this subsection if changes in the corrective action program or MSWLF unit conditions increase the maximum costs of corrective action.

(iii) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under (b) of this subsection if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must submit justification for the reduction of the corrective action cost estimate and the amount of financial assurance to the jurisdictional health department for approval.

(b) The owner or operator of each MSWLF unit or all MSWLF units required to undertake a corrective action program under WAC 173-351-440(6), must establish, in a manner in accordance with subsection (5) of this section, financial assurance for the most recent corrective action program. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action under the Model Toxics Control Act regulation, chapter 173-340 WAC.

(c) The requirements of this subsection become effective April 9, 1994.

(5) Allowable mechanisms. The mechanisms used to demonstrate financial assurance under WAC 173-351-600 must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Except as otherwise provided herein, owners and operators of MSWLF units must use the financial mechanisms specified in (a) or (b) of this subsection.

(a) For MSWLF units owned or operated by municipal corporations, the closure, post-closure, and corrective action reserve account shall be handled in one of the following ways:

(i) Reserve account. Cash and investments accumulated and restricted for closure, post-closure, and corrective action for known releases with an equivalent amount of fund balance reserved in the fund accounting for solid waste activity; or

(ii) The cash and investments held in a nonexpendable trust fund as specified in (c) of this subsection.

(b) For MSWLF units owned by private disposal companies, the closure, post-closure, and corrective action for known releases financial assurance account shall be a trust account as spelled out in (c) of this subsection, except that established financial assurance accounts shall not constitute an asset of the facility owner or operator.

(c) Trust fund.

An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of (c)(i) through (xi) of this subsection.

(i) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The owner or operator must place a copy of the trust agreement in the application for a permit under WAC 173-351-700 in order for the jurisdictional health department to determine whether a solid waste permit should be issued.

(ii) Payments into the trust fund must be made annually by the owner or operator over the duration (as defined in WAC 173-351-750) of the initial permit or over the remaining life of the MSWLF unit or all MSWLF units, whichever is shorter, in the case of a trust fund for closure or

post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(iii) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into each fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in (d) of this subsection, divided by the number of years in the pay-in period as defined in (c) of this subsection. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{CE-CV}{Y}$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(iv) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in (d) of this subsection, divided by the number of years in the corrective action pay-in period as defined in (c)(ii) of this subsection. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{RB-CV}{Y}$$

where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(v) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure and post-closure care, or no later than one hundred twenty days after the corrective action remedy has been selected in accordance with the requirements of WAC 173-351-480 (6) and (7).

(vi) If a municipal corporation owning or operating MSWLF units establishes a trust fund after having used cash and investments held in a nonexpendable reserve account specified in (a)(i) of this subsection, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and (c) of this subsection as applicable.

(vii) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if:

(A) Sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action;

(B) If justification and documentation of the cost is submitted to the jurisdictional health department for review and approval; and

(C) The owner or operator has a post-closure permit in effect according to WAC 173-351-730 (4)(c).

- (viii) The trust fund may be terminated by the owner or operator only if:
 - (ix) In the case of a municipal corporation owning or operating MSWLF units, the municipal corporation substitutes a reserve account as specified in (a)(i) of this subsection; or
 - (x) Any owner or operator is no longer required to demonstrate financial responsibility in accordance with the requirements of subsection (2)(b), (3)(b), or (4)(b) of this section.
- (d) Use of multiple financial mechanisms. A municipal corporation owning or operating MSWLF units may satisfy the requirements of this section by establishing more than one financial mechanism per facility. The mechanisms must be as specified in (a) and (b) of this subsection, 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 cost estimate for closure, post-closure care or corrective action, whichever is applicable.
- (e) For MSWLF units undergoing corrective action, allowable financial assurance mechanisms include:
- (i) Any method approved by EPA under 40 CFR 258.74(f);
 - (ii) An interlocal agreement entered into under the Interlocal Cooperation Act, chapter 39.34 RCW, obligating the participating local governments to pay for the corrective action.
- (f) The language of the mechanisms listed in (a) and (b) of this subsection must ensure that the instruments satisfy the following criteria:
- (i) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;
 - (ii) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;
 - (iii) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later than one hundred twenty days after the corrective action remedy has been selected in accordance with the requirements of WAC 173-351-460, until the owner or operator is released from the financial assurance requirements under subsection (2)(b), (3)(b), or (4)(b) of this section.
- (g) The financial assurance mechanisms must be legally valid, binding, and enforceable under state and federal law.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-600, filed 10/26/93, effective 11/26/93.]

WAC 173-351-700 Permitting requirements. (1) WAC 173-351-700 through 173-351-750 shall constitute the permitting requirements of chapter 173-351 WAC, Criteria for municipal solid waste landfills. Except as provided for in subsection (5) of this section, no owner or operator shall construct, operate, close, or perform post-closure activity with respect to a facility except in conformance with a valid MSWLF permit issued pursuant to this chapter.

(2) Transition rules for existing MSWLF units. The following constitute the transition rules for this section:

(a) Existing MSWLF units with valid chapter 173-304 WAC permits expiring before the effective date of this chapter. Owners or operators of existing MSWLF units having valid permits expiring before the effective date of this chapter, must apply for a valid MSWLF permit

no later than ninety days after promulgation of this regulation, to continue operation under the terms of this regulation. Each valid chapter 173-304 WAC permit expiring before the effective date of this chapter, is hereby continued until the valid MSWLF permit is issued under these rules. For these transition rules, the owner or operator shall prepare applications according to WAC 173-351-730(4), Reissuance/transition applications. Upon issuance of a valid MSWLF permit, the owner or operator must comply with the requirements of this regulation.

Note: MSWLF units that do not accept waste on or after the effective date of this chapter, and close under chapter 173-304 WAC, Minimum functional standards for solid waste handling, and the federal rules for closure under 40 CFR Part 258.60 would continue to be permitted under chapter 173-304 WAC unless such MSWLF units are part of a multi-unit ground water monitoring system according to WAC 173-351-450(4).

(b) Existing MSWLF units with valid chapter 173-304 WAC permits expiring on or after the effective date of this chapter. Each valid chapter 173-304 WAC permit (for existing MSWLF units) expiring on or after the effective date of this rule, is hereby continued until the expiration date set forth in the permit. Owners and operators must comply with the conditions of the permit and the regulations of chapter 173-304 WAC, in effect on October 8, 1993, for the duration of that permit. Owners or operators of existing MSWLF units with valid chapter 173-304 WAC permits expiring on or after the effective date of this chapter, must apply for a valid MSWLF permit no later than ninety days after promulgation of this regulation. For these transition rules, the owner or operator shall prepare applications according to WAC 173-351-730(4), Reissuance/transition applications. Upon issuance of a valid MSWLF permit, the owner or operator must comply with the requirements of this regulation.

Note: See also WAC 173-351-720 (6)(a), filing for reissuance.

(3) New and laterally expanded MSWLF units. New and laterally expanded MSWLF units receiving waste after the effective date of this chapter, shall meet the requirements of this section before construction has begun and before waste is accepted to the MSWLF unit or lateral expansion.

Note: Any owner or operator planning to incorporate a 50 percent increase or greater in design volume capacity not previously authorized in permit, or unpermitted changes resulting in significant adverse environmental impacts that have lead a responsible official to issue a declaration of significance under WAC 197-11-736 shall meet the requirements of this section before construction has begun and before waste is accepted to the MSWLF unit, or lateral expansion.

(4) Exemptions. The MSWLF units identified in this subsection are exempt from this section:

- (a) MSWLF units that are excluded under WAC 173-351-010 (2)(b);
- (b) Single family residences and single family farms dumping or depositing solid waste resulting from their own domestic, on-site activities onto or under the surface of land owned or leased by them when such action does not create a nuisance, violate any other statutes, ordinances, regulations, or this regulation, provided that such facilities:
 - (i) Are fenced or otherwise protected by natural barriers from unauthorized entry by the general public and large animal scavengers; and
 - (ii) Have placed a monthly soil cover to allow no visible solid waste.
- (c) Corrective actions at a MSWLF unit performed by the state and/or in conjunction with the United States Environmental Protection Agency to implement the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), the Model Toxics Control Act or corrective actions taken by others to comply with a state and/or federal cleanup order provided that:
 - (i) The action results in an overall improvement of the environmental impact of the site;

- (ii) The action does not require or result in additional waste being delivered to the facility or increase the amount of waste or contamination present at the facility;
- (iii) The facility standards of WAC 173-351-300, 173-351-320, and 173-351-500 are met; and
- (iv) The jurisdictional health department is informed of the actions to be taken and is given the opportunity to review and comment upon the proposed corrective action plans.

Note: MSWLF units not covered under corrective action are not exempted from permitting under this section.

(5) Renewal required. The owner or operator of a facility shall apply for renewal of the facility's permit annually, except for that year that a permit has been or will be reissued under WAC 173-351-720(6).

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-700, filed 10/26/93, effective 11/26/93.]

WAC 173-351-720 Permit application procedures. (1) Initial procedures.

(a) Forms and complete application. An application for any permit under this regulation must be submitted on a form prescribed by the department. In order to be determined complete:

- (i) Two or more copies (as determined by the jurisdictional health department) of the application must have been signed by the owner and operator and received by the jurisdictional health department;
- (ii) The application must include evidence of compliance with the State Environmental Policy Act (SEPA) rules, chapter 197-11 WAC; and
- (iii) The application must include the plans, reports, and other supporting information required by this regulation.

(b) Notice. Once the jurisdictional health department determines that an application for a permit is factually complete, it shall:

- (i) Refer one copy to the appropriate regional office of the department for review and comment;
- (ii) For all permits except renewal, modified and transition permits give notice of its receipt of a proposed complete permit application to the public and to interested persons for public comment for thirty days after the publication date of the notice;
- (iii) For all permits except renewal, modified and transition permits perform the following additional public notification requirements:
 - (A) Mail the notice to persons who have requested notice in writing;
 - (B) Mail the notice to state agencies and local governments with a regulatory interest in the proposal;
 - (C) Include in the public notice a statement that any person may express their views in writing to the jurisdictional health department within thirty days of the last date of publication;
 - (D) Mail a copy of the MSWLF permit decision to any person who has made written request for such decision; and
 - (E) Add the name of any person, upon request, to a mailing list to receive copies of notices for all applications, within the state or within a geographical area.

(c) Standards for approval. The jurisdictional health department shall investigate every application to determine whether the facility meets all applicable laws and regulations, conforms

with the most recently adopted comprehensive solid waste management plan in effect at the time of application and complies with all zoning requirements. A land use permit or letter from the jurisdictional zoning authority shall be sufficient demonstration of compliance with zoning requirements.

(d) Fees. The jurisdictional health department may establish reasonable fees for permits and renewal of permits. All permit fees collected by the health department shall be deposited in the account from which the jurisdictional health department's operating expenses are paid.

(e) Department's findings. The department shall report to the jurisdictional health department its findings on each permit application within forty-five days of receipt of a complete application or inform the jurisdictional health department as to the status of the application and when it expects its findings will be transmitted to the jurisdictional health department. Additionally, the department shall recommend for or against the issuance of each permit by the jurisdictional health department.

(f) Permit approval. When the jurisdictional health department has evaluated all information in the public record, it shall issue or deny a permit. Every completed solid waste permit application shall be approved or disapproved within ninety days after its receipt by the jurisdictional health department or the owner or operator shall be informed as to the status of the application with a schedule for final determination.

(g) Permit format. Every permit issued by a jurisdictional health department shall be on a format prescribed by the department and shall contain specific requirements necessary for the proper operation of the facility including the requirement that final engineering plans and specifications be submitted for approval to the jurisdictional health department.

(h) Filing permits with the department. The jurisdictional health department shall mail all issued permits to the department no more than seven days after the date of issuance. The department shall review and may appeal the permit as set forth in RCW 70.95.185 and 70.95.190.

(i) Renewal procedures. The owner or operator of a facility shall apply for renewal of the MSWLF permit annually, except for that year that a permit has been or will be reissued under subsection (6) of this section. The owner or operator is authorized to continue all activities authorized under the currently expired permit, if the jurisdictional health department has not rendered a decision on renewal by the yearly renewal date of the current permit. The jurisdictional health department shall annually:

(A) Review the original application and such additional information as required in WAC 173-351-730 (3)(b) for compliance with these regulations:

(B) Collect the renewal fee if the jurisdictional health department so chooses;

(C) If the requirements of (b)(i)(A) of this subsection are met, renew the permit; and

(D) File the renewed permit with the department no more than seven days after the date of renewal. The department shall review and may appeal the renewal as set forth in RCW 70.95.185 and 70.95.190. See also reissuance under subsection (6) of this section.

(2) SEPA review. The State Environmental Policy Act (SEPA), the SEPA rules and the local SEPA rules apply to permit decisions made pursuant to this chapter.

(3) Preapplication meetings. Preapplication meetings between the jurisdictional health department and the owner or operator are encouraged to address, among other things, the development of a complete application pertaining to the owner's or operator's prospective project.

(4) Activities authorized in permits, generally.

(a) Construction. Issuance of a valid MSWLF permit entitles the permittee to construct the MSWLF unit or MSWLF units, subject to any appropriate conditions the jurisdictional health department may impose. If the facility is to be constructed in several or more MSWLF units, the initial application must contain the conceptual design for the entire facility and the information of WAC 173-351-730 (1)(b) for the initial MSWLF unit. In addition, information of WAC 173-351-730 (1)(b) may be submitted covering all other MSWLF units that will be constructed up to the first ten years of facility operation. The permit will identify the extent of each permitted MSWLF unit and the specific time frames for the first MSWLF unit and estimated time frames for subsequent MSWLF units within which construction activities must begin and end for each MSWLF unit. Authorization to construct each subsequent MSWLF unit must, as to that MSWLF unit, contain the detailed construction plans as specified in this regulation, and those plans and the construction of that MSWLF unit must comply with all requirements of the SEPA and of this regulation and other regulations applicable at the time jurisdictional health department approval is granted.

(b) Operation. Except for MSWLF units governed by the transition rules of WAC 173-351-700(2), the jurisdictional health department's approval to accept solid waste will not be given until the permittee has demonstrated to the jurisdictional health department's satisfaction that the MSWLF unit has been constructed in accordance with the approved plans and specifications for that MSWLF unit. If a facility is to be constructed in several or more MSWLF units, the jurisdictional health department must determine that each specific MSWLF unit has been constructed in accordance with the approved permit before operation will be permitted in that specific MSWLF unit.

(c) Post-closure activities. The jurisdictional health department's approval for post-closure activities will not be given until the permittee has demonstrated to the jurisdictional health department's satisfaction that the MSWLF unit or all the MSWLF units have been closed in accordance with the final engineering plans WAC 173-351-500 (1)(e)(ii) and the approved closure plan.

Note: Failure to obtain approval for post-closure activities may prevent reimbursement under post-closure financial assurance in WAC 173-351-600.

(5) Permit modifications.

(a) Any owner or operator intending to modify a valid MSWLF permit must file a modification application at least thirty days before the intended modification. A modification application must be made on forms authorized by the jurisdictional health department and the department, and the forms must include information identified in WAC 173-351-730 (3)(a).

(b) The jurisdictional health department shall follow the procedures of subsection (1) of this section in issuing a permit modification except for the following:

(i) Subsection (1)(b)(ii) and (iii) of this section, public notice; and

(ii) Subsection (1)(i) of this section, renewal procedures.

(c) In order to allow for permit modifications to be authorized at the time of permit renewal, any owner or operator may combine the application required for a permit modification in WAC 173-351-730 (3)(a) with the application required for a renewal permit in WAC 173-351-730 (3)(b), at the time of permit renewal.

(6) Permit reissuance. Except for permits during transition under subsection (2) of this section, any owner or operator intending to continue construction, operation or post-closure beyond the permitted duration of a valid MSWLF permit must file a reissuance application at least ninety days before the existing permit expires. Reissuance applications are subject to the

public notification process of subsection (1)(b) of this section. A reissuance application must be made on forms authorized by the jurisdictional health department and the department, and must include information identified in WAC 173-351-730(4).

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-720, filed 10/26/93, effective 11/26/93.]

WAC 173-351-730 Contents of applications. (1) Applications for MSWLF permits and level of detail, generally.

(a) General requirements for MSWLF permit applications and level of detail.

(i) An application for an MSWLF permit to construct, operate, and conduct post-closure activities at a facility must include all applicable information identified in this section pertaining to the facility for which the permit is being sought.

(ii) The information in every application submitted under this regulation must be of sufficient detail so as to allow the jurisdictional health department to fulfill its responsibilities under SEPA and this regulation by:

(A) Having detail sufficient to be readily understood by the persons using the documents contained in the application to enable them to determine how the facility will be constructed, operated, and closed and how it will be monitored and maintained after closure;

(B) Providing the jurisdictional health department with sufficient detail to ascertain the environmental impact of the proposed project; and

(C) Providing sufficient detail to demonstrate that the location, design, construction, operation, closure, and post-closure monitoring and maintenance of the MSWLF will be capable of compliance with the applicable requirements of this regulation.

(b) Specific requirements for permit applications. In addition to other requirements set forth in this section, complete applications for MSWLF permits must contain the following:

(i) Engineering plans that set forth the proposed facility's location, property boundaries, adjacent land uses, and detailed construction plans pursuant to subsection (5)(a) of this section;

(ii) How the facility will meet the location standards of WAC 173-351-130 and 173-351-140 including demonstrations;

(iii) A hydrogeologic report and water quality monitoring plan prepared in accordance with the provisions of WAC 173-351-400 (including all demonstrations);

(iv) The plan of operation that prescribes how the facility will fulfill the operating requirements set forth in WAC 173-351-200, 173-351-210, and 173-351-220, including the demonstrations of this regulation;

(v) An engineering report comprehensively describing the existing site conditions and an analysis of the facility, including closure, post-closure criteria, and any necessary demonstrations with subsection (5)(b) of this section;

(vi) A construction quality assurance and quality control plan prepared in accordance with subsection (6) of this section;

(vii) The closure and post-closure plans required by WAC 173-351-500, including the schedule of WAC 173-351-500 (1)(c)(iv) and for the submission of final engineering plans for closure six months prior to closure of the facility or the MSWLF unit. See WAC 173-351-500 (1)(e)(ii);

(viii) Either a legal document (contract, local permit, a signed permit application etc.) certifying acceptance of leachate by the operator of a wastewater treatment facility for the discharge of leachate to that facility, or an application for a National Discharge Elimination System (NPDES) permit pursuant to chapter 173-220 WAC or a state discharge permit (for solar evaporation ponds having no surface water discharge) pursuant to chapter 173-216 WAC or other necessary environmental permit applications (including air quality permit applications) for otherwise managing leachate;

(ix) For small landfills, the demonstration of WAC 173-351-010 (2)(c);

(x) A demonstration of how the MSWLF conforms with the approved local comprehensive solid waste management plan in place at the time of application.

(2) Combined applications. Owners or operators may file a combined application for MSWLF units and other solid waste handling facilities, such as surface impoundments, composting facilities, storage piles, and MSWLF units closed under and/or regulated by chapter 173-304 WAC, Minimum functional standards for solid waste handling or other rules promulgated under the authority of chapter 70.95 RCW, including this regulation. The combined application must contain information required by each applicable regulation.

(3) Modification and renewal applications.

(a) Modification applications. An application on forms specified by the jurisdictional health department and the department to modify a valid MSWLF permit issued pursuant to WAC 173-351-700 must include, and address, the following at a minimum:

(i) A description of the proposed modification;

(ii) The reasons for the proposed modification;

(iii) A description of the impacts from the proposed modification upon the MSWLF unit or the facility as presently permitted; and

(iv) A showing that, as modified, the MSWLF unit will be capable of compliance with the applicable requirements of this regulation.

(b) Renewal applications. An application on forms specified by the jurisdictional health department and the department to renew a permit issued pursuant to WAC 173-351-700 must include and address the following at a minimum:

(i) Any changes in operating methods, closure cost or post-closure costs or other changes not falling under the definition of a permit modification;

(ii) Any changes as revealed by inspections, or complaints;

(iii) Evidence that the annual report of WAC 173-351-200(11) has been submitted;

(iv) A list of documents added to the operating record according to WAC 173-351-200(10); and

(v) Evidence that all MSWLF unit operators have continued to comply with the certification requirements of chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities.

(4) Reissuance/transition applications. An application to reissue a permit previously issued pursuant to this regulation or to convert a chapter 173-304 WAC permit to a valid MSWLF permit under the transition permit rules of WAC 173-351-700(2) must, at a minimum, include and address the following:

(a) Review the original application and permit for compliance with these regulations and submit such additional information as follows:

(i) A compliance summary showing how the facility's construction, operation, closure and post-closure activities, as applicable, have been undertaken either in compliance or not in compliance with the terms and conditions of the expiring permit;

(ii) Specifying any changes proposed by the owner or operator to, and detailing any changes in circumstance that may affect, the design, construction, operation, closure, or post-closure care of the facility and describing how compliance with the applicable requirements of this regulation will be assured.

(b) Review of information collected from inspections, complaints, or known changes in the operations including:

(i) Results of ground water monitoring taken during the operation (including closure/post-closure) of the facility according to WAC 173-351-400 or 173-304-490 as appropriate; and

(ii) Results of surface water and methane monitoring taken during the operation (including closure/post-closure) of the facility.

(5) Engineering plans, reports, and specifications. Unless otherwise specified in chapter 173-351 WAC, all engineering plans, reports, and specifications must comply with the requirements of this subsection. Engineering plans, reports, specifications, programs, and manuals submitted to the jurisdictional health department must be prepared and certified by an individual licensed in engineering disciplines associated with landfill design and construction or with experience in landfill design and construction and to practice engineering in the state of Washington.

(a) Engineering plans. Unless otherwise specified in this chapter, the engineering plans for all MSWLF units must be submitted using the following format:

(i) The sheet size with title blocks must be twenty-two inches by thirty-four inches or twenty-four inches by thirty-six inches.

(ii) The cover sheet must include the project title, owner's and operator's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature, and seal.

(iii) The preliminary engineering plans relating the project to its environmental setting must include:

(A) A regional plan or map (having a minimum scale of 1:62,500) and indicate directions and distances to airports within five miles (eight kilometers) of the facility;

(B) A vicinity plan or map (having a minimum scale of 1:24,000) that must show the area within one mile (1.6 kilometers) of the property boundaries of the facility in terms of, the existing and proposed zoning and land uses within that area; and residences, public and private water supply wells, known private water supply aquifers, sole source aquifers, ground water management areas, well-head protection zones, special protection areas and surface waters (with quality classifications), access roads, bridges, railroads, airports, historic sites, and other existing and proposed man-made or natural features relating to the facility; and

(C) An overall site plan (having a minimum scale of 1:2,400 with five foot (or one meter) minimum contour intervals) that must show the landfill's property boundaries (as certified by an individual licensed to practice land surveying in the state of Washington), offsite and onsite utilities (such as electric, gas, water, storm, and sanitary sewer systems) and right-of-way easements; the 100-year floodplain, wetlands, Holocene faults, unstable areas; the names and addresses of contiguous property owners; the location of soil borings, excavations, test pits, gas venting structures, wells (including down-gradient drinking water supply wells within two thousand feet (six hundred ten meters) of the property boundary), lysimeters, piezometers,

environmental and facility monitoring points and devices (with each identified in accordance with a numbering system acceptable to the jurisdictional health department and whose horizontal location are accurate to the nearest 0.5 foot (0.15 meter) and all orthometric evaluations should be related to a vertical benchmark based on the national geodetic vertical datum of 1929 (NGVD29) and be established to 3rd order classification standards per federal geodetic control committee, or its successor, as specified in WAC 332-130-060 as measured from the ground surface and top of well casing), benchmarks and permanent survey markers, and onsite buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; the delineation of the total landfill area including planned staged development of the landfill's construction and operation, and the lateral and vertical limits of previously filled areas; the location and identification of the sources of cover materials; the location and identification of special waste handling areas; a wind rose; and site topography with five foot (or one meter) minimum contour intervals.

Note: All horizontal locations shall be based upon a control station related to a horizontal datum specified in chapter 58.20 RCW and chapter 332-130 WAC (NAD.83 (1991)).

(D) Detailed plans of the landfill must clearly show in plan and cross-sectional views, the original, undeveloped site topography before excavation or placement of solid waste; the existing site topography (if different from the original, undeveloped site topography) including the location and approximate thickness and nature of any existing solid waste; the seasonal high ground water table; generalized geologic units; known and interpolated bedrock elevations; the proposed limits of excavation and waste placement; the location and placement of each liner system and of each leachate collection system, locating and showing all critical grades and elevations of the collection pipe inverts and drainage envelopes, manholes, cleanouts, valves, sumps, and drainage blanket thicknesses; all berms, dikes, ditches, swales and other devices as needed to divert or collect surface water runoff or runoff; the final elevations and grades of the landfill cover system including the grading and gas venting layer, low permeability barrier, topsoil layers; the system used for monitoring and venting the decomposition gases generated within the landfill; ground water monitoring wells; geophysical and geochemical monitoring devices or structures; leachate storage, treatment and disposal systems including the collection network, sedimentation ponds and any treatment, pretreatment, or storage facilities; typical roadway sections, indicating the pavement type, dimensions, slopes and profiles; the building floor plans, elevations, appurtenances; and plans detailing the landfill entrance area including gates, fences, and signs.

(b) Engineering reports. The engineering reports for a facility must:

(i) Contain a cover sheet, stating the project title and location, the owner's or operator's name, and the engineer's name, address, signature, date of signature, and seal.

(ii) Have its text printed on 8 1/2" by 11" pages (paginated consecutively);

(iii) Contain a table of contents or index describing the body of the report and the appendices;

(iv) Include a body of report whose content is described by (c) of this subsection; and

(v) Include all appendices.

(c) An engineering report containing a description of the existing site conditions and, at a minimum, an analysis of the proposed facility that must:

(i) Describe current operating practices, expected life and any pending litigation or corrective actions relating to the existing or past facilities;

(ii) Specify the proposed design capacity of the MSWLF unit for which approval is being sought, describing the number, types, and the minimum specifications of all the necessary machinery and equipment needed to effectively operate the landfill at the proposed design capacity;

(iii) Contain a site analysis of the proposed action including:

(A) The location of the closest population centers;

(B) A comprehensive description of the primary transportation systems and routes in the facility service area (i.e., highways, airports, railways, etc.);

(C) An analysis of the existing topography, surface water and subsurface geological conditions in accordance with the hydrogeologic report requirements of WAC 173-351-490;

(D) A description of the materials and construction methods used for the placement of each monitoring well pursuant to the requirements of WAC 173-351-400; all gas venting systems; each liner and leachate collection and removal system; leachate storage, treatment, and disposal systems; and cover systems to demonstrate conformance with the design requirements found in WAC 173-351-300, 173-351-320, and 173-351-500. This description also must include a discussion of provisions to be taken to prevent frost action upon each liner system in areas where refuse has not been placed;

(E) An estimate of the expected quantity of leachate to be generated, including:

(I) An annual water budget that estimates leachate generation quantities during initial operation, upon application of intermediate cover, and following MSWLF unit or all MSWLF units closure. At a minimum, the following factors must be considered in the preparation of the water budget to determine the amount of leachate generated as a result of precipitation infiltration into the MSWLF unit or all the MSWLF units: Average monthly temperature, average monthly precipitation, evaporation, evapotranspiration which considers the vegetation type and root zone depth, surface/cover soil conditions and their relation to precipitation runoff which must account for the surface conditions and soil moisture holding capacity and all other sources of moisture contribution to the landfill;

(II) Liner and leachate collection system efficiencies that must be calculated using an appropriate analytical or numerical assessment. The factors to be considered in the calculation of collection system efficiency must include, at a minimum, the saturated hydraulic conductivity of the liner, the liner thickness, the saturated hydraulic conductivity of the leachate collection system, the leachate collection system porosity, the base slope of the liner and leachate collection and removal system interface, the maximum flow distance across the liner and leachate collection and removal system interface to the nearest leachate collection pipe, the estimated leachate generation quantity as computed in accordance with the requirements of (c)(iii)(E)(I) of this subsection; and

(III) Predictions of the static head of leachate on the liners, volume of leachate to be collected, and the volume of leachate that may permeate through the entire liner system, all on a monthly basis. Information gained from the collection efficiency calculations required in (c)(iii)(E)(I) and (II) of this subsection must be used to make these predictions. This assessment also must address the amount of leachate expected to pass through the liner system in gallons per acre per day (liters per square meter per day).

(d) Discuss the closure and post-closure maintenance and operation of the facility which must include, but not be limited to:

(i) A closure design consistent with the requirements of WAC 173-351-500;

(ii) A post-closure water quality monitoring program consistent with the requirements of WAC 173-351-400 and 173-351-500;

(iii) An operation and closure plan for the leachate collection, treatment, and storage facilities consistent with the requirements of this regulation and WAC 173-304-430; and

(iv) A discussion of the future use of the facility, including the specific proposed or alternative uses during the post-closure period. Future uses must not adversely affect the final cover system. See WAC 173-351-500 (2)(c)(iii).

(e) Appendices submitted as part of an engineering report submitted with an application to construct a new or laterally expanded MSWLF unit must contain:

(i) Appropriate charts and graphs;

(ii) Copies of record forms used at the MSWLF unit;

(iii) Test pit logs, soil boring logs, and geological information (such as stratigraphic sections, geophysical and geochemical surveys, and water quality analyses);

(iv) Engineering calculations (including the raw data from which they were made);

(v) Other supporting data, including literature citations.

(6) Construction quality assurance and construction quality control plans.

The construction quality assurance (QA) and construction quality control (QC) plan must address the construction of the MSWLF unit according to the designs set forth in chapter 173-351 WAC. (Construction QA and construction QC are defined in WAC 173-351-100.) The owner or operator may submit separate construction QA plans and construction QC plans. For each specified phase of construction, these plans must include, but not be limited to:

(a) A delineation of the responsibilities for the QA management organization and the QC management organization, including the chain of command of the QA inspectors and contractors and the QC inspectors and contractors; quality assurance shall be performed by a third party organization that is independent of the landfill owner/operator/contractor.

(b) A description of the required level of experience and training for the contractor, his/her crew, and QA and QC inspectors for every major phase of construction in sufficient detail to demonstrate that the approved installation methods and procedures will be properly implemented; and

(c) A description of the QA and QC testing protocols for every major phase of construction, which must include, at a minimum, the frequency of inspection, field testing, sampling for laboratory testing, the sampling and field testing procedures and equipment to be utilized, the calibration of field testing equipment, the frequency of performance audits, the sampling size, the laboratory procedures to be utilized, the calibration of laboratory equipment and QA/QC of laboratory procedures, the limits for test failure, and a description of the corrective procedures to be used upon test failure.

Note: It is intended that owners or operators will select and pay for the independent third party construction quality assurance firm, who will report to the owner or operator.

(7) Signature and verification of applications.

(a) All applications for permits must be accompanied by evidence of authority to sign the application and must be signed by the owner or operator as follows:

(i) In the case of corporations, by a duly authorized principal executive officer of at least the level of vice-president; in the case of a partnership or limited partnership, by:

(ii) A general partner;

(iii) Proprietor; or

(iv) In the case of a sole proprietorship, by the proprietor;

(v) In the case of a municipal, state, or other governmental entity, by a duly authorized principal executive officer or elected official.

(b) Applications must be sworn to by, or on behalf of, the owner or operator, in respect to the veracity all statements therein; or must bear an executed statement by, or on behalf of, the owner or operator to the effect that false statements made therein are made under penalty of perjury.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-730, filed 10/26/93, effective 11/26/93.]

WAC 173-351-740 Permit issuance criteria. The jurisdictional health department may issue, reissue, or modify a MSWLF permit to a facility, only if:

(1) The application's engineering and hydrogeological data and construction plans and specifications required by this regulation pertaining to such a MSWLF unit or MSWLF units substantiate that the proposed MSWLF unit or MSWLF units meets the requirements of this regulation;

(2) The application demonstrates the facility's ability to operate and close in accordance with the requirements of this regulation;

(3) The application demonstrates the facility's ability to conduct post-closure activities in accordance with the requirements of this regulation; and a form of surety or financial responsibility for post-closure activities has been filed with the jurisdictional health department; and

(4) The application demonstrates the facility's consistency with the local solid waste management plan in effect at the time of application.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-740, filed 10/26/93, effective 11/26/93.]

WAC 173-351-750 Permit provisions. (1) Mitigation of adverse impacts. The jurisdictional health department may impose conditions in each permit, to assure mitigation of adverse environmental impacts pursuant to SEPA, chapter 43.21C RCW and to insure compliance with the requirements identified in WAC 173-351-130 through 173-351-600, with the applicable sections pertaining to such a MSWLF unit or all MSWLF units, and with other applicable laws and regulations.

(2) Transferability.

(a) All permits issued pursuant to this regulation are transferable only upon prior written approval of the jurisdictional health department and a demonstration that the prospective transferee will be able to comply with applicable laws and regulations, permit conditions, and other requirements to which the prospective transferor is subject.

(b) Upon transfer of ownership of all or part of a facility, a provision must be included in the property deed indicating the period of time during which the facility has been disposing of solid waste, a description of the solid waste contained within, and the fact that the records for the facility have been filed with the jurisdictional health department. The deed also must reference a

map, which must be filed with the county clerk, showing the limits of the active areas as defined in WAC 173-351-100.

(3) Duration of permits. The jurisdictional health department must specify the duration of the MSWLF permit not to exceed ten years. Permits must be renewed annually according to WAC 173-351-730(3), and reissued according to WAC 173-351-720(6).

(4) Preconstruction review condition. The jurisdictional health department shall include in each permit for a new MSWLF unit or lateral expansion a condition requiring the owner or operator, to submit the following documents sixty days prior to beginning construction, and to obtain the jurisdictional health department's approval that the following documents conform with the engineering report and with the requirements of this chapter:

- (a) Final design drawings;
- (b) Construction specifications; and
- (c) A construction quality assurance manual for the following MSWLF components:
 - (i) Bottom liner;
 - (ii) Leachate collection and removal system;
 - (iii) Landfill gas control system;
 - (iv) Leachate and landfill gas condensate treatment and disposal system; and
 - (v) Final cover system.

(5) Supervision and certification or declaration of construction. The construction of a MSWLF unit must be undertaken:

(a) Under the supervision of an individual licensed to practice engineering in the state of Washington; and

(b) In conformance with the construction quality assurance plan of WAC 173-351-730(6).

(6) Preoperation review conditions. Each permit issued under this chapter for a new MSWLF unit or lateral expansion shall contain a condition requiring that upon completion of construction, the licensed engineer who supervised construction shall certify or declare in writing that the construction is in accordance with the terms of the applicable permit and tested in accordance with construction quality assurance plans of WAC 173-351-730(6). Except as specified elsewhere in this regulation, this certification or declaration must be submitted to the jurisdictional health department within three months after completion of construction and must include recorded construction drawings and specifications. The operator must notify the jurisdictional health department, in writing, of the date when solid waste will be first received at the MSWLF unit.

(7) Cessation of construction or operation activities. If construction or operation activities started under a permit issued pursuant to this chapter cease for a period of twelve consecutive months, the jurisdictional health department may in its discretion revoke the permit. The jurisdictional health department shall provide notice to the owner or operator in writing explaining the reasons for revocation. The jurisdictional health department shall not revoke a permit where the cessation of construction or operation is caused by factors beyond the reasonable control of the permittee or when such cessation is in accordance with the provisions of the permit.

(8) Design volume capacity. Every MSWLF permit must set forth the facility's approved design volume capacity.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-750, filed 10/26/93, effective 11/26/93.]

WAC 173-351-760 Appeals. Whenever the jurisdictional health department denies a permit or suspends a permit for a solid waste disposal site, it shall, upon request of the application or holder of the permit, grant a hearing on such denial or suspension within thirty days after the request therefor is made. Notice of the hearing shall be given to all interested parties including the county or city having jurisdiction over the site and the department. Within thirty days after the hearing the health officer shall notify the applicant or the holder of the permit in writing of his determination thereof. Any party aggrieved by such determination may appeal to the pollution control hearings board by filing with the hearings board a notice of appeal within thirty days after receipt of notice of the determination of the health officer. The hearings board shall hold a hearing in accordance with the provisions of the Administrative Procedure Act, chapter 34.05 RCW, as now or hereafter amended.

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-760, filed 10/26/93, effective 11/26/93.]

WAC 173-351-990 Appendices.

APPENDIX I¹

APPENDIX I

Constituents for Detection Monitoring

| | COMMON NAME ² | CAS RN ³ |
|-----|--------------------------|---------------------|
| | Inorganic Constituents | |
| 1) | Antimony | (Dissolved) |
| 2) | Arsenic | (Dissolved) |
| 3) | Barium | (Dissolved) |
| 4) | Beryllium | (Dissolved) |
| 5) | Cadmium | (Dissolved) |
| 6) | Chromium | (Dissolved) |
| 7) | Cobalt | (Dissolved) |
| 8) | Copper | (Dissolved) |
| 9) | Lead | (Dissolved) |
| 10) | Nickel | (Dissolved) |
| 11) | Selenium | (Dissolved) |
| 12) | Silver | (Dissolved) |
| 13) | Thallium | (Dissolved) |
| 14) | Vanadium | (Dissolved) |
| 15) | Zinc | (Dissolved) |
| 16) | Nitrate | |
| | Organic Constituents | |
| 17) | Acetone | 67-64-1 |
| 18) | Acrylonitrile | 107-13-1 |
| 19) | Benzene | 71-43-2 |
| 20) | Bromochloromethane | 74-97-5 |
| 21) | Bromodichloromethane | 75-27-4 |

| | | |
|-----|---------------------------------------------------------------------|------------|
| 22) | Bromoform; Tribromomethane | 75-25-2 |
| 23) | Carbon disulfide | 75-15-0 |
| 24) | Carbon tetrachloride | 56-23-5 |
| 25) | Chlorobenzene | 108-90-7 |
| 26) | Chloroethane; Ethyl chloride | 75-00-3 |
| 27) | Chloroform; Trichloromethane | 67-66-3 |
| 28) | Dibromochloromethane; Chlorodibromomethane | 124-48-1 |
| 29) | 1,2-Dibromo-3-chloropropane; DBCP | 96-12-8 |
| 30) | 1,2-Dibromoethane; Ethylene dibromide; EDB | 106-93-4 |
| 31) | o-Dichlorobenzene; 1,2-Dichlorobenzene | 95-50-1 |
| 32) | p-Dichlorobenzene; 1,4-Dichlorobenzene | 106-46-7 |
| 33) | trans-1,4-Dichloro-2-butene | 110-57-6 |
| 34) | 1,1-Dichloroethane; Ethylidene chloride | 75-34-3 |
| 35) | 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 |
| 36) | 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride | 75-35-4 |
| 37) | cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene | 156-59-2 |
| 38) | trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene | 156-60-5 |
| 39) | 1,2-Dichloropropane; Propylene dichloride | 78-87-5 |
| 40) | cis-1,3-Dichloropropene | 10061-01-5 |
| 41) | trans-1,3-Dichloropropene | 10061-02-6 |
| 42) | Ethylbenzene | 100-41-4 |
| 43) | 2-Hexanone; Methyl butyl ketone | 591-73-6 |
| 44) | Methyl bromide; Bromomethane | 74-83-9 |
| 45) | Methyl chloride; Chloromethane | 74-87-3 |
| 46) | Methylene bromide; Dibromomethane | 74-95-3 |
| 47) | Methylene chloride; Dichloromethane | 75-09-2 |
| 48) | Methyl ethyl ketone; MEK; 2-Butanone | 78-93-3 |

| | | |
|-----|--------------------------------------------------------------|-----------|
| 49) | Methyl iodide; Iodomethane | 74-88-4 |
| 50) | 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 |
| 51) | Styrene | 100-42-5 |
| 52) | 1,1,1,2-Tetrachloroethane | 630-20-6 |
| 53) | 1,1,2,2-Tetrachloroethane | 79-34-5 |
| 54) | Tetrachloroethylene; Tetrachloroethene; Perchloroethylene | 127-18-4 |
| 55) | Toluene | 108-88-3 |
| 56) | 1,1,1-Trichloroethane; Methyl chloroform | 71-55-6 |
| 57) | 1,1,2-Trichloroethane | 79-00-5 |
| 58) | Trichloroethylene; Trichloroethene | 79-01-6 |
| 59) | Trichlorofluoromethane; CFC-11 | 75-69-4 |
| 60) | 1,2,3-Trichloropropane | 96-18-4 |
| 61) | Vinyl acetate | 108-05-4 |
| 62) | vinyl chloride | 75-01-4 |
| 63) | Xylenes | 1330-20-7 |

¹ This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1986, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

² Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

³ Chemical Abstracts Service registry number.

APPENDIX II

GROUND WATER QUALITY PARAMETERS

Field Parameters

pH
specific conductance
temperature
static water level

Geochemical Indicator Parameters

| | |
|------------------------------------|-------------------------------------|
| Calcium (Ca) | Sodium (Na) |
| Bicarbonate (HCO ₃) | Chloride (Cl) |
| Magnesium (Mg) | Potassium (K) |
| Sulfate (SO ₄) | Alkalinity (as Ca CO ₃) |
| | Iron (Fe) |
| | Manganese (Mn) |

Leachate Indicators

Ammonia (NH₃-N)
Total Organic Carbon (TOC)
Total Dissolved Solids (TDS)

APPENDIX III

List of Hazardous Inorganic and Organic Constituents.¹

| Common Name ² (mg/L) ⁶ | CAS RN ³ | Chemical abstracts service index name ⁴ | Suggested methods ⁵ | PQL |
|-------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------|
| Acenaphthene | 83-32-9 | Acenaphthylene, 1,2-dihydro- | 8100 8270 | 200 10 |
| Acenaphthylene | 208-96-8 | Acenaphthylene | 8100 8270 | 200 10 |
| Acetone | 67-64-1 | 2-Propanone | 8260 | 100 |
| Acetonitrile; Methyl cyanide | 75-05-8 | Acetonitrile | 8015 | 100 |
| Acetophenone | 98-86-2 | Ethanone, 1-phenyl- | 8270 | 10 |
| 2-Acetylaminofluorene; 2-AAF | 53-96-3 | Acetamide, N-9H-fluoren-2- yl- | 8270 | 20 |
| Acrolein | 107-02-8 | 2-Propenal | 8030 8260 | 5 100 |
| Acrylonitrile | 107-13-1 | 2-Propenenitrile | 8030 8260 | 5 200 |
| Aldrin | 309-00-2 | 1,4:5,8- Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4, 4a,5,8,8a-hexahydro- (1 3 ,4 3 , 4a 3 ,5 3 ,8 3 ,8a 3)- | 8080 8270 | 0.05 10 |
| Allyl chloride | 107-05-1 | 1-Propene, 3-chloro- | 8010 8260 | 5 10 |
| 4-Aminobiphenyl | 92-67-1 | [1,1'-Biphenyl]-4-amine | 8270 | 20 |
| Anthracene | 120-12-7 | Anthracene | 8100 8270 | 200 10 |
| Antimony | (Dissolved) | Antimony | 6010 7040 7041 | 300 2000 30 |
| Arsenic | (Dissolved) | Arsenic | 6010 7060 7061 | 500 10 20 |
| Barium | (Dissolved) | Barium | 6010 7080 | 20 1000 |

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|------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------|------|------|
| Benzene | 71-43-2 | Benzene | 8020 | 2 |
| | | | 8021 | 0.1 |
| | | | 8260 | 5 |
| Benzo[a]anthracene; Benzanthracene | 56-55-3 | Benz[a]anthracene | 8100 | 200 |
| | | | 8270 | 10 |
| Benzo[b]fluoranthene | 205-99-2 | Benz[e]acephenanthrylene | 8100 | 200 |
| | | | 8270 | 10 |
| Benzo[k]fluoranthene | 207-08-9 | Benzo[k]fluoranthene | 8100 | 200 |
| | | | 8270 | 10 |
| Benzo[ghi]perylene | 191-24-2 | Benzo[ghi]perylene | 8100 | 200 |
| | | | 8270 | 10 |
| Benzo[a]pyrene | 50-32-8 | Benzo[a]pyrene | 8100 | 200 |
| | | | 8270 | 10 |
| Benzyl alcohol | 100-51-6 | Benzenemethanol | 8270 | 20 |
| Beryllium | (Dissolved) | Beryllium | 6010 | 3 |
| | | | 7090 | 50 |
| | | | 7091 | 2 |
| alpha-BHC | 319-84-6 | Cyclohexane, 1,2,3,4,5,6- hexachloro-, (1,2,3,4,5,6-)- | 8080 | 0.05 |
| | | | 8270 | 10 |
| beta-BHC | 319-85-7 | Cyclohexane, 1,2,3,4,5,6- hexachloro-, (1,2,3,4,5,6-)- | 8080 | 0.05 |
| | | | 8270 | 20 |
| delta-BHC | 319-86-8 | Cyclohexane, 1,2,3,4,5,6- hexachloro-, (1,2,3,4,5,6-)- | 8080 | 0.1 |
| | | | 8270 | 20 |
| gamma-BHC; Lindane | 58-89-9 | Cyclohexane, 1,2,3,4,5,6- hexachloro-, (1,2,3,4,5,6-)- | 8080 | 0.05 |
| | | | 8270 | 20 |
| Bis(2- chloroethoxy)methane | 111-91-1 | Ethane, 1,1 1 - [methylenebis(oxy)]bis[2- chloro- | 8110 | 5 |
| | | | 8270 | 10 |
| Bis(2-chloroethyl) ether; Dichloroethyl ether | 111-44-4 | Ethane, 1,1 1 -oxybis[2- chloro- | 8110 | 3 |
| | | | 8270 | 10 |
| Bis-(2-chloro-1- methylethyl) ether; 2,2 1 - Dichlorodiisopropyl ether; DCIP, See note 7 | 108-60-1 | Propane, 2,2 1 -oxybis[1- chloro- | 8110 | 10 |
| | | | 8270 | 10 |

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|------------------------------------------------|-------------|---------------------------------------------------------------------------------------|------------------------------|--------------------|
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester | 8060 | 20 |
| Bromochloromethane; Chlorobromomethane | 74-97-5 | Methane, bromochloro- | 8021 8260 | 0.1 5 |
| Bromodichloromethane; Dibromochloromethane | 75-27-4 | Methane, bromodichloro- | 8010 8021 8260 | 1 0.2 5 |
| Bromoform; Tribromomethane | 75-25-2 | Methane, tribromo- | 8010 8021 8260 | 2 15 5 |
| 4-Bromophenyl phenyl ether | 101-55-3 | Benzene, 1-bromo-4-phenoxy- | 8110 8270 | 25 10 |
| Butyl benzyl phthalate; Benzyl butyl phthalate | 85-68-7 | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester | 8060 8270 | 5 10 |
| Cadmium | (Dissolved) | Cadmium | 6010 7130 7131 | 40 50 1 |
| Carbon disulfide | 75-15-0 | Carbon disulfide | 8260 | 100 |
| Carbon tetrachloride | 56-23-5 | Methane, tetrachloro- | 8010 8021 8260 | 1 0.1 10 |
| Chlordane | See Note 8 | 4,7-Methano-1H-indene, 1,2,4,5, 6,7,8,8-octachloro-2,3,3a,4,7, 7a-hexahydro- | 8080 8270 | 0.1 50 |
| p-Chloroaniline | 106-47-8 | Benzenamine, 4-chloro- | 8270 | 20 |
| Chlorobenzene | 108-90-7 | Benzene, chloro- | 8010 8020 8021 8260 | 2 2 0.1 5 |
| Chlorobenzilate | 510-15-6 | Benzeneacetic acid, 4-chloro- - (4-chlorophenyl)- - hydroxy-, ethyl ester | 8270 | 10 |
| p-Chloro-m-cresol; 4-Chloro-3-methylphenol | 59-50-7 | Phenol, 4-chloro-3-methyl- | 8040 8270 | 5 20 |
| Chloroethane; Ethyl chloride | 75-00-3 | Ethane, chloro- | 8010 8021 8260 | 5 1 10 |

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|----------------------------------------------|-------------|---------------------------------------------------------------------------------------|------|------|
| Chloroform; Trichloromethane | 67-66-3 | Methane, trichloro- | 8010 | 0.5 |
| | | | 8021 | 0.2 |
| | | | 8260 | 5 |
| 2-Chloronaphthalene | 91-58-7 | Naphthalene, 2-chloro- | 8120 | 10 |
| | | | 8270 | 10 |
| 2-Chlorophenol | 95-57-8 | Phenol, 2-chloro- | 8040 | 5 |
| | | | 8270 | 10 |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | Benzene, 1-chloro-4- phenoxy- | 8110 | 40 |
| | | | 8270 | 10 |
| Chloroprene | 126-99-8 | 1,3-Butadiene, 2-chloro- | 8010 | 50 |
| | | | 8260 | 20 |
| Chromium | (Dissolved) | Chromium | 6010 | 70 |
| | | | 7190 | 500 |
| | | | 7191 | 10 |
| | | | 8100 | 200 |
| Chrysene | 218-01-9 | Chrysene | 8270 | 10 |
| | | | 8100 | 200 |
| Cobalt | (Dissolved) | Cobalt | 6010 | 70 |
| | | | 7200 | 500 |
| | | | 7201 | 10 |
| Copper | (Dissolved) | Copper | 6010 | 60 |
| | | | 7210 | 200 |
| | | | 7211 | 10 |
| | | | 8270 | 10 |
| m-Cresol; 3- methylphenol | 108-39-4 | Phenol, 3-methyl- | 8270 | 10 |
| o-Cresol; 2-methylphenol | 95-48-7 | Phenol, 2-methyl- | 8270 | 10 |
| p-Cresol; 4-methylphenol | 106-44-5 | Phenol, 4-methyl- | 8270 | 10 |
| Cyanide | 57-12-5 | Cyanide | 9010 | 200 |
| 2,4-D; 2,4- Dichlorophenoxyacetic acid | 94-75-7 | Acetic acid, (2,4- dichlorophenoxy)- | 8150 | 10 |
| 4,4 1 -DDD | 72-54-8 | Benzene 1,1 1 -(2,2- dichloroethylidene)bis[4- chloro- | 8080 | 0.1 |
| | | | 8270 | 10 |
| 4,4 1 -DDE | 72-55-9 | Benzene, 1,1 1 - (dichloroethyenylydene)bis[4- chloro- | 8080 | 0.05 |
| | | | 8270 | 10 |
| 4,4 1 -DDT | 50-29-3 | Benzene, 1,1 1 -(2,2,2- trichloroethylidene)bis[4- chloro- | 8080 | 0.1 |
| | | | 8270 | 10 |
| Diallate | 2303-16-4 | Carbamothioic acid, bis(1- methylethyl)-,S-(2,3- dichloro- 2-propenyl) ester | 8270 | 10 |

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| Dibenz[a,h]anthracene | 53-70-3 | Dibenz[a,h]anthracene | 8100 | 200 |
| | | | 8270 | 10 |
| Dibenzofuran | 132-64-9 | Dibenzofuran | 8270 | 10 |
| Dibromochloromethane; Chlorodibromomethane | 124-48-1 | Methane, dibromochloro- | 8010 | 1 |
| | | | 8021 | 0.3 |
| | | | 8260 | 5 |
| 1,2-Dibromo-3- chloropropane; DBCP | 96-12-8 | Propane, 1,2-dibromo-3- chloro- | 8011 | 0.1 |
| | | | 8021 | 30 |
| | | | 8260 | 25 |
| 1,2-Dibromoethane; Ethylene dibromide; EDB | 106-93-4 | Ethane, 1,2-dibromo- | 8011 | 0.1 |
| | | | 8021 | 10 |
| | | | 8260 | 5 |
| Di-n-butyl phthalate | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester | 8060 | 5 |
| | | | 8270 | 10 |
| o-Dichlorobenzene; 1,2- Dichlorobenzene | 95-50-1 | Benzene, 1,2-dichloro- | 8010 | 2 |
| | | | 8020 | 5 |
| | | | 8021 | 0.5 |
| | | | 8120 | 10 |
| | | | 8260 | 5 |
| | | | 8270 | 10 |
| m-Dichlorobenzene; 1,3- Dichlorobenzene | 541-73-1 | Benzene, 1,3-Dichloro- | 8010 | 5 |
| | | | 8020 | 5 |
| | | | 8021 | 0.2 |
| | | | 8120 | 10 |
| | | | 8260 | 5 |
| | | | 8270 | 10 |
| p-Dichlorobenzene; 1,4- Dichlorobenzene | 106-46-7 | Benzene, 1,4-dichloro- | 8010 | 2 |
| | | | 8020 | 5 |
| | | | 8021 | 0.1 |
| | | | 8120 | 15 |
| | | | 8260 | 5 |
| | | | 8270 | 10 |
| 3,3'-Dichlorobenzidine | 91-94-1 | [1,1'-Biphenyl]-4,4'- diamine, 3,3'-dichloro- | 8270 | 20 |
| trans-1,4-Dichloro-2- butene | 110-57-6 | 2-Butene, 1,4-dichloro-, (E)- | 8260 | 100 |
| Dichlorodifluoromethane ; CFC 12; | 75-71-8 | Methane, dichlorodifluoro- | 8021 | 0.5 |
| | | | 8260 | 5 |
| 1,1-Dichloroethane; Ethylidene chloride | 75-34-3 | Ethane, 1,1-dichloro- | 8010 | 1 |
| | | | 8021 | 0.5 |
| | | | 8260 | 5 |

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| 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 | Ethane, 1,1-dichloro- | 8010 | 0.5 |
| | | | 8021 | 0.3 |
| | | | 8260 | 5 |
| 1,1-Dichloroethylene; 1,1- Dichloroethene; Vinylidene chloride | 75-35-4 | Ethene, 1,1-dichloro- | 8010 | 1 |
| | | | 8021 | 0.5 |
| | | | 8260 | 5 |
| cis-1,2-Dichloroethylene; cis- 1,2-Dichloroethene | 156-59-2 | Ethene, 1,2-dichloro-, (Z)- | 8021 | 0.2 |
| | | | 8260 | 5 |
| trans-1,2- Dichloroethylene trans-1,2-Dichloroethene | 156-60-5 | Ethene, 1,2-dichloro-, (E)- | 8010 | 1 |
| | | | 8021 | 0.5 |
| | | | 8260 | 5 |
| 2,4-Dichlorophenol | 120-83-2 | Phenol, 2,4-dichloro- | 8040 | 5 |
| | | | 8270 | 10 |
| 2,6-Dichlorophenol | 87-65-0 | Phenol, 2,6-dichloro- | 8270 | 10 |
| 1,2-Dichloropropane; Propylene dichloride | 78-87-5 | Propane, 1,2-dichloro- | 8010 | 0.5 |
| | | | 8021 | 0.05 |
| | | | 8260 | 5 |
| 1,3-Dichloropropane; Trimethylene dichloride | 142-28-9 | Propane, 1,3-dichloro- | 8021 | 0.3 |
| | | | 8260 | 5 |
| 2,2-Dichloropropane; Isopropylidene chloride | 594-20-7 | Propane, 2,2-dichloro- | 8021 | 0.5 |
| | | | 8260 | 15 |
| 1,1-Dichloropropene | 563-58-6 | 1-Propene, 1,1-dichloro- | 8021 | 0.2 |
| | | | 8260 | 5 |
| cis-1,3-Dichloropropene | 10061-01-5 | 1-Propene, 1,3-dichloro-, (Z)- | 8010 | 20 |
| | | | 8260 | 10 |
| trans-1,3- Dichloropropene | 10061-02-6 | 1-Propene, 1,3-dichloro-, (E)- | 8010 | 5 |
| | | | 8260 | 10 |
| Dieldrin | 60-57-1 | 2,7:3,6- Dimethanonaphth[2,3- b]oxirene, 3,4,5,6,9,9-hexa, chloro-1a,2,2a,3,6,6a,7,7a- octahydro-, (1a↘,2↘,2a↘,3↘,6↘, 6a↘,7↘,7a↘)- | 8080 | 0.05 |
| | | | 8270 | 10 |
| Diethyl phthalate | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester | 8060 | 5 |
| | | | 8270 | 10 |

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| 0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin | 297-97-2 | Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester | 8141 8270 | 5 20 |
| Dimethoate | 60-51-5 | Phosphorodithioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester | 8141 8270 | 3 20 |
| p-(Dimethylamino) azobenzene | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- | 8270 | 10 |
| 7,12-Dimethylbenz[a]anthracene | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- | 8270 | 10 |
| 3,3'-Dimethylbenzidine | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- | 8270 | 10 |
| 2,4-Dimethylphenol; m-Xylenol | 105-67-9 | Phenol, 2,4-dimethyl- | 8040 8270 | 5 10 |
| Dimethyl phthalate | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester | 8060 8270 | 5 10 |
| m-Dinitrobenzene | 99-65-0 | Benzene, 1,3-dinitro- | 8270 | 20 |
| 4,6-Dinitro-o-cresol | 534-52-1 | Phenol, 2-methyl-4,6-dinitro | 8040 8270 | 150 50 |
| Dinitro-2-methylphenol | | | | |
| 2,4-Dinitrophenol; | 51-28-5 | Phenol, 2,4-dinitro- | 8040 8270 | 150 50 |
| 2,4-Dinitrotoluene | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- | 8090 8270 | 0.2 10 |
| 2,6-Dinitrotoluene | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- | 8090 8270 | 0.1 10 |
| Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol | 88-85-7 | Phenol, 2-(1-methylpropyl)-4,6-dinitro- | 8150 8270 | 1 20 |
| Di-n-octyl phthalate | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester | 8060 8270 | 30 10 |
| Diphenylamine | 122-39-4 | Benzenamine, N-phenyl- | 8270 | 10 |
| Disulfoton | 298-04-4 | Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio)ethyl] ester | 8140 8141 8270 | 2 0.5 10 |
| Endosulfan I | 959-98-8 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa-chloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, | 8080 8270 | 0.1 20 |

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| Endosulfan II | 33213-65-9 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10, 10-hexa-chloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3S,5aS,6R,9R,9aS)- | 8080 8270 | 0.05 20 |
| Endosulfan sulfate | 1031-07-8 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10, 10-hexa-chloro-1,5,5a,6,9,9a-hexahydro-,3-3-dioxide | 8080 8270 | 0.5 10 |
| Endrin | 72-20-8 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aS,2R,2aR,3S,6S,6aR,7aR)- | 8080 8270 | 0.1 20 |
| Endrin aldehyde | 7421-93-4 | 1,2,4-Methenocyclopenta[cd]pental ene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1S,2R,2aR,4R,4aR,5R,6aR,6bR,7R*)- | 8080 8270 | 0.2 10 |
| Ethylbenzene | 100-41-4 | Benzene, ethyl- | 8020 8221 8260 | 2 0.05 5 |
| Ethyl methacrylate | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester | 8015 8260 8270 | 5 10 10 |
| Ethyl methanesulfonate | 62-50-0 | Methanesulfonic acid, ethyl ester | 8270 | 20 |
| Famphur | 52-85-7 | Phosphorothioic acid, 0-[4-[(dimethylamino)sulfonyl]phenyl] 0,0-dimethyl ester | 8270 | 20 |
| Fluoranthene | 206-44-0 | Fluoranthene | 8100 8270 | 200 10 |

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| Fluorene | 86-73-7 | 9H-Fluorene | 8100 8270 | 200 10 |
| Heptachlor | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6, 7,8,8-heptachloro-3a,4,7,7a- tetrahydro- | 8080 8270 | 0.05 10 |
| Heptachlor epoxide | 1024-57-3 | 2,5-Methano-2H-indeno[1,2- b]oxirene, 2,3,4,5,6,7,7- heptachloro-1a,1b,5,5a,6,6a- hexahydro-, (1a 3 , 1b 6 , 2 3 , 5 3 , 5a 6 , 6 6 , 6a 3) | 8080 8270 | 1 10 |
| Hexachlorobenzene | 118-74-1 | Benzene, hexachloro- | 8120 8270 | 0.5 10 |
| Hexachlorobutadiene | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4- hexachloro- | 8021 8120 8260 8270 | 0.5 5 10 10 |
| Hexachlorocyclopentadiene | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5, 5-hexachloro- | 8120 8270 | 5 10 |
| Hexachloroethane | 67-72-1 | Ethane, hexachloro- | 8120 8260 8270 | 0.5 10 10 |
| Hexachloropropene | 1888-71-7 | 1-Propene, 1,1,2,3,3,3- hexachloro- | 8270 | 10 |
| 2-Hexanone; Methyl butyl ketone | 591-78-6 | 2-Hexanone | 8260 | 50 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | Indeno(1,2,3-cd)pyrene | 8100 8270 | 200 10 |
| Isobutyl alcohol | 78-83-1 | 1-Propanol, 2-methyl- | 8015 8240 | 50 100 |
| Isodrin | 465-73-6 | 1,4,5,8- Dimethanonaphthalene,1, 2,3,4,10,10- hexachloro- 1,4,4a, 5,8,8a hexahydro- (1 3 ,4 3 ,4a 6 , 5 6 ,8 6 ,8a 3)- | 8270 8260 | 20 10 |
| Isophorone | 78-59-1 | 2-Cyclohexen-1-one, 3,5,5- trimethyl- | 8090 8270 | 60 10 |
| Isosafrole | 120-58-1 | 1,3-Benzodioxole, 5-(1- propenyl)- | 8270 | 10 |

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| Kepone | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1, 1a,3,3a,4,5,5a,5b,6-decachlorooctahydro- | 8270 | 20 |
| Lead | (Dissolved) | Lead | 6010 7420 7421 | 400 1000 10 |
| Mercury | (Total) | Mercury | 7470 | 2 |
| Methacrylonitrile | 126-98-7 | 2-Propenenitrile, 2-methyl- | 8015 8260 | 5 100 |
| Methapyrilene | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N 1 -2-pyridinyl-N1/2-thienylmethyl)- | 8270 | 100 |
| Methoxychlor | 72-43-5 | Benzene,1,1 1 -(2,2,2, trichloroethylidene)bis[4-methoxy- | 8080 8270 | 2 10 |
| Methyl bromide; Bromomethane | 74-83-9 | Methane, bromo- | 8010 8021 | 20 10 |
| Methyl chloride; Chloromethane | 74-87-3 | Methane, chloro- | 8010 8021 | 1 0.3 |
| 3-Methylcholanthrene | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- | 8270 | 10 |
| Methyl ethyl ketone; MEK; 2-Butanone | 78-93-3 | 2-Butanone | 8015 8260 | 10 100 |
| Methyl iodide; Iodomethane | 74-88-4 | Methane, iodo- | 8010 8260 | 40 10 |
| Methyl methacrylate | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester | 8015 8260 | 2 30 |
| Methyl methanesulfonate | 66-27-3 | Methanesulfonic acid, methyl ester | 8270 | 10 |
| 2-Methylnaphthalene | 91-57-6 | Naphthalene, 2-methyl- | 8270 | 10 |
| Methyl parathion; Parathion methyl | 298-00-0 | Phosphorothioic acid, 0,0-dimethyl | 8140 8141 8270 | 0.5 1 10 |
| 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 | 2-Pentanone, 4-methyl- | 8015 8260 | 5 100 |
| Methylene bromide; Dibromomethane | 74-95-3 | Methane, dibromo- | 8010 8021 8260 | 15 20 10 |

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| Methylene chloride; Dichloromethane | 75-09-2 | Methane, dichloro- | 8010 8021 8260 | 5 0.2 10 |
| Naphthalene | 91-20-3 | Naphthalene | 8021 8100 8260 8270 | 0.5 200 5 10 |
| 1,4-Naphthoquinone | 130-15-4 | 1,4-Naphthalenedione | 8270 | 10 |
| 1-Naphthylamine | 134-32-7 | 1-Naphthalenamine | 8270 | 10 |
| 2-Naphthylamine | 91-59-8 | 2-Naphthalenamine | 8270 | 10 |
| Nickel | (Total) | Nickel | 6010 7520 | 150 400 |
| o-Nitroaniline; 2- Nitroaniline | 88-74-4 | Benzenamine, 2-nitro- | 8270 | 50 |
| m-Nitroaniline; 3- Nitroaniline | 99-09-2 | Benzenamine, 3-nitro- | 8270 | 50 |
| p-Nitroaniline; 4- Nitroaniline | 100-01-6 | Benzenamine, 4-nitro | 8270 | 20 |
| Nitrobenzene | 98-95-3 | Benzene, nitro- | 8090 8270 | 40 10 |
| o-Nitrophenol; 2- Nitrophenol | 88-75-5 | Phenol, 2-nitro- | 8040 8270 | 5 10 |
| p-Nitrophenol; 4- Nitrophenol | 100-02-7 | Phenol, 4-nitro- | 8040 8270 | 10 50 |
| N-Nitrosodi-n- butylamine | 924-16-3 | 1-Butanamine, N-butyl-N- nitroso- | 8270 | 10 |
| N-Nitrosodiethylamine | 55-18-5 | Ethanamine, N-ethyl-N- nitroso- | 8270 | 20 |
| N-Nitrosodimethylamine | 62-75-9 | Methanamine, N-methyl-N- nitroso- | 8070 | 2 |
| N-Nitrosodiphenylamine | 86-30-6 | Benzenamine, N-nitroso-N- phenyl- | 8070 | 5 |
| N-Nitrosodipropylamine; N- Nitroso-N- dipropylamine; Di-n- propylnitrosamine | 621-64-7 | 1-Propanamine, N-nitroso-N- propyl- | 8070 | 10 |
| N- Nitrosomethylethalamine | 10595-95-6 | Ethanamine, N-methyl-N- nitroso- | 8270 | 10 |
| N-Nitrosopiperidine | 100-75-4 | Piperidine, 1-nitroso- | 8270 | 20 |
| N-Nitrosopyrrolidine | 930-55-2 | Pyrrolidine, 1-nitroso- | 8270 | 40 |

| | | | | |
|--------------------------------------------|-------------|-----------------------------------------------------------------|----------------------|-----------------|
| 5-Nitro-o-toluidine | 99-55-8 | Benzenamine, 2-methyl-5-nitro- | 8270 | 10 |
| Parathion | 56-38-2 | Phosphorothioic acid, 0,0-diethyl 0-(4-nitrophenyl) ester | 8141 8270 | 0.5 10 |
| Pentachlorobenzene | 608-93-5 | Benzene, pentachloro- | 8270 | 10 |
| Pentachloronitrobenzene | 82-68-8 | Benzene, pentachloronitro- | 8270 | 20 |
| Pentachlorophenol | 87-86-5 | Phenol, pentachloro- | 8040 8270 | 5 50 |
| Phenacetin | 62-44-2 | Acetamide, N-(4-ethoxyphenyl) | 8270 | 20 |
| Phenanthrene | 85-01-8 | Phenanthrene | 8100 8270 | 200 10 |
| Phenol | 108-95-2 | Phenol | 8040 | 1 |
| p-Phenylenediamine | 106-50-3 | 1,4-Benzenediamine | 8270 | 10 |
| Phorate | 298-02-2 | Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio)methyl] ester | 8140 8141 8270 | 2 0.5 10 |
| Polychlorinated biphenyls; PCBs; Aroclors | See Note 9 | 1,1'-Biphenyl, chloro derivatives | 8080 8270 | 50 200 |
| Pronamide | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- | 8270 | 10 |
| Propionitrile; Ethyl cyanide | 107-12-0 | Propanenitrile | 8015 8260 | 60 150 |
| Pyrene | 129-00-0 | Pyrene | 8100 8270 | 200 10 |
| Safrole | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- | 8270 | 10 |
| Selenium | (Dissolved) | Selenium | 6010 7740 7741 | 750 20 20 |
| Silver | (Dissolved) | Silver | 6010 7760 7761 | 70 100 10 |
| Silvex; 2,4,5-TP | 93-72-1 | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- | 8150 | 2 |
| Styrene | 100-42-5 | Benzene, ethenyl- | 8020 8021 8260 | 1 0.1 10 |
| Sulfide | 18496-25-8 | Sulfide | 9030 | 4000 |
| 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- | 8150 | 2 |

| | | | | |
|----------------------------|-------------|-------------------------------|------|------|
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- | 8270 | 10 |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- | 8010 | 5 |
| | | | 8021 | 0.05 |
| | | | 8260 | 5 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- | 8010 | 0.5 |
| | | | 8021 | 0.1 |
| | | | 8260 | 5 |
| Tetrachloroethylene; | 127-18-4 | Ethene, tetrachloro- | 8010 | 0.5 |
| Tetrachloroethene; | | | 8021 | 0.5 |
| Perchloroethylene | | | 8260 | 5 |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- | 8270 | 10 |
| Thallium | (Dissolved) | Thallium | 6010 | 400 |
| | | | 7840 | 1000 |
| | | | 7841 | 10 |
| Tin | (Dissolved) | Tin | 6010 | 40 |
| Toluene | 108-88-3 | Benzene, methyl- | 8020 | 2 |
| | | | 8021 | 0.1 |
| | | | 8260 | 5 |
| o-Toluidine | 95-53-4 | Benzenamine, 2-methyl- | 8270 | 10 |
| Toxaphene | See Note 10 | Toxaphene | 8080 | 2 |
| 1,2,4-Trichlorobenzene | 120-82-1 | Benzene, 1,2,4-trichloro- | 8021 | 0.3 |
| | | | 8120 | 0.5 |
| | | | 8260 | 10 |
| | | | 8270 | 10 |
| 1,1,1-Trichloroethane; | 71-55-6 | Ethane, 1,1,1-trichloro- | 8010 | 0.3 |
| Methylchloroform | | | 8021 | 0.3 |
| | | | 8260 | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | Ethane, 1,1,2-trichloro- | 8010 | 0.2 |
| | | | 8260 | 5 |
| Trichloroethylene; | 79-01-6 | Ethene, trichloro- | 8010 | 1 |
| Trichloroethene | | | 8021 | 0.2 |
| | | | 8260 | 5 |
| Trichlorofluoromethane; | 75-69-4 | Methane, trichlorofluoro- | 8010 | 10 |
| CFC-11 | | | 8021 | 0.3 |
| | | | 8260 | 5 |
| 2,4,5-Trichlorophenol | 95-95-4 | Phenol, 2,4,5-trichloro- | 8270 | 10 |
| 2,4,6-Trichlorophenol | 88-06-2 | Phenol, 2,4,6-trichloro- | 8040 | 5 |
| | | | 8270 | 10 |

| | | | | |
|---------------------------------|-------------|-------------------------------------------|------|------|
| 1,2,3-Trichloropropane | 96-18-4 | Propane, 1,2,3-trichloro- | 8010 | 10 |
| | | | 8021 | 5 |
| | | | 8260 | 15 |
| 0,0,0-Triethyl phosphorothioate | 126-68-1 | Phosphorothioic acid, 0,0,0-triethylester | 8270 | 10 |
| sym-Trinitrobenzene | 99-35-4 | Benzene, 1,3,5-trinitro- | 8270 | 10 |
| Vanadium | (Dissolved) | Vanadium | 6010 | 80 |
| | | | 7910 | 2000 |
| | | | 7911 | 40 |
| Vinyl acetate | 108-05-4 | Acetic acid, ethenyl ester | 8260 | 50 |
| Vinyl chloride; | 75-01-4 | Ethene, chloro- | 8010 | 2 |
| Chloroethene | | | 8021 | 0.4 |
| | | | 8260 | 10 |
| Xylene (total) | See Note 11 | Benzene, dimethyl- | 8020 | 5 |
| | | | 8021 | 0.2 |
| | | | 8260 | 5 |
| Zinc | (Dissolved) | Zinc | 6010 | 20 |
| | | | 7950 | 50 |
| | | | 7951 | 0.5 |

Notes:

- The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6. Also, note that the state ground water quality criteria, chapter 173-200 WAC, takes precedence over these recommended PQL's.
- Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.
- Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.
- CAS index are those used in the 9th Collective Index.
- Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986, as revised, December 1987. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.
- Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 mL samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.
- This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2"-oxybis[2-chloro- (CAS RN 39638-32-9).
- Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6). PQL shown is for technical chlordane. PQLs of specific isomers are about 20 µg/L by method 8270.
- Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.
- Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.
- Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7). PQLs for method 8021 are 0.2 for o-xylene and 0.1 for m-or p-xylene. The PQL for m-xylene is 2.0 µg/L by method 8020 or 8260.

APPENDIX IV PARAMETERS FOR LEACHATE ANALYSIS

Appendix I' Parameters

Appendix II Parameters

Nitrite

Total Coliform

COD

BOD

Cyanide

1_ All metals analysis should be for total recoverable metals, for the leachate analysis only.

Important Note: All other appendices require dissolved metals (field-filtration for metals).

[Statutory Authority: Chapter 70.95 RCW and 40 CFR 258. 93-22-016, § 173-351-990, filed 10/26/93, effective 11/26/93.]

NOTES:

Reviser's Note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency.

Appendix G
Chapter 70.138 RCW
Incinerator Ash Residue

CHAPTER 70.138
RCW

INCINERATOR ASH RESIDUE

Sections

- 70.138.010 Legislative findings.
- 70.138.020 Definitions.
- 70.138.030 Review and approval of management plans--Disposal permits.
- 70.138.040 Civil penalties.
- 70.138.050 Violations--Orders.
- 70.138.060 Enforcement--Injunctive relief.
- 70.138.070 Criminal penalties.
- 70.138.900 Application of chapter to certain incinerators.
- 70.138.901 Short title.
- 70.138.902 Severability--1987 c 528.

NOTES:

Environmental certification programs—Fees—Rules--Liability: RCW 43.21A.175.

RCW 70.138.010 Legislative findings. The legislature finds:

(1) Solid wastes generated in the state are to be managed in the following order of descending priority: (a) Waste reduction; (b) recycling; (c) treatment; (d) energy recovery or incineration; (e) solidification/stabilization; and (f) landfill.

(2) Special incinerator ash residues from the incineration of municipal solid waste that would otherwise be regulated as hazardous wastes need a separate regulatory scheme in order to (a) ease the permitting and reporting requirements of chapter 70.105 RCW, the state hazardous waste management act, and (b) supplement the environmental protection provisions of chapter 70.95 RCW, the state solid waste management act.

(3) Raw garbage poses significant environmental and public health risks. Municipal solid waste incineration constitutes a higher waste management priority than the land disposal of untreated municipal solid waste due to its reduction of waste volumes and environmental health risks.

It is therefore the purpose of this chapter to establish management requirements for special incinerator ash that otherwise would be regulated as hazardous waste under chapter 70.105 RCW, the hazardous waste management act. [1987 c 528 § 1.]

RCW 70.138.020 Definitions. Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

(1) "Department" means the department of ecology.

- (2) "Director" means the director of the department of ecology or the director's designee.
- (3) "Dispose" or "disposal" means the treatment, utilization, processing, or final deposit of special incineration ash.
- (4) "Generate" means any act or process which produces special incinerator ash or which first causes special incinerator ash to become subject to regulation.
- (5) "Management" means the handling, storage, collection, transportation, and disposal of special incinerator ash.
- (6) "Person" means any person, firm, association, county, public or municipal or private corporation, agency, or other entity whatsoever.
- (7) "Facility" means all structures, other appurtenances, improvements, and land used for recycling, storing, treating, or disposing of special incinerator ash.
- (8) "Special incinerator ash" means ash residues resulting from the operation of incinerator or energy recovery facilities managing municipal solid waste, including solid waste from residential, commercial, and industrial establishments, if the ash residues (a) would otherwise be regulated as hazardous wastes under chapter 70.105 RCW; and (b) are not regulated as a hazardous waste under the federal resource conservation and recovery act.

RCW 70.138.030 Review and approval of management plans--Disposal permits.

- (1) Prior to managing special incinerator ash, persons who generate special incinerator ash shall develop plans for managing the special incinerator ash. These plans shall:
- (a) Identify procedures for all aspects relating to the management of the special incinerator ash that are necessary to protect employees, human health, and the environment;
- (b) Identify alternatives for managing solid waste prior to incineration for the purpose of (i) reducing the toxicity of the special incinerator ash; and (ii) reducing the quantity of the special incinerator ash;
- (c) Establish a process for submittal of an annual report to the department disclosing the results of a testing program to identify the toxic properties of the special incinerator ash as necessary to ensure that the procedures established in the plans submitted pursuant to this chapter are adequate to protect employees, human health, and the environment; and
- (d) Comply with the rules established by the department in accordance with this section.
- (2) Prior to managing any special incinerator ash, any person required to develop a plan pursuant to subsection (1) of this section shall submit the plan to the department for review and approval. Prior to approving a plan, the department shall find that the plan complies with the provisions of this chapter, including any rules adopted under this chapter. Approval may be conditioned upon additional requirements necessary to protect employees, human health, and the environment, including special management requirements, waste segregation, or treatment techniques such as neutralization, detoxification, and solidification/stabilization.
- (3) The department shall give notice of receipt of a proposed plan to interested persons and the public and shall accept public comment for a minimum of thirty days. The department shall approve, approve with conditions, or reject the plan submitted pursuant to this section within ninety days of submittal.
- (4) Prior to accepting any special incinerator ash for disposal, persons owning or operating facilities for the disposal of the incinerator ash shall apply to the department for a permit. The department shall issue a permit if the disposal will provide adequate protection of human health and the environment. Prior to issuance of any permit, the department shall find that the facility meets the requirements of chapter 70.95 RCW and any rules adopted under this

chapter. The department may place conditions on the permit to include additional requirements necessary to protect employees, human health, and the environment, including special management requirements, waste segregation, or treatment techniques such as neutralization, detoxification, and solidification/stabilization.

(5) The department shall give notice of its receipt of a permit application to interested persons and the public and shall accept public comment for a minimum of thirty days. The department shall issue, issue with conditions, or deny the permit within ninety days of submittal.

(6) The department shall adopt rules to implement the provisions of this chapter. The rules shall (a) establish minimum requirements for the management of special incinerator ash as necessary to protect employees, human health, and the environment, (b) clearly define the elements of the plans required by this chapter, and (c) require special incinerator ash to be disposed at facilities that are operating in compliance with this chapter. [1987 c 528 § 3.]

RCW 70.138.040 Civil penalties. (1) Except as provided in RCW 43.05.060 through 43.05.080 and 43.05.150, any person who violates any provision of a department regulation or regulatory order relating to the management of special incinerator ash shall incur in addition to any other penalty provided by law, a penalty in an amount up to ten thousand dollars a day for every such violation. Each and every such violation shall be a separate and distinct offense. In case of continuing violation, every day's continuance shall be a separate and distinct violation. Every person who, through an act of commission or omission, procures, aids, or abets in the violation shall be considered to have violated the provisions of this section and shall be subject to the penalty herein provided.

(2) The penalty provided for in this section shall be imposed by a notice in writing, either by certified mail with return receipt requested or by personal service, to the person incurring the same from the department, describing the violation with reasonable particularity. Within fifteen days after the notice is received, the person incurring the penalty may apply in writing to the department for the remission or mitigation of such penalty. Upon receipt of the application, the department may remit or mitigate the penalty upon whatever terms the department in its discretion deems proper, giving consideration to the degree of hazard associated with the violation, provided the department deems such remission or mitigation to be in the best interests of carrying out the purposes of this chapter. The department shall have authority to ascertain the facts regarding all such applications in such reasonable manner and under such rules as it may deem proper.

(3) Any penalty imposed by this section shall become due and payable thirty days after receipt of a notice imposing the same unless application for remission or mitigation is made or petition for review by the hearings board is filed. When such an application for remission or mitigation is made, any penalty incurred pursuant to this section shall become due and payable thirty days after receipt of notice setting forth the disposition of such application.

(4) If the amount of any penalty is not paid to the department within thirty days after it becomes due and payable, the attorney general, upon the request of the director, shall bring an action in the name of the state of Washington in the superior court of Thurston county, or any county in which such violator may do business, to recover such penalty. In all such actions, the procedure and rules of evidence shall be the same as an ordinary civil action except as otherwise provided in this chapter. [1995 c 403 § 633; 1987 c 528 § 4.]

NOTES:

Findings--Short title—Intent--1995 c 403: See note following RCW 34.05.328.

Part headings not law—Severability--1995 c 403: See RCW 43.05.903 and 43.05.904.

RCW 70.138.050 Violations--Orders. Whenever a person violates any provision of this chapter or any permit or regulation the department may issue an order appropriate under the circumstances to assure compliance with the chapter, permit, or regulation. Such an order must be served personally or by registered mail upon any person to whom it is directed. [1987 c 528 § 5.]

RCW 70.138.060 Enforcement--Injunctive relief. The department, with the assistance of the attorney general, may bring any appropriate action at law or in equity, including action for injunctive relief as may be necessary to enforce the provisions of this chapter or any permit or regulation issued thereunder. [1987 c 528 § 6.]

RCW 70.138.070 Criminal penalties. Any person found guilty of wilfully violating, without sufficient cause, any of the provisions of this chapter, or permit or order issued pursuant to this chapter is guilty of a gross misdemeanor and upon conviction shall be punished by a fine of up to ten thousand dollars and costs of prosecution, or by imprisonment for up to one year, or by both. Each day of violation may be deemed a separate violation. [1987 c 528 § 7.]

RCW 70.138.900 Application of chapter to certain incinerators. This chapter shall not apply to municipal solid waste incinerators that are in operation on May 19, 1987, until a special incinerator waste disposal permit is issued in the county where the municipal solid waste incinerator is located, or July 1, 1989, whichever is sooner. [1987 c 528 § 12.]

RCW 70.138.901 Short title. This chapter shall be known as the special incinerator ash disposal act. [1987 c 528 § 11.]

RCW 70.138.902 Severability--1987 c 528. If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected. [1987 c 528 § 14.]

Appendix H
Chapter 173-306 WAC
Special Incinerator Ash Management Standards

Chapter 173-306 WAC
SPECIAL INCINERATOR ASH MANAGEMENT STANDARDS

| | |
|--------------|--------------------------------------------------------------------------------------------------|
| 173-306-010 | Authority and purpose. |
| 173-306-050 | Applicability. |
| 173-306-100 | Definitions. |
| 173-306-150 | Prohibition of surface impoundments, land treatment and municipal solid waste codisposal of ash. |
| 173-306-200 | Generator management plans. |
| 173-306-300 | Permit requirements for disposal facilities. |
| 173-306-310 | Permit procedures. |
| 173-306-320 | Demonstration and class-use permits. |
| 173-306-330 | Application contents for permits. |
| 173-306-340 | Engineering reports, plans and specifications required in permits. |
| 173-306-345 | Construction quality assurance plan. |
| 173-306-350 | Incinerator ash siting standards for disposal facilities. |
| 173-306-400 | Ash disposal facility standards. |
| 173-306-405 | General facility operational standards. |
| 173-306-410 | General closure and post-closure requirements. |
| 173-306-440 | Ash monofill facility standards. |
| 173-306-450 | Liner and final cap design and construction standards. |
| 173-306-470 | Financial assurance. |
| 173-306-480 | Treatment (including solidification and stabilization) standards. |
| 173-306-490 | Ash utilization standards. |
| 173-306-495 | Other methods of ash disposal. |
| 173-306-500 | Monitoring and sampling methods. |
| 173-306-900 | Variances. |
| 173-306-9901 | Maximum contaminant levels for ground water. |

WAC 173-306-010 Authority and purpose. This chapter is adopted under the authority of chapter 70.138 RCW, Incinerator ash residue, to protect human health, the environment, and employees during the management and disposal of special incinerator ash. It is also the purpose of this chapter to enhance and encourage the higher waste management priorities as spelled out in chapter 70.138 RCW. This chapter is intended to establish consistent, enforceable management requirements for special incinerator ash that otherwise would be regulated as hazardous waste under chapter 70.105 RCW, the Hazardous Waste Management Act. This chapter is not intended to address ash residues that are classed as hazardous waste under federal rules, 40 CFR Part 261, unless the Environmental Protection Agency decides those wastes are not subject to Subtitle C of the Resource Conservation and Recovery Act.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-010, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-010, filed 4/30/90, effective 5/31/90.]

WAC 173-306-050 Applicability. This chapter applies to municipal solid wastes intended for incineration or energy recovery and special incinerator ash as those terms are defined in WAC 173-306-100. (Incinerator ash whose designation status is unknown must be considered special incinerator ash until data developed under WAC 173-306-500(4) is submitted to the department.) This chapter shall not apply to the following wastes:

(1) Solid waste as defined in WAC 173-306-100 that is not regulated as hazardous waste under chapter 70.105 RCW and that is not intended for incineration or energy recovery;

(2) Hazardous wastes regulated under the Federal Resource Conservation and Recovery Act, 42 U.S.C. sec. 6901 et seq.;

(3) Incinerator ash from the operation of incineration or energy recovery facilities burning only tires, woodwaste, infectious waste, sewage sludge, or any other single type of refuse other than municipal solid waste; and

(4) Incinerator ash from the operation of incineration or energy recovery facilities burning municipal solid waste at a rate of twelve tons of municipal solid waste per day or less.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-050, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-050, filed 4/30/90, effective 5/31/90.]

WAC 173-306-100 Definitions. Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

(1) "Active area" means that portion of a facility where ash disposal operations are being, are proposed to be, or have been conducted. Buffer zones are not considered part of the active area of a facility.

(2) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

(3) "Ash" means special incinerator ash.

(4) "Ash cell" or "cell" means an active disposal phase of the site which must be divided into a series of phases to minimize the active ash disposal area.

(5) "Beneficial use" means the water uses as defined by the water resources management program established by the Water Resources Act of 1971 and chapter 173-500 WAC.

(6) "Bottom ash" means ash residues remaining on the incineration or energy recovery facility grates or in the combustion chambers after combustion. Bottom ash may or may not be a special incinerator ash.

(7) "Buffer zone" means that part of a facility which lies between the active area and the property boundary.

(8) "Closure" means those actions taken by the owner or operator of an ash facility to cease disposal operations. A closure notice will be provided to the department with the exact date to ensure that all facilities are closed in conformance with applicable rules at the time of closure and to prepare the site for the post-closure period using best engineering practices.

(9) "Construction quality assurance plan" means a plan describing the methods by which the professional engineer in responsible charge of inspection of the project will determine that the facilities were constructed without significant change from the department approved plans and specifications.

(10) "Contaminate" means to discharge a substance into ground water that would cause:

- (a) The concentration of that substance in the ground water to exceed the maximum contamination level specified in WAC 173-306-9901;
- (b) A statistically significant increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminant level specified in WAC 173-306-9901; or
- (c) A statistically significant increase above background in the concentration of a substance which:
- (i) Is not specified in WAC 173-306-9901; and
 - (ii) Is present in the ash; and
 - (iii) Has been determined to present a substantial risk to human health or the environment in the concentration found at the point of compliance by the department in consultation with the department of health.
- (11) "Critical habitat" means habitat defined as critical by the Endangered Species Act of 1973 (P.L. 93-205).
- (12) "Department" means the department of ecology.
- (13) "Department's approval" means an approval letter by the director after the review of all engineering reports, plans and specifications, and any other engineering documents by a registered engineer.
- (14) "Director" means the director of the department of ecology or the director's designee.
- (15) "Displacement" means the relative movement of any two sides of a fault measured in any direction.
- (16) "Dispose" or "disposal" means the treatment, utilization, processing, or final deposit of special incinerator ash.
- (17) "Disposal facility" means all structures, other appurtenances, improvements and land used for recycling, storing, treating, or disposing of special incinerator ash.
- (18) "Domestic water" means any water used for human consumption, other domestic activities, livestock watering or for any use for which a water right has been granted.
- (19) "Energy recovery" means the recovery of energy in a usable form from mass burning, fluidized bed or refuse - derived fuel incineration, pyrolysis, or any other means of using the heat of combustion of solid waste that involves high temperature (above twelve hundred degrees Fahrenheit) processing.
- (20) "Existing disposal facility" means a disposal facility that is owned or leased and in operation, or for which construction has begun, on or before the effective date of this chapter and the owner or operator has obtained permits or approvals necessary under federal, state and local statutes, rules, and ordinances.
- (21) "Existing residential development" means any existing development of residential dwelling units with a density of at least one unit per acre and a total of more than ten dwellings at time of permit application.
- (22) "Expanded disposal facility" means a disposal facility adjacent to an existing facility for which the land is purchased and approved by the department after the effective date of this chapter. The department shall consider a vertical expansion approved and permitted after the effective date of this chapter to be an expanded disposal facility.
- (23) "Fault" means a fracture along which rocks or soils on one side have been displaced with respect to those on the other side.
- (24) "Facility" means disposal facility.

(25) "Flyash" or "flyash/scrubber residue" means ash swept from the incineration or energy recovery facility combustion chamber and collected from the boilers, economizers, and air pollution control devices such as scrubbers, baghouses, and electro-static precipitators. Flyash or flyash/scrubber residues may or may not be special incinerator ash.

(26) "Generate" means any act or process that produces special incinerator ash or which first causes special incinerator ash to become subject to regulation.

(27) "Generator" means any incineration facility owner/operator who generates a special incinerator ash. An existing generator is any generator whose facility is in operation on the effective date of this chapter.

(28) "Holocene" means the most recent measure of geologic time period extending from the end of the Pleistocene period to the present.

(29) "Incineration" means reducing the volume of solid wastes by use of an enclosed device that uses controlled flame combustion.

(30) "Independent third party" means, for the purpose of liner construction, a person, approved by the department, with demonstrated experience in successful liner installation or inspection, who is financially and organizationally independent of:

- (a) The generator or facility owner/operator;
- (b) The raw material producer (such as the resin manufacturer or the bentonite producer);
- (c) The liner manufacturer;
- (d) The liner installer; or
- (e) Any other person who might have a financial or organizational connection to the facility.

(31) "Land treatment" means the practice of applying ash waste onto or incorporating into the soil surface. If the waste will remain after the facility is closed, this practice is disposal.

(32) "Management" means the handling, storage, collection, transportation, and disposal of special incinerator ash.

(33) "Monofill" means a disposal facility or part of a facility, that is not a land treatment facility, at which only special incinerator ash is finally deposited in or on.

(34) "New disposal facility" means a facility that begins operation or construction after the effective date of this chapter.

(35) "One hundred year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

(36) "Perennial surface water bodies" are normally continuous bodies of water with natural flows throughout the year and includes lakes, rivers, ponds, irrigation canals, streams, reservoirs, inland waters, salt waters, and all other waters of the state (not to include man-made lagoons or impoundments for waste treatment or storage) within the jurisdiction of the state of Washington as defined by chapter 90.48 RCW, the Water Pollution Control Act.

(37) "Permeability" means the ability with which a porous material allows liquid or gaseous fluids to flow through it.

(38) "Permit" means a special incinerator ash disposal permit.

(39) "Person" means any person, firm, association, county, public, municipal, or private corporation, agency, or other entity whatsoever.

(40) "Pile" means any noncontainerized accumulation of ash that is used for treatment or utilization.

(41) "Plans and specifications" means the detailed drawings and specifications used in the construction or modification of ash disposal facilities.

(42) "Point of compliance" means that part of ground water which lies beneath the perimeter of a disposal facility's active area as that active area would exist at the closure of the facility.

(43) "Post-closure" means the requirements placed upon disposal facilities after closure to ensure their environmental safety for a thirty-year period or until the site becomes stabilized (i.e., cap integrity maintained, little or no settlement or leachate generation).

(44) "Processing" means an operation to convert ash into a useful product or to prepare it for disposal.

(45) "Reclamation" means to process an ash waste in order to recover usable products.

(46) "Utilization" means consuming, expending, exhausting or using an ash waste.

(47) "Sole source aquifer" means an aquifer designated by the Environmental Protection Agency under section 1424e of the Safe Drinking Water Act (P.L. 93-523).

(48) "Solid waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and recyclable commodities. This includes all liquid, solid, and semisolid materials that are not the primary products of public, private, industrial, commercial, mining, and agricultural operations. Solid waste includes, but is not limited to, sludge from wastewater treatment plants, septage from septic tanks, woodwaste, dangerous waste, and problem wastes.

(49) "Special incinerator ash" means ash residues that result from the operation of incineration or energy recovery facilities managing municipal solid waste from residential, commercial, and industrial establishments, if the ash residues (a) would otherwise be regulated as hazardous wastes under chapter 70.105 RCW; and (b) are not regulated as a hazardous waste under the Federal Resource Conservation and Recovery Act, 42 U.S.C. Sec 6901 et seq.

(50) "Spill" means any accidental discharges or overflow of fluids or processed water from contained areas or holding tanks to floor drains or a municipal sewer system.

(51) "Stabilization" or "solidification" means a technique that limits the solubility and mobility of waste constituents. Solidification immobilizes a waste through physical means and stabilization immobilizes a waste by bonding or chemically reacting with the stabilizing material.

(52) "Storage" means the temporary holding (no longer than forty-five days from date of production) of a limited amount (not to exceed thirty days worth of daily production) of special incinerator ash.

(53) "Subsidence" means a sinking of the land surface due to the removal of solid mineral matter or fluids from the subsurface.

(54) "Surface impoundment" means a facility or part of a facility that 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) designed to hold an accumulation of liquids or sludges. The term includes holding, storage, settling and aeration pits, ponds or lagoons, but does not include injection wells.

(55) "Treatment" means those engineered physical or chemical processes to make special incinerator ash safer for transport, amenable for energy or material resource recovery, amenable for storage or disposal, or reduced in volume.

(56) "Unstable slopes" means any area where the mass movement of earthen materials i.e., landslides, rockfalls, mudslides, slumps, earth flows, or debris flow is likely to occur.

(57) "Vadose zone" means that portion of a geologic formation in which soil pores contain some water, the pressure of that water is less than atmospheric pressure, and the formation occurs above the zone of saturation.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-100, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-100, filed 4/30/90, effective 5/31/90.]

WAC 173-306-150 Prohibition of surface impoundments, land treatment and municipal solid waste codisposal of ash. No person may manage any special incinerator ash in a surface impoundment, land treatment facility as defined in WAC 173-306-100, or codispose with municipal solid waste.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-150, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-150, filed 4/30/90, effective 5/31/90.]

WAC 173-306-200 Generator management plans. (1) Applicability. These standards apply to special incinerator ash generators that incinerate more than twelve tons of municipal solid waste per day. Existing generators shall meet the requirements of this section within six months after the effective date of this chapter.

(2) Management plans procedures.

(a) Before generating or managing any special incinerator ash, any generator subject to this section shall submit a generator management plan to the department for review and approval. The department may publish guidelines on the form and content of management plans consistent with this chapter. Within thirty days of receipt, the department shall determine whether the plan is factually complete and so notify the generator.

(b) Upon receipt of a complete generator management plan, the department shall give notice of its receipt of a proposed management plan to the public and to interested persons for public comment for thirty days after the date of publication.

(c) The department shall also perform the following additional public notification requirements:

(i) Mail the notice to persons who have expressed an interest in being notified;

(ii) Mail the notice to other state agencies and local governments with a regulatory interest in the proposal;

(iii) The public notice shall include a statement that any person may express their views in writing to the department within thirty days of the last date of publication;

(iv) Any person submitting written comment or any other person upon request, may obtain a copy of the department's final decision;

(v) The department shall add the name of any person, upon request, to a mailing list to receive copies of notices for all applications within the state or within a geographical area.

(d) The department shall review each generator management plan to determine whether the generator management plan complies with this chapter and chapter 70.138 RCW, including whether the necessary ash disposal permit has been or is likely to be issued.

(e) Within sixty days of receipt of a complete generator management plan, the department may approve, approve with conditions, or reject the submitted generator management plan.

Approval may be conditioned upon additional requirements necessary to protect employees, human health, and the environment, including special management requirements such as waste and ash segregation, or treatment techniques such as neutralization, detoxification, and solidification or stabilization.

(f) All generators shall comply with their individual approved management plan. No generator may construct and operate an incineration or energy recovery facility without an approved management plan.

(g) Any generator operating under an approved generator management plan shall notify the department and the department may require resubmission of the generator management plan when there is a proposed material change in the ash management of the special incinerator ash collection and/or handling system.

Upon receipt of the revised generator management plan, the department shall proceed according to subsection (2) of this section.

(3) Generator management plan requirements. Before managing special incinerator ash, all applicable generators shall develop generator management plans. Generator management plans shall show how the following requirements are met:

(a) Planning requirements:

(i) All generators shall demonstrate how the management of ash, including disposal, complies with the city and county comprehensive solid waste management plan of RCW 70.95.080, as applicable.

(ii) All generators shall demonstrate how ash management areas comply with or are a part of the spill prevention plans.

(b) Requirements for managing solid waste to reduce ash toxicity and ash quantity. All generators shall:

(i) Conduct annual municipal solid waste compositional studies to identify kinds and amounts of toxic metals, including cadmium and lead, other hazardous materials, halogenated plastics, and other substances that contribute to the toxicity of special incinerator ash;

(ii) Establish policies, procedures, incentives, and treatment methods to remove toxic metals in municipal solid waste before incineration or energy recovery;

(iii) Establish procedures to insure that dangerous wastes are not knowingly accepted at the incineration or energy recovery facility including developing lists of consumer or commercial items that may or may not be acceptable for incineration;

(iv) Establish a timetable for implementing (b)(i), (ii), and (iii) of this subsection, and a method for evaluating the effectiveness of the program in reducing the toxicity and volume of special incinerator ash.

(c) Collection and handling requirements.

(i) All incineration or energy recovery facilities must be designed and operated to prevent fugitive dust emissions and direct exposure of the ash to the weather. Special incinerator ash must be collected, stored, and handled in enclosed buildings or the equivalent (e.g., covered conveyors and transfer points). This requirement is not applicable to ferrous metal separated from bottom ash.

(ii) Floor or surface drains serving ash collection, storage, and handling areas must not be connected to uncontaminated storm water run-off drains. Spills and process waters must be handled in one or more of the following methods:

(A) Reused in the process;

- (B) Discharged to surface waters under a National Pollution Discharge Elimination System Permit issued under chapter 173-220 WAC;
 - (C) Discharged to surface water, ground water, or a municipal sewer system under a state discharge permit issued under chapter 173-216 WAC;
 - (D) Injected through wells under an underground injection control permit issued under chapter 173-218 WAC; or
 - (E) Managed in another method approved by the department.
- (iii) All incineration and energy recovery facilities must be designed and operated to comply with chapter 296-62 WAC, the general occupational health standards.
 - (iv) The percentage of carbon in bottom ash may not exceed six percent by weight, dry, as determined by ASTM D3178-84 or other methods approved by the department. Alternative carbon content limits may be established by the department, upon a demonstration by the owner or operator that methane generation and settlement does not exceed levels associated with bottom ash meeting the six percent carbon standard. Representative samples must be taken according to the guidelines established by the department.
- (d) Storage requirements.
 - (i) Ash must be stored in totally-enclosed buildings, in leak-proof containers, or in tanks;
 - (ii) Storage may not exceed forty-five days from the date of generation of the ash, and/or the storage amount may not exceed thirty days of daily production;
 - (iii) Storage must be in an area served by the floor and surface drain requirements in (c)(ii) of this subsection.
 - (e) Ash from an incineration or energy recovery facility must be transported to an off-site or on-site disposal facility in covered and sealed vehicles or containers to avoid wind dispersal or fluid leakage. Owners and operators shall prevent ash trackout onto the site and the public right-of-way by employing tire washing or any equivalent means. Contaminated washwaters must be disposed of according to (c)(ii) of this subsection.
 - (f) Waste management accountability. All owners or operators of incineration or energy recovery facilities shall:
 - (i) Establish procedures acceptable to the department for tracking movements of special incinerator ash from the point of generation and/or handling to the site of final deposit or disposal. The tracking method may include inventory control and tracking systems, scale, ticket, and receipt tracking, gate logs, operating logs, or material balances;
 - (ii) File a report with the department if the owner or operator has not confirmed that an ash waste has been received at the intended destination within forty-five days of the date the waste was accepted by the transporter. The report must include:
 - (A) A legible copy of the shipping paper or manifest for which the owner or operator does not have confirmation of delivery; and
 - (B) A cover letter signed by the generator or his representative explaining the efforts taken to locate the waste and the results of these efforts.
 - (g) Other state and local requirements. All generators shall comply with all federal, state, and local environmental and industrial hygiene right-to-know laws and rules, including chapter 197-11 WAC, the State Environmental Policy Act rules; chapter 173-304 WAC, the Minimum functional standards for solid waste handling; and chapter 173-434 WAC, the air emission rules for incinerators.

(4) Annual report requirements. All generators shall submit annual reports to the department by March 1 of the following calendar year on forms specified by the department specifying:

(a) Annual amounts, in tons, of:

(i) Municipal solid waste incinerated;

(ii) Bottom ash generated; and

(iii) Flyash/scrubber residue generated.

(b) Disposal sites for all special incinerator ash. For multiple disposal sites, the amounts of disposal that are occurring in tons per year;

(c) Permittee's name, address, telephone number, date of permit issuance and expiration date for the disposal sites listed in (b) of this subsection;

(d) Designation test results. The results of testing bottom ash and flyash/scrubber residues separately and combined flyash and bottom ash on representative samples taken each quarter of the year and subjected to the criteria of WAC 173-303-100. Results of testing bottom ash quarterly for carbon residue according to subsection (3)(c)(iv) of this section must be included unless otherwise approved by the department. After one year of testing, the department may reduce this requirement if a less frequent program can provide adequate data to determine the effectiveness of an ash toxicity reduction program. Representative sampling methods shall follow guidelines specified by the department;

(e) Toxics separation test results. The results of testing bottom ash and flyash separately for toxic metals from samples taken in (d) of this subsection must be included, in order to judge the progress made in toxic metals separation and reduction;

(f) Special test results. The results of testing bottom ash and flyash separately for dioxins and dibenzofurans on a composite sample made from the eight quarterly samples taken in (d) of this subsection must be included; and

(g) Ambient lead and cadmium samples taken in the air and soil respectively at the property boundary must be included to demonstrate compliance with the performance standard of WAC 173-306-440 (2)(b) and (c). The samples must be taken annually for cadmium and quarterly for lead, unless otherwise approved by the department.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-200, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-200, filed 4/30/90, effective 5/31/90.]

WAC 173-306-300 Permit requirements for disposal facilities. (1) Applicability. The permit standards of WAC 173-306-300 through 173-306-330 apply to disposal facilities as defined in WAC 173-306-100. These standards do not apply to generators of special incinerator ash who only handle, store and collect ash on-site and transport ash off-site, nor to facilities specifically excluded under WAC 173-306-400 through 173-306-490.

(2) No disposal facility may be established, constructed, altered, expanded, or closed, until the owner or operator has obtained a permit issued under this chapter or a modified permit issued under WAC 173-306-310(3).

(3) Effective dates for permit requirements. The permit requirements of this section apply to all applicable existing, new or expanding disposal facilities within six months after the effective date of this chapter.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-300, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-300, filed 4/30/90, effective 5/31/90.]

WAC 173-306-310 Permit procedures. (1) Application procedures.

(a) Persons owning or operating new or expanded ash disposal facilities shall apply to the department for a permit, before accepting any special incinerator ash for disposal. These procedures apply to permit renewal. Monofill owners who have successfully complied with the requirements for Type B design in WAC 173-306-450 (4)(a)(i) during the eighteen-month demonstration period shall apply for a permit before using the Design B liner. Applicants shall file two copies of the application with the department that have:

(i) Been signed and notarized as correct by the owner and operator; and

(ii) Attached evidence of compliance with the requirements of chapter 197-11 WAC, the State Environmental Policy Act rules.

(b) Permit applications must contain the information set forth in WAC 173-306-330 in order to be considered complete. Upon receipt of a permit application, the department shall review the application for completeness and notify the permit applicant accordingly.

(c) Within thirty days of receipt of a complete application, the department shall give notice of its receipt of a proposed complete permit application to the public and to interested persons for public comment for thirty days after the date of publication.

(d) The department will perform the following additional public notification requirements:

(i) Mail the notice to persons who have expressed an interest in being notified;

(ii) Mail the notice to other state agencies and local governments with a regulatory interest in the proposal;

(iii) The public notice shall include a statement that any person may express his or her views in writing to the department within thirty days of the last date of publication;

(iv) Any person submitting written comment or any other person, upon request, may obtain a copy of the department's final decision; and

(v) The department shall add the name of any person, upon request, to a mailing list to receive copies of notices for all applications within the state or within a geographical area.

(2) Issuance procedures.

(a) The department shall review each completed application to determine:

(i) Whether the disposal facility meets the requirements of this chapter;

(ii) Whether the disposal facility has been adequately addressed in the city and county comprehensive solid waste management plan as applicable; and

(iii) Whether the disposal facility complies with other environmental laws and rules.

(b) The department may approve, deny, or conditionally approve a completed permit application within sixty days of receipt of the department's notice.

(c) The department may issue up to five-year term permits for ash disposal; applications for reissuance of permits must be made at least six months before permit expiration. The applicant and the department shall follow the procedures of WAC 173-306-310 (1) and (2) in applying for and reissuing permits.

(3) Modification and revocation procedures. When the department obtains any information justifying modification, or the applicant applies for modification of an existing permit, the department may modify or revoke and reissue the permit according to the procedures

of this section. An updated application may be requested 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.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-310, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-310, filed 4/30/90, effective 5/31/90.]

WAC 173-306-320 Demonstration and class-use permits. (1) Demonstration permits. Demonstration permits must be required for persons utilizing ash (see WAC 173-306-490 (2)(b)). In addition, persons applying for a utilization permit must demonstrate that the proposed utilization will successfully meet the requirements of WAC 173-306-490 (2)(b)(ii) before full scale reuse or utilization is practiced.

(a) The demonstration permit will be issued in accordance with the procedures of WAC 173-306-310;

(b) The demonstration permit shall address those requirements necessary to meet the standards of WAC 173-306-490 (2)(b)(ii) and (iii), and show that a disposal facility meeting the requirements of this chapter is available in case the demonstration fails or this permit is revoked;

(c) The demonstration permit shall provide a specific time period and a limit on the quantity of ash that will be used for the demonstration; the department may extend the demonstration period as a modification of the demonstration permit;

(d) Unless otherwise approved by the department, the permittee shall submit a report to the department within ninety days of the end of the demonstration. The report shall contain the results of all field tests and laboratory analyses and all data developed during the demonstration period. The department shall then use the information to determine whether or not there is adequate information to issue a class-use permit that will incorporate conditions sufficient to provide compliance with all requirements of WAC 173-306-490 (2)(b)(ii) and (iii). If the information is adequate, the department will issue a class-use permit under the provisions of this section. If the information is inadequate, the department may, as the situation warrants, either issue a modification to the demonstration permit in accordance with the procedures of WAC 173-306-310(3) and this subsection, or deny the class-use permit application.

(2) Class-use permits. Class-use permits are required for persons who distribute utilized ash on the land in a manner that constitutes disposal. The permit is issued to the seller or distributor of utilized ash or ash products to a class of users.

(a) The class-use permit will be issued in accordance with the procedures of WAC 173-306-310;

(b) The class-use permit shall contain those requirements necessary to meet the standards of WAC 173-306-490 (2)(b), including reporting requirements; and

(c) The department will place limitations on the class of users of utilized ash or ash products if it is shown that the limits are necessary to protect human health and the environment.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-320, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-320, filed 4/30/90, effective 5/31/90.]

WAC 173-306-330 Application contents for permits. (1) Application contents for permits for new or expanded facilities.

(a) All permit applications shall contain the following:

(i) A general description of the facility;

(ii) The types of ash to be handled at the facility;

(iii) The plan of operation required by WAC 173-306-405(3) (except for demonstration and class-use permits, WAC 173-306-320);

(iv) The operating log required by WAC 173-306-405(4) (except for demonstration and class-use permits, WAC 173-306-320);

(v) The inspection schedule and inspection log required by WAC 173-306-405.

(b) Application contents for monofill facilities. In addition to the requirements of (a) of this subsection, each monofill application for a permit must contain:

(i) A hydrogeological assessment of the facility that addresses:

(A) Local/regional geology and hydrology, including holocene faults within two hundred feet of the active area and three thousand feet of all other faults, unstable slopes, and subsidence areas on site; or a department approved geologic hazard assessment study;

(B) Evaluation of bedrock and soil types and properties;

(C) Depths to ground water or aquifer(s), or both;

(D) Direction and flow rate of the uppermost aquifer;

(E) Direction of regional ground water;

(F) Quantity, location, and construction (where available) of private and public wells within a two thousand foot radius of site;

(G) Tabulation of all water rights for ground water and surface water within a two thousand foot radius of the site;

(H) Identification and description of all surface waters within a one-mile radius of the site;

(I) Background and surface water quality assessment, and for expanded facilities, identification of impacts to date of applicant's existing facilities upon ground and surface waters from monofill leachate discharges;

(J) Calculation of a site water balance;

(K) Conceptual design of a ground water and surface water monitoring system, including proposed installation methods for these devices and, where applicable, a vadose zone monitoring plan;

(L) Land use in the area, including nearby residences;

(M) Topography of the site and surrounding areas; and

(N) Drainage pattern of the site and surrounding areas.

(ii) Preliminary engineering report/plans and specifications that address:

(A) How the facility will meet the siting standards of WAC 173-306-350;

(B) Relationship of facility to city and county solid waste comprehensive plan as applicable and the basis for calculating the facility's life;

(C) The design of bottom and side liners;

(D) Identification of materials for daily cover and borrow sources for final cover and soil liners;

(E) Interim/final leachate collection, treatment, and disposal;

(F) Leachate detection where applicable;

(G) Fugitive dust controls;

(H) Trench design, fill methods, elevation of final cover and bottom liner, and equipment requirements;

(I) The run-on and run-off system;

(J) The design to avoid washout;

(K) Filling phases, interim cover and final cap elevation; interim cover should be minimized depending on site specific topography and projected filling phases;

(L) Closure/post-closure design, construction, maintenance, and land use;

(M) Signs, fencing, and road paving; and

(N) Scales, employee amenities, communication, and unloading areas.

(iii) An operation plan that addresses:

(A) Operation and maintenance of leachate collection, treatment, and disposal systems;

(B) Operation and maintenance of fugitive dust controls;

(C) Monitoring plans for ground water, surface water, soils and ambient air to include sampling technique, frequency, handling, and analysis requirements;

(D) Safety and emergency accident/fire plans;

(E) Routine filling, grading, cover, and housekeeping; and

(F) Record system to address records on weights (or volumes), number of vehicles, and the types of waste received.

(iv) A closure plan that addresses:

(A) Estimate of closure season/year;

(B) Capacity of site in volume and tonnage;

(C) Maintenance of active fill versus completed, final covered acreage;

(D) Estimated closure construction timing and notification procedures;

(E) Inspection by regulatory agencies;

(F) Items required in WAC 173-306-410(3); and

(G) Identification of final closure cost including cost calculations and funding mechanisms.

(v) A post-closure plan that addresses:

(A) Estimated time period for post-closure activities;

(B) Site monitoring of ash monofill, soil, air, ground water, and surface water;

(C) Deed clause changes, land use, and zoning restrictions;

(D) Maintenance activities to maintain cover and run-off systems;

(E) Items required in WAC 173-306-410(6);

(F) Identification of post-closure costs including cost calculations and funding mechanisms; and

(vi) Other information as required by the department.

(c) Application contents for treatment (including solidification and stabilization) standards. In addition to the requirements of (a) of this subsection, each application for a treatment permit must contain:

(i) Preliminary engineering reports/plans and specifications that address:

(A) The chemical and physical principle(s) upon which the treatment is based, including laboratory, pilot plant, prototype, or full-scale data with sufficient detail to assure the department that the treatment process is feasible and to allow the department to specify capacity and operating conditions;

(B) Tank, reaction vessel, furnace, total-enclosed treatment facility and container designs and the basis for selecting the materials of construction and the thickness of the treatment device (such as corrosion data) or protective lining;

(C) Fugitive dust controls, including conveyor, transport, unloading, and building design;

(D) Instrumentation and process control design to assure operating within conditions specified in the permit;

(E) Warning signs and occupational health and safety engineering controls;

(F) Monitoring equipment; and

(G) Other factors as required by the department.

(ii) An operation plan that addresses:

(A) Operation and maintenance of the treatment device;

(B) Operation and maintenance of fugitive dust controls;

(C) Monitoring as required in WAC 173-306-500 and the department on a case-by-case basis; and

(D) Safety, occupational health, and emergency accident/fire plans.

(iii) A closure plan that addresses:

(A) Estimate of closure year and cost;

(B) Methods of removing wastes and cleaning or decontaminating reaction devices and final disposal of both;

(C) Closure timing and notification procedures;

(D) Final inspection by regulatory agencies;

(E) Items required in WAC 173-306-410(3); and

(iv) Other information as required by the department.

(d) Application contents for utilization facilities. In addition to the requirements of (a) of this subsection, each application for utilization must contain:

(i) For accumulation before utilization facilities:

(A) The method of calculating the percent of ash being reused within a calendar year; and

(B) Compliance with the generator management plan storage requirements of WAC 173-306-200 (3)(d)(i) and (ii) if accumulation is by the generator; or

(C) Compliance with the monofill facility standards of WAC 173-306-440 if accumulation is by a disposal facility.

(ii) For reuse constituting disposal facilities:

(A) Information supplied by the applicant pertaining to the factors of WAC 173-306-490

(2)(b)(iii); and

(B) Other information as required by the department.

(2) Application contents for permits for existing facilities. Owners or operators of existing facilities applying for a permit to comply with the requirements of WAC 173-306-310 shall include:

(a) The information required in subsection (1)(a) of this section; and

(b) Other information as required by the department.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-330, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-330, filed 4/30/90, effective 5/31/90.]

WAC 173-306-340 Engineering reports, plans and specifications required in permits. (1) Before constructing or modifying disposal facilities, final engineering reports, plans and specifications must be submitted to and approved by the department according to a compliance schedule specified in the permit. The engineering report for a disposal facility must be sufficiently final so that plans and specifications can be developed from it without substantial changes.

(2) All final engineering reports, plans and specifications should be submitted by the owner or operator consistent with the compliance schedule in the permit and at least thirty days before the time approval is needed. The department will review and comment on and may approve (or conditionally approve) or disapprove the plans and reports within the thirty-day period unless circumstances prevent, in which case the owner or operator will be notified and informed of the reason for the delay.

(3) The final engineering report may be submitted before or concurrently with the final plans and specifications.

(4) The department will review the documents to ascertain that the proposed facility will be:

(a) Designed, constructed, operated, maintained, and closed to meet the requirements of the permit issued under this chapter; and

(b) Consistent with good engineering practices.

(5) Within thirty days after acceptance by the owner or operator of or modification to an ash disposal facility, a professional engineer in responsible charge of inspection of the project shall submit to the department one complete set of record drawings or as-builts, and a declaration stating the facilities were constructed in accordance with the provisions of the construction quality assurance plan and without significant change from the department approved plans and specifications.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-340, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-340, filed 4/30/90, effective 5/31/90.]

WAC 173-306-345 Construction quality assurance plan. (1) Before construction or modification, a detailed plan that shows how adequate and competent construction inspection will be provided to insure compliance with the requirements of this chapter and the approved engineering documents must be submitted to and approved by the department. The plan must be submitted according to a schedule specified in the permit.

(2) The construction quality assurance plan shall include:

(a) A construction schedule summarizing planned construction activities, noting sequence interrelationships, durations, and terminations;

(b) A description of construction management, organization management procedures, lines of communication, and responsibility;

(c) A description of anticipated quality control testing, including type of test, frequency, and who will perform the tests;

(d) A description of the construction inspection program including inspection responsibilities, anticipated inspection frequency, deficiency resolution, and inspector qualifications; and

(e) For monofills, a description of how WAC 173-306-440 (4)(d) is to be met.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-345, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-345, filed 4/30/90, effective 5/31/90.]

WAC 173-306-350 Incinerator ash siting standards for disposal facilities. (1)

Applicability. These standards apply to all new or expanded monofills. These standards do not apply to:

(a) Existing monofills or monofills that have closed before the effective date of this chapter; or

(b) Treatment, utilization, or processing facilities.

(2) Siting standards.

Owners or operators of all applicable disposal facilities shall, at the time of permit application, meet the following locational standards:

(a) Geology. No facility may be located within two hundred feet, measured horizontally, from a fault that has had displacement in holocene times. All faults within three thousand feet of a facility must be identified and evaluated under WAC 173-306-330(1), where existing geologic information is available or can be obtained with reasonable effort. For sites for which fault information cannot reasonably be obtained, a geologic hazard assessment performed by an experienced, qualified geologist may be substituted for this siting criteria, if the study methods are reviewed and approved by the department before the investigation.

(b) Ground water.

(i) No facility may be located where the depth from the lowest point of the bottom liner to the seasonal high water level of the upper most aquifer of beneficial use is less than ten feet or 120 days travel time hydraulically, whichever is greater.

(ii) No facility may be located over a sole source aquifer.

(iii) No facility's active area may be located closer than one thousand feet to the nearest downgradient ground water intake for domestic water in use and existing at the time of permit application unless the owner or operator can show that the active area is no less than one hundred twenty days travel time hydraulically to the nearest downgradient ground water intake for domestic water.

(c) Natural soils. No facility may be located:

(i) Where known subsidence exists within the facility boundary;

(ii) In an area where unstable slopes may impact the active area of the facility;

(iii) Where weak or unstable soils exist within the proposed facility boundary, unless the structural stability of the soils is mitigated through engineering practices. (The following soils or conditions are defined as weak or unstable: Organic soils, expansive soils, liquefaction sands, soft clays, sensitive clays, loess and quick conditions.)

(d) Flooding. No facility's active area may be located within the one hundred-year flood elevation as indicated in the most current Federal Emergency Management Agency maps.

(e) Surface water. No facility's active area may be located within five hundred feet, measured horizontally, of the ordinary high water mark of any perennial surface water body.

(f) Sensitive areas. No facility may be located:

(i) In an area that would result in the taking of species or the direct elimination of critical habitat for federal or state listed threatened or endangered species;

- (ii) In a wetland as defined by the United State Fish and Wildlife Service (Cowardin et al. 1979);
 - (iii) In a shoreline of the state under the jurisdiction of the Shoreline Management Act;
 - (iv) In an area classified as a wilderness area as defined by the Wilderness Act of 1964 (P.L. 88-577);
 - (v) In a state or federally designated wildlife refuge or a game farm;
 - (vi) In an area with city, county, state, or federal designation as a park or recreation area or any area provided for under chapter 79.70 RCW, natural area preserves; and
 - (vii) In an area with city, county, state, or federal designation as an archaeological or historic area or a national monument.
- (g) Land use. No facility may be located so that its active area is closer than two hundred feet to the facility property line. The active area may be no closer than one thousand feet to the nearest housing unit in an existing residential development. The one thousand-foot rule may be evaluated on a case-by-case basis in rural areas and unincorporated towns.
- (h) Climatic factors. No facility may be located in an area that has a history of severe climatic factors without engineered protection to mitigate those factors. Severe climatic factors, include but are not limited to, high annual rainfall, extreme temperatures (high or low), and high winds.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-350, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-350, filed 4/30/90, effective 5/31/90.]

WAC 173-306-400 Ash disposal facility standards. (1) Applicability. The standards of WAC 173-306-405 through 173-306-470 are the ash disposal standards and apply to all disposal facilities except ash disposal facilities that are engaged in closure or were closed before the effective date of this chapter.

(2) Standards for permits. The standards of WAC 173-306-405 through 173-306-470 must be used as the basis for permitting as required in WAC 173-306-300.

(3) Effective dates.

(a) All existing ash disposal facilities not in conformance with these standards must be placed on compliance schedules as part of the permit issued in WAC 173-306-300. Full compliance must be met within three years of the effective date of this chapter. However, the following facility standards must be met within eighteen months of the effective date of this chapter:

- (i) The general facility standards of WAC 173-306-405;
- (ii) The operating and maintenance standards of WAC 173-306-440(5); and
- (iii) The monitoring requirements of WAC 173-306-500.

(b) All new and expanded facilities shall meet the ash disposal facility standards of WAC 173-306-405 to 173-306-470 after the effective date of this chapter.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-400, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-400, filed 4/30/90, effective 5/31/90.]

WAC 173-306-405 General facility operational standards. (1) Applicability. All special incinerator ash disposal facilities shall meet the requirements of this section.

(2) Imminent hazard. Notwithstanding any provisions of this chapter, enforcement actions may be brought in the event that the management practices of an ash disposal facility present an imminent and substantial hazard to the health of employees, the public health or the environment.

(3) Plan of operation. Each owner or operator shall develop and use the plan of operation required during the permitting process in WAC 173-306-300. The plan shall describe the facility's operation and convey to the operating personnel the concept of operation intended by the designer. The facility must be operated in accordance with the plan. Modifications to the plan must be approved by the department. The plan of operation must be available for inspection at the request of the department. Each plan of operation shall include:

- (a) Ash management during the facility's active life;
- (b) Frequency and methods of inspections and monitoring;
- (c) Employee safety and training that addresses:
 - (i) Protection from exposure and contact with ash;
 - (ii) Employee training;
 - (iii) Medical monitoring; and
 - (iv) A safety plan or procedure;
- (d) Actions to take for mitigating any sudden release of ash to surface water or dispersal by wind;
- (e) Modifications to the plan permit, or plan of operation, or both, in the event of ground water contamination;
- (f) Equipment maintenance, particularly for leachate collection and treatment; and
- (g) Other details as required by the department.

(4) Recordkeeping. The facility owner or operator shall keep a written operating record at the facility that must be furnished upon request and made available at all reasonable times, to any employee of the department.

- (a) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:
 - (i) The type and quantity of each ash shipment received or managed on-site and the methods and dates of management at the facility;
 - (ii) Records and inspection results as required by subsections (5) and (6) of this section;
 - (iii) Monitoring, testing, or analytical data where required by WAC 173-306-500;
 - (iv) All closure and, for final deposit, post-closure cost estimates required for the disposal facility; and
 - (v) Deviations from the plan of operation specified in subsection (3) of this section.
- (b) The retention period for all facility records required under this chapter is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the department.

(5) Reporting. Each owner or operator shall prepare and submit a copy of the annual report to the department by March 1 of the following year. The annual report shall cover facility activities during the previous year and must include the following information:

- (a) The name and address of the disposal facility;
- (b) The calendar year covered by the report;

(c) Annual quantity in tons and the type of ash accepted by the disposal facility and the method of management;

(d) Results of soil, air quality, and ground water monitoring required in WAC 173-306-440;

(e) The most recent closure cost estimate and, for final deposit monofills, post-closure cost estimates under WAC 173-306-410; and

(f) Other information required by the department.

(6) Inspections. The owner or operator shall inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of ash to the environment or 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. The owner or operator shall keep an inspection log or summary including, at a minimum, the date and time of inspection, the printed name and the hand-written signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action. The log or summary must be kept at the facility or other convenient location if permanent office facilities are not on-site, for at least three years from the date of inspection. Inspection records must be made available to the department upon request.

(7) Other state and local requirements. All owners or operators of ash disposal facilities shall comply with all state and local laws and rules such as zoning, land use, fire protection, industrial safety and hygiene, water pollution, air pollution, nuisance and aesthetics.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-405, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-405, filed 4/30/90, effective 5/31/90.]

WAC 173-306-410 General closure and post-closure requirements. (1)

Applicability. The closure requirements of subsections (2), (3), and (4) of this section apply to all disposal facilities. The post-closure requirements of subsections (5), (6), and (7) apply to monofills subject to WAC 173-306-440.

(2) Closure performance requirements. Each owner and operator shall close the facility in a manner that:

(a) Minimizes the need for further maintenance;

(b) Controls, minimizes, or eliminates threats to human health and the environment from post-closure escape of ash constituents, leachate, monofill gases, contaminated rainfall or ash decomposition products to the ground or soil, ground water, surface water, and the atmosphere; and

(c) Prepares the facility for the post-closure period.

(3) Closure plan and amendment. Closure as defined in WAC 173-306-100 includes, but is not limited to, grading, seeding, landscaping, contouring and screening.

(a) Each owner or operator shall develop and use a plan of closure approved by the department as part of the permitting process of WAC 173-306-310.

(b) The closure plan shall project time intervals at which closure activities must be implemented, and shall identify estimated closure costs and project fund withdrawal intervals from the approved financial assurance instrument, where applicable.

(c) No owner or operator may begin disposal operations in any part of a facility until a closure plan for the entire facility has been approved by the department, and until a financial assurance instrument has been provided, as required by WAC 173-306-470.

(d) The department may determine at its discretion and for cause that a facility closure plan is invalid and may require an owner or operator to:

(i) Amend the facility closure plan and obtain the department's written approval; and/or

(ii) Cease facility operation or closure activities in whole or in part until an approved closure plan is obtained.

(e) Each owner or operator shall close the facility in accordance with the approved closure plan and all approved amendments.

(4) Closure procedures.

(a) Each owner or operator shall notify the department and, where applicable, the financial assurance instrument trustee, of the intent to implement the closure plan in whole or in part, no later than one hundred eighty days before the projected final receipt of waste at part of or at the entire facility.

(b) The owner or operator shall begin implementing the closure plan in part or whole within thirty days after receipt of a final volume of ash and/or attaining the final monofill elevation at part of or at the entire facility as identified in the approved facility closure plan.

(c) Ash may not be accepted for use in closure except as identified in the closure plan approved by the department, as required in subsection (3)(a) of this section.

(d) When facility closure is completed in part or whole, each owner or operator shall submit to the department:

(i) Facility closure plan sheets signed by a professional engineer registered in the state of Washington. The plan shall reflect all as-built changes to final closure construction as approved in the closure plan; and

(ii) An affidavit signed by the owner or operator and a professional engineer registered in the state of Washington that the site has been closed in accordance with the approved closure plan.

(e) Maps and a statement of fact concerning the location of the final ash disposal must be recorded as part of the deed with the county auditor not later than three months after closure. Records and plans specifying ash amounts, locations and periods of operation must be submitted to the local zoning authority or the authority with jurisdiction over land use and must be made available for inspection.

(f) When the department finds the facility has been closed in accordance with the specifications of the approved closure plan and the closure requirements of this section, the department shall:

(i) Issue a certificate of closure for the site to the owner or operator and the department; and

(ii) Notify the owner or operator and the department that the facility post-closure period has begun in whole or in part on a specified date.

(5) Post-closure performance standard. Monofill owners or operators shall perform post-closure activities as needed to protect human health and the environment.

(6) Post-closure plan and amendment. Post-closure includes monitoring of ground water, surface water, and air quality; maintenance of the facility, facility structures, and monitoring systems; and other activities deemed appropriate by the department.

(a) The owner or operator shall develop and use a post-closure plan approved as a part of the permitting process in WAC 173-306-310. The post-closure plan shall address facility maintenance and monitoring activities for a thirty-year period.

(b) The post-closure plan shall project time intervals at which post-closure activities are to be implemented, and identify post-closure cost estimates and projected fund withdrawal intervals from the selected financial assurance instrument, where applicable, for the associated post-closure costs.

(c) No owner or operator may begin disposal operations in any part of a facility until a post-closure plan for the entire facility has been approved by the department, and until a financial assurance instrument has been provided, where applicable, as required by WAC 173-306-470. Facility post-closure activities must be completed in accordance with the approved post-closure plan or the plan must be so amended with the approval of the department.

(d) The department may determine, at its discretion and for cause, that a facility post-closure plan is invalid and may require an owner or operator to:

(i) Amend the facility post-closure plan and obtain the department's written approval; and/or

(ii) Cease facility operation or closure activities in part or wholly until an approved post-closure plan is obtained.

(7) Post-closure procedures.

(a) Each owner or operator shall begin post-closure activities after completing closure activities outlined in subsection (4)(d)(i) and (ii) of this section. The department may direct that post-closure activities cease until the owner or operator has received the department's certification of closure and a notice to proceed with post-closure activities.

(b) When post-closure activities are complete, the owner or operator shall submit an affidavit to the department, signed by the owner or operator and a professional engineer registered in the state of Washington, stating why post-closure activities are no longer necessary.

(c) If the department finds that post-closure activities have stabilized the facility, the department may, at its discretion, authorize the owner or operator to gradually reduce or discontinue post-closure maintenance and monitoring activities. The department shall certify the end of the post-closure care period by issuing a certificate of post-closure completion to the facility owner or operator.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-410, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-410, filed 4/30/90, effective 5/31/90.]

WAC 173-306-440 Ash monofill facility standards. (1) Applicability. This section applies to owners and operators of facilities that monofill special incinerator ash, except as WAC 173-306-400 provides otherwise.

(2) Minimum standards for performance.

(a) Ground water. Monofill owners or operators may not contaminate underlying ground water beyond the point of compliance. Contamination and point of compliance are defined in WAC 173-306-100.

(b) Soil. Soils at the property boundary may not exceed the following limits for cadmium due to the facility operations based upon annual samples:

(i) The annual increase in cadmium loading in the upper six inches of soil with a pH equal to or greater than 6.5 may not exceed 0.5 kilograms per hectare annually or a total accumulation of 20 kilograms per hectare; and

(ii) The annual increase in cadmium loading in the upper six inches of soil with a pH less than 6.5 may not exceed a total accumulation of 5.0 kilograms per hectare.

(c) Air quality. Monofill owners or operators may not cause a violation of an emission standard from any emission of particulates, dusts or gases associated with the operation and/or closure/post-closure of the landfill nor any ambient air quality standard at the property boundary including the following ambient lead standard:

The level of lead and its compounds measured as elemental lead in suspended particulate matter measured during a twenty-four hour sample taken at the downwind facility boundary may not exceed 1.5 micrograms per cubic meter of air due to the facility's operation or the latest national ambient air quality standards. The sampling frequency will be monthly unless otherwise approved by the department.

(d) Surface waters. Monofill owners or operators may not cause a violation of any receiving water quality standard or violate chapter 90.48 RCW from discharges of surface run-off, leachate, or any other liquid associated with a monofill.

(3) Siting standards. Monofill owners or operators receiving special incinerator ash shall comply with incinerator ash siting standards of WAC 173-306-350(2).

(4) Minimum design standards.

(a) Minimizing liquids. Monofill owners or operators shall minimize liquids admitted to active areas by:

(i) Covering according to subsection (5)(e) of this section.

(ii) Disposing of no ash containing free liquids unless approved by the department;

(iii) Designing, constructing, and maintaining run-off controls to restrict the chance of a run-off event from releasing contaminated run-off waters to an annual probability of one percent or less (one hundred-year event or greater). In meeting this requirement the following items are to be considered:

(A) The design of the containment structures should be selected based on the ability of the facility to store, test, and/or treat the run-off during a twenty-four hour or longer storm event.

(B) The design assumes that the storm event occurs during the final year of the active life of the monofill or at a time when the facility is most vulnerable to a storm that could produce the release of contaminated waters. The method of placement of the ash should be considered when determining the volume available for storage of run-off.

(C) A minimum of one foot of freeboard (measured from the invert of the emergency spillway) should be maintained following the occurrence of the design storm.

(D) An emergency spillway is to be constructed for the containment structure to provide controlled release of excess run-off waters in the case where the design storm is exceeded.

(iv) Design, construct, and maintain diversion channels, channel containment berms, culverts, pipes, and other drainage control features to pass and/or store run-on to restrict the chance of failure of the drainage control features to an annual probability of one percent or less (one hundred-year event or greater). In meeting this requirement the following items are to be considered:

(A) For those cases where the run-on waters are to be stored and/or treated, selection of the storm design should be based on the appropriate procedures governing run-off controls.

(B) For those cases where the run-on waters are to be diverted around the facility, the drainage control features should be sized to pass the run-on peak discharge (design flood) of a magnitude that has an annual exceedance probability of one percent or less (one hundred-year flood peak discharge or greater).

(C) Sufficient erosion protection and freeboard (one foot minimum) are to be provided for all drainage control features to preclude failure of those features during passage of the design flood.

(v) Submit engineering plans and specifications for any containment barrier equalling or exceeding as storage capacity of ten acre-feet to the department's dam safety section for review under RCW 90.03.350.

(b) Leachate systems. Monofill owners or operators shall:

(i) Install a department-approved leachate collection system sized according to water balance calculations or using other accepted engineering methods;

(ii) Install a leachate collection system to prevent no more than one foot of leachate developing at the topographical low point of the active area; and

(iii) Install a leachate treatment system to meet requirements of WAC 173-306-200 (3)(c)(ii)(B) through (E).

(c) Liner and final cap design. Ash monofill owners or operators shall comply with the requirements of WAC 173-306-450.

(d) Liner construction and inspection. Ash monofill owners or operators shall:

(i) Comply with the requirements of WAC 173-306-450.

(ii) Employ an independent third party as defined in WAC 173-306-100 to inspect the liners during construction and installation for uniformity, damage and imperfections (e.g., holes, cracks, thin spots, foreign materials) and quality of construction; and immediately after construction and installations to inspect:

(A) Synthetic liners and covers for tight seams and joints and the absence of tears, punctures or blisters; and

(B) Soil-based and admixed liners and covers for imperfections (e.g., lenses, cracks, channels, root holes) or structural nonuniformities that may affect liner permeability.

(e) Filling requirements for ash cells. Monofill owners or operators shall design and fill ash monofills in phases or cells, as defined in WAC 173-306-100. Only one cell may be open and in use at one time; each cell must be graded and covered with a flexible high density polyethylene liner or other material of equivalent mechanical strength and chemical resistance during the interim period before reaching final elevation. The liner must be 60 mils and have the ability to withstand weather conditions. The owner or operator shall provide, as part of the interim cover, a method of detecting and/or monitoring/inspecting the integrity and any possible failure of the interim cover.

(f) Fugitive dust controls. Monofill owners and operators shall:

(i) Employ tire washing for all ash-carrying vehicles as they leave the site or any equivalent method to prevent the trackout of ash onto the site and the public right of way. Contaminated wash-waters must be disposed of according to WAC 173-306-200 (3)(c);

(ii) Orient the major axis of the active area of the monofill with respect to the prevailing wind directions so as to minimize the effect of wind upon dispersion of special incinerator ash unless engineering designs can provide equivalent protection; and

(iii) Provide for paved approach and exit roads outside the active area with traffic separation and traffic control on-site and at the site entrance.

- (g) Other design requirements. Monofill owners and operators shall:
- (i) Post signs at each entrance to the active portion and at other locations, in sufficient numbers to be seen from any approach to the active portion. Signs must bear the legend "Danger - unauthorized personnel keep out" or an equivalent legend, and must be legible from a distance of twenty-five feet;
 - (ii) Have either:
 - (A) A twenty-four-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or
 - (B) An artificial or natural barrier; or
 - (C) A combination of both, which completely surrounds the active portion of the facility, with a means to control access through gates or other entrances to the active portion of the facility at all times.
 - (iii) Provide for monitoring according to WAC 173-306-500 using a design approved by the department;
 - (iv) Weigh all incoming ash on scales or provide an equivalent method of measuring ash tonnage;
 - (v) Provide for employee facilities including shelter, toilets, handwashing facilities, and potable drinking water;
 - (vi) Provide for unloading areas to be as small as possible, consistent with traffic patterns and safe operation; and
 - (vii) Provide communication (such as telephones) between employees working at the monofill and on-site or off-site management offices to handle emergencies.
- (5) Standards for operation and maintenance. All owners and operators shall:
- (a) Prohibit the co-disposal of any other solid or hazardous waste in a special incinerator ash landfill;
 - (b) Comply with the requirements of the general operation standards, WAC 173-306-405;
 - (c) Control fugitive dust by wetting, by the use of dust suppressing substances, covering, compacting, or otherwise managing the active area of the monofill to control wind dispersal and prevent visible emissions of windblown dust. Road dust on unpaved roads must also be similarly controlled.
 - (d) Clearly mark the active area boundaries authorized in the permit, with permanent posts or using an equivalent method clearly visible for inspection purposes.
 - (e) Compact and cover ash daily before adding successive layers according to the requirements of WAC 173-306-450.
 - (f) Maintain the monitoring systems required in subsection (4)(g)(iii) of this section;
 - (g) Inspect the monofill weekly while it is in operation and after major storms to detect evidence of any of the following:
 - (i) Deterioration, malfunctions, or improper operation of run-on and run-off control systems and interim cover;
 - (ii) The presence of liquids in leak detection systems, where installed, to comply with subsection (4)(b) of this section. The department must be notified of any leaks into the leak detection system within seven days after detecting the leak and immediately remove any accumulated liquid. Notification shall include a schedule for determining the cause of the leak and any remedial measures or increased ground water monitoring to assure that the performance standards of subsection (2)(a) of this section are met;

- (iii) The presence of leachate in, and proper functioning of, leachate collection and removal systems; and
- (iv) Proper functioning of engineered wind dispersal control systems.
- (h) Record the inspections in the log as required in WAC 173-306-405(6).
- (6) Closure and post-closure requirements.
 - (a) At final closure of the monofill or upon closure of any cell, the owner or operator shall cover the monofill or cell with a final cover designed and constructed according to subsection (4)(d) of this section and shall comply with all closure requirements of WAC 173-306-410;
 - (b) After final closure, the owner or operator must comply with all post-closure requirements of WAC 173-306-410, and must:
 - (i) 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;
 - (ii) Prevent run-on and run-off from eroding or otherwise damaging the final cover;
 - (iii) Maintain and monitor the leak detection system in accordance with subsection (4)(b) of this section, where such a system is present; the owner or operator shall immediately remove any accumulated liquid and notify the department of any leaks into the leak detection system within seven days after detecting the leak. Notification shall include a schedule for determining the cause of the leak and any remedial measures or increased ground water monitoring to assure that the performance standards of subsection (2)(a) of this section are met;
 - (iv) Operate the leachate collection and removal system; and
 - (v) Maintain and operate the monitoring systems of WAC 173-306-500.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-440, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-440, filed 4/30/90, effective 5/31/90.]

WAC 173-306-450 Liner and final cap design and construction standards. (1)

Applicability. This section applies to owners or operators of facilities that monofill combined or separated special incinerator ash, except as WAC 173-306-400 provides otherwise.

(2) Liner design.

(a) Owners or operators who monofill combined or separated fly ash and bottom ash shall comply with the requirements of Design A, subsection (3) of this section.

(b) Owners or operators who demonstrate ability to maintain the permeability requirements of Design B during an eighteen-month demonstration period may seek approval to use Design B following the demonstration period.

(3) Design A.

(a) General requirements. Owners or operators shall comply with the liner inspection requirements of WAC 173-306-440 (4)(d) and siting and design requirements of WAC 173-306-440 (3) and (4). In addition, owners or operators shall:

(i) Thoroughly compact ash residues. Owners or operators shall compact ash residues thoroughly by using compaction equipment.

(ii) Provide daily cover to prevent fugitive dust emissions and run-on and run-off discharges. Cover material may include high density polyethylene or any department approved equivalent material.

(b) Liner design. The liner must be an engineered liner of the following design from bottom to top:

(i) 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. The foundation slope must be a minimum of two percent;

(ii) Next, a single composite liner consisting of an engineered soil liner at least two feet thick that has permeability of 1×10^{-7} cm/sec or the equivalent upon which a synthetic liner of sixty mils high density polyethylene or other material of equivalent mechanical strength and chemical resistance is placed. Liner slopes must be a minimum of four percent;

(iii) Next, a leachate detection system consisting of a minimum of twelve inches of sand or equivalent material with a permeability greater than or equal to 1×10^{-2} cm/sec with drain pipes;

(iv) Next, a synthetic liner of sixty mils high density polyethylene or other material of equivalent mechanical strength and chemical resistance;

(v) Next, a leachate collection and removal system that consists of a minimum of twelve inches of sand or equivalent material with a permeability greater than or equal to 1×10^{-2} cm/sec with drain pipes; and

(vi) A fabric filter placed between the drainage layer and the first lift of special incinerator ash.

(4) Design B. Owners or operators who monofill combined or separated fly and bottom ash shall comply with these design criteria.

(a) General requirements. Owners or operators shall comply with the liner inspection requirements of WAC 173-306-440 (4)(d) and siting and design requirements of WAC 173-306-440 (3) and (4). In addition, owners or operators shall:

(i) Compact ash residues to a permeability of 1×10^{-5} cm/sec. All ferrous material will be removed using magnetic separation or an equivalent method approved by the department so that the pozzolanic effect of compacted ash will not be impeded.

(ii) Lifts will be tested for ash permeability using guidance established by the department. Lift thickness before compaction may not exceed one foot.

(A) Design B liner design may be used as long as lift permeability tests at 1×10^{-5} cm/sec or less.

(B) If the ash permeability requirement cannot be maintained, the owner or operator shall immediately close the Design B cell according to the closure requirements of WAC 173-306-410 and subsection (5) of this section and resume disposal activities using the Design A liner.

(iii) Provide daily cover to prevent fugitive dust emissions and run-on and run-off discharges. Cover material may include high density polyethylene or any department approved equivalent material.

(b) Liner design. The liner must be an engineered liner of the following design:

(i) 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. Foundation slope must be a minimum of two percent;

(ii) Next, a single composite liner that consists of an engineered soil liner at least two feet thick that has a permeability of 1×10^{-7} cm/sec or the equivalent upon which a synthetic liner of sixty mils high density polyethylene or other material of equivalent mechanical strength and chemical resistance rests. Liner slopes must be a minimum of four percent;

(iii) Next, a leachate collection system that consists of a minimum of twelve inches of sand or equivalent material with a permeability greater than or equal to 1×10^{-2} cm/sec with drain pipes; and

(iv) A fabric filter placed between the drainage layer and the first layer of special incinerator ash.

(5) Final cap design. All owners or operators of special incinerator ash monofills shall comply with the following design requirements.

(a) The final cap shall maintain a surface slope between two and five percent and side slope of no more than thirty-three percent and shall consist, from bottom to top, of:

(i) Two feet of ash, well graded (with ferrous material removed and having proportional size distribution of ash particles) and thoroughly compacted;

(ii) Next, a layer, system, or mechanism capable of detecting cap failure;

(iii) Next, a fabric filter overlaid by at least two feet of clay that has a permeability of 1×10^{-7} cm/sec upon which a synthetic liner of sixty mils high density polyethylene or other material of equivalent mechanical strength and chemical resistance rests; and

(iv) Eighteen inches of native soil covered by six inches of topsoil.

(b) Final cap inspections must be done in accordance with the liner inspection requirements of WAC 173-306-440 (4)(d).

(c) In case of cap failure, immediately notify the department with a plan for remedial action.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-450, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-450, filed 4/30/90, effective 5/31/90.]

WAC 173-306-470 Financial assurance. (1) Applicability.

These standards apply to all new and expanded monofill facilities, and to existing monofill facilities that have not closed before or within twelve months after the effective date of this chapter.

(2) Cost estimate for closure.

(a) Each owner or operator shall prepare a written closure cost estimate as part of the facility closure plan. The closure cost estimate must be in current dollars and must represent the cost of closing the facility in accordance with the closure requirements in WAC 173-306-410.

(i) The cost estimate must be based on a reasonable cost estimate for completing design, purchase, construction, and other activities as identified in the facility closure plan as required under WAC 173-306-410;

(ii) The closure plan shall project intervals for withdrawal of closure funds from the closure financial assurance instrument to complete the activities identified in the approved closure plan;

(iii) The closure cost estimate may not be reduced by allowance for salvage value of equipment, ash, or the resale value of property or land.

(b) Each owner or operator must prepare a new closure cost estimate in accordance with (a) and (c) of this subsection whenever:

(i) Changes in operating plans or facility design affect the closure plan;

(ii) A change in the expected year of closure affects the closure plan; or

(iii) The department directs the owner or operator to revise the closure plan or closure cost estimate.

(c) Each owner or operator shall review the closure cost estimate thirty days before the anniversary date of the date on which the first closure cost estimate was prepared. The review shall examine all factors, including inflation, involved in estimating the closure cost. Any cost changes must be factored into a revised closure cost estimate. The revised cost estimate must be submitted to the department.

(d) During the operating life of the facility, and when the estimate has been adjusted in accordance with (c) of this subsection, the owner or operator shall make available for review the closure cost estimate prepared in accordance with (a) and (b) of this subsection.

(e) The department shall evaluate each cost estimate and may accept, or at its discretion require revision of, the cost estimate in accordance with its evaluation.

(f) The department may require the facility owner or operator to adjust the cost estimate in accordance with the department's review and direction.

(3) Financial assurance account for closure. Each owner or operator of special incinerator ash monofill facility shall establish a financial assurance account in an amount that, over the life of the facility, will accumulate funds at a rate that will enable premature closure during the monofill life. The total amount must be equal to the closure cost estimate prepared in accordance with subsection (2) of this section.

(a) Applicable monofill facilities that accept special incinerator ash must choose from the following financial assurance account options or combination of options:

(i) For monofill disposal facilities owned or operated by municipal corporations, the closure and post-closure reserve account must be handled in one of the following ways:

(A) Cash and investments accumulated and restricted for closure with an equivalent amount of fund balance reserved in the fund accounting for special incinerator ash activity; or published Budget Accounting Reporting System Manual; or

(B) The cash and investments held in a nonexpendable trust fund.

(ii) Closure trust fund established with an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The wording of the trust agreement must be acceptable to the department. The purpose of the closure trust fund is to receive and manage any funds paid by the owner or operator and to disburse those funds only for closure activities as identified in the approved closure plan.

(b) For private disposal facilities that accept public waste, established closure financial assurance accounts may not constitute an asset of the facility owner or operator.

(c) Any income in excess of the closure cost estimate accruing to the established closure financial assurance account will be used at the owner's discretion.

(d) Excess moneys remaining in the closure financial assurance account after the department has certified the completion of closure as identified in WAC 173-306-410 (4)(f)(i) must be returned to the owner or operator.

(4) Cost estimate for post-closure.

(a) Each owner or operator shall prepare a written post-closure cost estimate as part of the facility post-closure plan. The post-closure cost estimate must be in current dollars and must represent the total cost of completing post-closure activities for the facility for a thirty-year post-closure period in accordance with the post-closure requirements in WAC 173-306-410.

(i) The post-closure cost estimate must be based on a reasonable cost estimate for completing post-closure monitoring, maintenance, and other activities identified in the approved facility post-closure plan as required under WAC 173-306-410;

(ii) The post-closure plan shall project intervals for withdrawal of post-closure funds from the post-closure financial assurance instrument to complete the activities identified in the approved post-closure plan;

(iii) The post-closure cost estimate may not be reduced by allowance for salvage, value of equipment, ash, or the resale value of property or land.

(b) Each owner or operator shall prepare a new post-closure costs estimate for the remainder of the post-closure care thirty-year period in accordance with (a) and (c) of this subsection, whenever:

(i) Change in the post-closure plan increases the cost of post-closure care; or

(ii) The department directs the owner or operator to revise the post-closure plan or post-closure cost estimate.

(c) Each owner or operator shall review the post-closure cost estimate thirty days before the annual date on which the first post-closure cost estimate was prepared. The review shall examine all factors, including inflation, involved in estimating the post-closure cost. Any cost changes must be factored into a revised post-closure cost estimate and the revised cost estimate must be submitted to the department.

(d) During the operating life of the facility, the owner or operator shall keep the latest post-closure cost estimate prepared in accordance with (a) and (b) of this subsection available for review.

(5) Financial assurance account for post-closure. Each owner or operator of an applicable monofill facility shall establish a financial assurance account in an amount equal to the post-closure cost estimate prepared in accordance with subsection (4) of this section.

(a) Owners or operators of applicable monofill facilities that accept special incinerator ash shall choose from the following options or combinations of options for accounting for the financial assurance account:

(i) For monofill disposal facilities owned or operated by municipal corporations, the post-closure reserve must be handled in one of the following ways:

(A) Cash and investments accumulated and restricted for post-closure with an equivalent amount of fund balance reserved in the fund accounting for special incinerator ash activity; or

(B) Cash and investments held in a nonexpendable trust fund.

(ii) Post-closure trust fund established with an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The wording of the trust agreement must be acceptable to the department. The purpose of the post-closure trust fund is to receive and manage any funds paid by the owner or operator and to disburse those funds only for post-closure activities as identified in the approved post-closure plan.

(b) For private disposal facilities that accept public waste, established post-closure financial assurance accounts may not constitute an asset of the facility owner or operator.

(c) Any income accruing to the established post-closure financial assurance account will be used at the owner's discretion.

(d) Excess moneys remaining in the post-closure financial assurance account after the department has certified the completion of post-closure requirements identified in WAC 173-306-410 (7)(c) must be returned to the owner or operator.

(6) Closure/post-closure financial assurance account establishment and reporting.

(a) Closure and post-closure financial assurance funds must be generated at each facility by transferring a percentage of the facility user fees to the selected financial assurance instrument at the agreed upon rate to be specified in the closure and post-closure plans so that adequate closure and post-closure funds will be generated to ensure full implementation of the approved closure and post-closure plans.

(b) Each applicable facility owner or operator shall establish a procedure with the financial assurance instrument trustee for notification of nonpayment of funds to be sent to the Department of Ecology, Solid and Hazardous Waste and Financial Assistance Program, P.O. Box 47600, Olympia, WA 98504-7600.

(c) Each owner or operator shall file with the department an annual audit of the financial assurance accounts established for closure and post-closure activities, and a statement of the percentage of user fees diverted to the financial assurance instruments.

(i) For monofill disposal facilities owned and operated by municipal corporations, the closure reserve account, including each of the post-closure care years, must be audited according to the audit schedule of the office of state auditor and must be filed with the department of ecology.

(ii) For monofill disposal facilities not owned or operated by municipal corporations:

(A) Annual audits must be conducted by a certified public accountant licensed in the state of Washington, and must be filed with the department no later than March 31 of each year for the previous calendar year, including each of the post-closure care years.

(B) The audit shall also include calculations that demonstrate the proportion of closure completed during the preceding year as specified in the closure and post-closure plans.

(d) Owners or operators of an existing monofill disposal facility may submit to the department a written request with the annual audit asking for a waiver from applying user fees to generate the moneys necessary for the closure and/or post-closure financial assurance account.

(i) The waiver request should provide documentation to demonstrate the facility user fees are prohibitively high, and should include alternate methods for funding the facility's closure and/or post-closure financial assurance account;

(ii) The waiver request review procedure will be conducted according to WAC 173-306-900.

(7) Authorization for financial assurance account fund withdrawal for closure and post-closure activities.

(a) Each owner or operator will withdraw funds from the closure and/or post-closure financial assurance instrument as specified in the approved closure/post-closure plans;

(b) If the withdrawal of funds from the financial assurance instrument exceeds by more than five percent the withdrawal schedule stated in the approved closure and/or post-closure plan, the closure and/or post-closure plan must be amended.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-470, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-470, filed 4/30/90, effective 5/31/90.]

WAC 173-306-480 Treatment (including solidification and stabilization) standards.

(1) Applicability. The standards of this section apply to treatment, as defined in WAC 173-306-

100, of any special incinerator ash subject to this chapter. These standards do not apply to the manual or mechanical removal of ferrous metal from ash residues.

(2) Requirements. All owners and operators shall design, construct, operate, maintain, and close treatment facilities so as to:

(a) Meet the general facility standards of WAC 173-306-405;

(b) Only treat special incinerator ash in tanks, reaction vessels, furnaces (such as glass furnaces), containers, or totally enclosed treatment facilities (such as pipelines). No treatment process may be designed to occur in ash piles, surface impoundments, or land treatment facilities;

(i) The department shall review and approve tank and reaction vessel design. All tanks and reaction vessels will be closed or otherwise designed to avoid emissions of dusts or vapors to the atmosphere. Tanks and reaction vessels must be of sufficient thickness and corrosion resistance to prevent rupture;

(ii) Totally enclosed treatment facilities must be in good condition and of a design and construction to avoid rupture under maximum operating conditions and must be capable of being inspected periodically; and

(iii) Furnaces must be in good condition structurally, designed and operated to accept only special incinerator ash and capable of being inspected periodically. The department may review and approve furnace design.

(c) Meet the performance standards of WAC 173-306-440(2). The department shall specify the type and frequency of all sampling and monitoring necessary to assure compliance.

(d) Assure that treatment of special incinerator ash occurs under conditions spelled out in prototype, pilot plant or full scale operation. The design must be approved by the department and the department shall specify operating conditions.

(e) Control fugitive dust emissions in the handling of special incinerator ash by:

(i) Collecting and handling in enclosed buildings or the equivalent (e.g., covered conveyors and transfer points); and

(ii) Adding moisture, dust suppressants, or other methods as necessary.

(f) Comply with chapter 296-62 WAC, the general occupational health standards.

(g) Assure that treated special incinerator ash is disposed of according to this chapter or chapter 173-304 WAC, the minimum functional standards for solid waste, if the residues are designated as solid waste.

(h) Close the treatment facility according to the requirements of WAC 173-306-410.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-480, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-480, filed 4/30/90, effective 5/31/90.]

WAC 173-306-490 Ash utilization standards. (1) Applicability.

(a) These standards apply to persons who utilize special incinerator ash including:

(i) Generators of special incinerator ash;

(ii) Owners and operators of disposal facilities; and

(iii) Persons who neither generate nor dispose of special incinerator ash but are involved in the reuse or utilization of special incinerator ash.

(b) These standards do not apply to the following wastes and waste processes:

(i) Ferrous metal separation from ash;

- (ii) Special incinerator ash that is reinjected into the incinerator or energy-recovery facility from which it was produced;
- (iii) Reclamation of nonferrous metals.
- (2) Standards.
 - (a) Accumulation before reuse or utilization.
 - (i) All ash for utilization must be stored in totally enclosed buildings.
 - (ii) Floor or surface drains serving storage areas may not be connected to uncontaminated storm water run-off drains. Contaminated water must be processed according to WAC 173-306-200 (3)(c)(ii).
 - (iii) All ash not utilized within one calendar year of generation is subject to:
 - (A) The management plan requirements of WAC 173-306-200 if a generator is accumulating the ash; or
 - (B) The permitting and facility standard requirements of WAC 173-306-300 and 173-306-400, if a disposal facility is accumulating the ash.
 - (b) Use constituting disposal. Use constituting disposal is applying ash to the land or placing ash on the land in a manner constituting disposal, or applying ash contained in a product to the land or placing ash products on the land in a manner constituting disposal. Placement on the land includes placement in water (such as in reef construction).
 - (i) Persons wishing to reuse or utilize ash in a manner constituting disposal shall apply for a permit under WAC 173-306-310.
 - (ii) Persons reusing or utilizing ash in a manner constituting disposal are subject to the following sections of the general facility standards:
 - (A) WAC 173-306-405(2);
 - (B) WAC 173-306-405 (3)(b);
 - (C) WAC 173-306-405 (5)(a), (b), (c), and (f); and
 - (D) WAC 173-306-405(7).
 - (iii) The department will base its decision on whether to issue a permit upon the following factors:
 - (A) The effectiveness of the utilized ash or ash product for the claimed use;
 - (B) The degree to which the utilized ash is like an analogous product;
 - (C) The extent to which the utilized ash or ash product minimizes loss or escapes to the environment;
 - (D) The extent to which the utilized ash or ash product impacts public health, the environment, and employee health given a reasonable worst case exposure, risk assessment analyses and compliance with the performance standards of WAC 173-306-440(2);
 - (E) The extent to which an end market for the utilized ash and ash product is guaranteed;
 - (F) The time period between generating the ash and utilization;
 - (G) The degree to which the end uses (and users) can be tracked and recorded; and
 - (H) Other factors as appropriate.
 - (iv) The department may require that applicants apply for a demonstration permit or class use permit under WAC 173-306-320, if available information exists to satisfy the informational requirements of (b)(ii) and (iii) of this subsection.
 - (c) Utilization as ingredients in industrial products, or as effective substitutes. The utilization of ash in industrial products or as effective substitutes for commercial products are activities that ordinarily are not considered to be waste management because they are like normal

production processes and/or the products are used like commercial products. (E.g., ash as a substitute in cement construction blocks is an example.)

(i) The department may grant requests for classifying that type of reuse or utilization for solely commercial purposes, if:

(A) The applicant shows that the ash or ash products are recycled in a manner so that they closely resemble products or raw materials rather than waste; and

(B) The applicant addresses the factors of (b)(iii) of this subsection (except for (2)(b)(iii)(G)).

(ii) Public review of the decision to grant or deny such a request must be conducted according to WAC 173-306-900 (4), (5), and (6).

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-490, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-490, filed 4/30/90, effective 5/31/90.]

WAC 173-306-495 Other methods of ash disposal. (1) Applicability. This section applies to other methods of ash disposal not specifically identified elsewhere in this chapter, nor excluded from this chapter.

(2) Requirements. Owners and operators of other methods of ash disposal shall:

(a) Comply with the requirements in WAC 173-306-405;

(b) Obtain a permit under WAC 173-306-300 from the department, by submitting an application containing information required in WAC 173-306-330, and other information as may be required by the department including:

(i) Preliminary engineering reports and plans and specifications; and

(ii) A closure plan.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-495, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-495, filed 4/30/90, effective 5/31/90.]

WAC 173-306-500 Monitoring and sampling methods. (1) Applicability. These requirements apply to owners and operators of incinerators, energy recovery facilities, disposal facilities, and management facilities who are required to perform ash sampling, analyses and testing, ground water and air quality monitoring under this chapter.

(2) Ground water monitoring requirements.

(a) The ground water monitoring system:

(i) Must consist of at least one background or up-gradient well and three down-gradient wells, installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer and all hydraulically connected aquifers below the active portion of the facility.

(ii) Must represent the quality of background water that has not been affected by leakage from the active area; and

(iii) Must represent the quality of ground water passing the point of compliance.

Additional wells may be required by the department in complicated hydrogeological settings or to define the extent of contamination detected.

(b) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must allow collection of representative ground water samples. Wells must be constructed in such a manner as to prevent contamination of the samples, the sampled strata, other substrata aquifers and waterbearing strata. Construction must be accomplished in accordance with chapter 173-160 WAC, minimum standards for construction and maintenance of water wells.

(c) The ground water monitoring program shall include, at a minimum, procedures and techniques for:

- (i) Decontamination of drilling and sampling equipment;
- (ii) Sample collection;
- (iii) Sample preservation and shipment;
- (iv) Analytical procedures and quality assurance;
- (v) Chain of custody control; and
- (vi) Procedures to ensure employee health and safety during well installation and monitoring.

(d) Sample constituents.

(i) Owners or operators of all facilities shall test for the following parameters:

- (A) Temperature;
- (B) Conductivity;
- (C) pH;
- (D) Chloride;
- (E) Nitrate, nitrite, and ammonia as nitrogen;
- (F) Sulfate;
- (G) Dissolved iron, cadmium, lead, and mercury;
- (H) Dissolved zinc and manganese;
- (I) Chemical oxygen demand;
- (J) Total organic carbon;
- (K) Calcium and sodium; and
- (L) Gamma radiation.

(ii) The department may specify additional or fewer constituents depending upon the leachate analyses, the composition of the ash, and other information.

(iii) To detect the parameters of (d)(i) of this subsection, EPA Publication Number SW-846, "Test methods for evaluating solid waste physical/chemical methods" must be used.

(e) The ground water monitoring program must include a determination of the ground water surface elevation each time ground water is sampled.

(f) The owner or operator shall use a department-approved statistical procedure for determining whether a significant change over background has occurred.

(g) The owner or operator must determine ground water quality at each monitoring well at the compliance point at least quarterly from start-up through the post-closure care period. The owner or operator must express the ground water quality at each monitoring well in a form necessary for the determination of statistically significant increases.

(h) The owner or operator must determine and report the ground water flow rate and direction in the uppermost aquifer at least annually.

(i) If the owner or operator determines that there is a statistically significant increase for parameters or constituents at any monitoring well at the compliance point, the owner or operator must:

(i) Notify the department of this finding in writing within seven days of receipt of the sampling data. The notification must indicate which parameters or constituents have shown statistically significant increases;

(ii) Immediately resample the ground water in all monitoring wells and determine the concentration of all constituents listed in the definition of contamination in WAC 173-306-100 including additional constituents identified in the permit and whether there is a statistically significant increase such that the ground water performance standard has been exceeded. The department must be notified within fourteen days of receipt of the sampling data.

(j) The department may require modifications to the disposal facility, the plan of operation or the permit, including facility closure, if the performance standard of WAC 173-306-440 (2)(a) is exceeded and, in addition, may revoke any permit and require reapplication under WAC 173-306-310.

(3) Modifications. An owner or operator required to modify the facility or plan of operation under this section must first obtain approval from the department and must at a minimum:

(a) Implement modifications that reduce contamination and, if possible, prevent constituents from exceeding their respective concentration limits at the compliance point by removing the constituents, treating them in place or other remedial measures; and

(b) Begin modifications according to a written schedule after the ground water performance standard is exceeded.

(4) Ash and soil sampling, and analysis.

(a) Ash residue samples taken for the purpose of determining their designation status as a special incinerator ash waste must be conducted according to guidance established by the department. Ash samples taken for the purpose of determining carbon residue and for determining dioxins and dibenzofuran content, if different from samples taken for designation status under chapter 173-303 WAC, must also be conducted according to guidance established by the department. Representative sampling methods and frequency as developed in guidelines by the department must be employed.

(b) Ash samples must be analyzed as follows:

(i) For designation purposes, as a special incinerator ash waste, the samples must be analyzed according to:

(A) "Chemical testing methods for complying with the state of Washington dangerous waste regulation," WDOE 83-13;

(B) "Biological testing methods," WDOE 80-12;

(C) "Test methods for evaluating solid waste, physical/chemical methods," SW 846.

(ii) For chlorinated-p-dioxins and dibenzofurans, 40 CFR Part 261 Appendix X is adopted by reference.

(iii) For cadmium in soil, method 7130 or 7131 cited in "Test methods for evaluating solid waste, physical/chemical methods," SW 846.

(5) Ambient air quality sampling for lead. Ambient lead concentrations must be measured and reported according to 40 CFR Part 50 Appendix G, which is adopted by reference, except that the sampling frequency will be determined by the department: Provided, That the department has not adopted "Compendium of methods for the determination of inorganic compounds in ambient air" (EPA/625/R-96/01a, July 1999).

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-500, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-500, filed 4/30/90, effective 5/31/90.]

WAC 173-306-900 Variances. (1) Any person applying for an ash disposal permit or who owns or operates an ash generation or disposal facility may apply to the department for a variance from any section of this chapter. The application must be accompanied by information such as the department may require.

(2) The applicant shall provide usual and reasonable public notification within the area that will be impacted, including publication in the area's major general circulation newspaper and mailing notices to surrounding property owners. Proof of compliance must be submitted with the variance application.

(3) The department shall give public notice of an application and allow a thirty-day public comment period. Notice must be mailed to persons who have written to the department asking to be notified of all variance requests and shall indicate that a public hearing may be requested.

(4) In considering a variance request, the department shall consider:

(a) The relative interests of the applicant, other property owners likely to be affected by the applicant's activity and the general public;

(b) If the ash handling practices or facility location protect public health, worker health, safety or the environment to a degree equal to or greater than the standard from which a variance is requested;

(c) Whether compliance with the rule from which the variance is sought would produce hardship without equal or greater benefits to the public;

(d) Whether compliance with the rule will require spreading of costs over a considerable time period; and

(e) Whether the timetable is for a period that is sufficient to comply with this chapter.

(5) The department shall approve or disapprove a variance request within ninety days of receipt unless the applicant and the department agree to a continuance.

(6) Any variance granted under this section may be renewed. Application for a variance renewal must be made at least sixty days before the expiration of the variance and must follow the application process of subsections (1) through (5) of this section.

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-900, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-900, filed 4/30/90, effective 5/31/90.]

WAC 173-306-9901 Maximum contaminant levels for ground water. Maximum contaminant levels for ground water are those specified in chapter 248-54 WAC, as the primary drinking water standards. Analytical methods for these contaminants may be found in the Code of Federal Regulations, 40 CFR Part 141. (These contaminant levels are to be considered interim levels for the purpose of regulating disposal facilities and must be used until the department establishes ground water quality standards for all types of activities impacting ground water.)

[Statutory Authority: Chapter 70.138 RCW. 00-19-018 (Order 00-17), § 173-306-9901, filed 9/8/00, effective 10/9/00; 90-10-047, § 173-306-9901, filed 4/30/90, effective 5/31/90.]

Appendix I

Environmental Protection Agency

40CFR Parts 257 & 258
Solid Waste Disposal Facility Criteria

PART 258-CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

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Subpart F-Closure and Post-Closure Care

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Subpart G-Financial Assurance Criteria

- 258.70 Applicability and effective date.
- 258.71 Financial assurance for closure.
- 258.72 Financial assurance for post-closure care.
- 258.73 Financial assurance for corrective action.
- 258.74 Allowable mechanisms.
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APPENDIX I TO PART 258-CONSTITUENTS FOR DETECTION MONITORING
APPENDIX II TO PART 258-LIST OF HAZARDOUS AND ORGANIC CONSTITUENTS
AUTHORITY: 33 U.S.C. 1345(d) and (e); 42 U.S.C. 6902(a), 6907, 6912(x), 6944, 6945(c) and 6949a(c).

SOURCE: 56 FR 51016. Oct. 9, 1991, unless otherwise noted.

§ 258.71

MSWLF units, except owners or operators who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

(b) The requirements of this section are effective April 9, 1997 except for MSWLF units meeting the conditions of §258.1(f)(1), in which case the effective date is October 9, 1997.

(c) The Director of an approved State may waive the requirements of this section for up to one year until April 9, 1998 for good cause if an owner or operator demonstrates to the Director's satisfaction that the April 9, 1997 effective date for the requirements of this section does not provide sufficient time to comply with these requirements and that such a waiver will not adversely affect human health and the environment.

[56 FR 51029, Oct. 9, 1991, as amended at 60 FR 52342, Oct. 8, 1995; 61 FR 60337, Nov. 27, 1996]

§258.71 Financial assurance for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF units ever requiring a final cover as required under § 258.60 at any time during the active life in accordance with the closure plan. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of all MSWLF unit ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 258.60(c) (2) of this part).

(2) During the active life of the MSWLF unit, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes to the closure plan or MSWLF unit conditions increase the maximum cost of closure at any time during the remaining active life.

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(4) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF unit. The owner or operator must notify the State Director that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish financial assurance for closure of the MSWLF unit in compliance with § 258.74. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with § 258.60 (h) and (i).

[56 FR 51029, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§ 258.72 Financial assurance for post-closure care.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit in compliance with the post-closure plan developed under § 258.61 of this part. The post-closure cost estimate used to demonstrate financial assurance in paragraph (b) of this section must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the MSWLF unit and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the post-closure plan or MSWLF unit conditions action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (k) of this section, divided by the number of years in the pay-in period as defined in paragraph (a) (2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = [\text{CE} - \text{CV}]/\text{Y}$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in paragraph (k) of this section, divided by the number of years in the corrective action pay-in period as defined in paragraph (a) (2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = [\text{RB} - \text{CV}]/\text{Y}$$

where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(5) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997, or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f) (1)), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(6) If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual

payments made according to the specifications of this paragraph and paragraph (a) of this section, as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the State Director that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of §§258.71(b), 258.72(b), or 258.73(b).

(b) Surety Bond Guaranteeing Payment or Performance (1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of this paragraph. The bond must be effective before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997, or October 9, 1997 for MSWLF units meeting the conditions of §258.1(f)(1)), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. The owner or operator must notify the State Director that a copy of closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. 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. The owner or operator must notify the State Director that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the MSWLF unit whenever final closure occurs or to provide post-closure care for the MSWLF unit whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in paragraph (k) of this section. 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.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the State Director that the documentation of the justification for

reimbursement has been placed in the operating record and that reimbursement has been received.

(5) 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 that such consent is not unreasonably refused.

(6) The insurance 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 cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) For insurance policies providing coverage for post-closure care, 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.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this section or if the owner or operator, is no longer required to demonstrate financial responsibility in accordance with the requirements of § 258.71(b), § 258.72(b) or § 258.73(b).

(e) **Corporate financial test** An owner or operator that satisfies the requirements of this paragraph (e) may demonstrate financial assurance up to the amount specified in this paragraph (e):

(1) **Financial component.** (i) The owner or operator must satisfy one of the following three conditions:

(A) A current rating for its senior unsubordinated debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's: or

(D) If the chief financial officer's letter provides a demonstration that the firm has assured for environmental obligations as provided in paragraph (e) (1) (ii) (B) of this section, then the letter shall include a report from the independent certified public accountant that verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements, how these obligations have been measured and reported, and that the tangible net worth of the firm is at least \$10 million plus the amount of any guarantees provided.

(ii) An owner or operator must place the items specified in paragraph (e)(2)(i) of this section in the operating record and notify the State Director that these items have been placed in the operating record before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997 or October 9, 1997 for MSWLF units meeting the conditions of §258.1(1)(1)), whichever is later in the case of closure, and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(iii) After the initial placement of items specified in paragraph (e) (2) (i) of this section in the operating record, the owner or operator must annually update the information and place updated information in the operating record within 90 days following the close of the owner or operator's

fiscal year. The Director of a State may provide up to an additional 45 days for an owner or operator who can demonstrate that 90 days is insufficient time to acquire audited financial statements. The updated information must consist of all items specified in paragraph (e) (2) (i) of this section.

(iv) The owner or operator is no longer required to submit the items specified in this paragraph (e)(2) or comply with the requirements of this paragraph (e) when:

(A) He substitutes alternate financial assurance as specified in this section that is not subject to these recordkeeping and reporting requirements; or

(B) He is released from the requirements of this section in accordance with §258.71(b), §258.72(b), or §258.73(b).

(v) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must, within 120 days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of this section, place the required submissions for that assurance in the operating record, and notify the State Director that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(vi) The Director of an approved State may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require at any time the owner or operator to provide reports of its financial condition in addition to or including current financial test documentation as specified in paragraph (e) (2) of this section. If the Director of an approved State finds that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance that meets the requirements of this section.

(3) *Calculation of costs to be assured.* When calculating the current cost estimates for closure, post-closure care, corrective action, or the sum of the combination of such costs to be covered, and any other environmental obligations assured by a financial test referred to in this paragraph (e), the owner or operator must include cost estimates required for municipal solid waste management facilities under this part, as well as cost estimates required for the following environmental obligations, if it assures them through a financial test: obligations associated with UIC facilities under 40 CFR part 144, petroleum underground storage tank facilities under 40 CFR part 280, PCB storage facilities under 40 CFR part 761, and hazardous waste treatment, storage, and disposal facilities under 40 CFR parts 264 and 265.

(f) Local government financial test.

An owner or operator that satisfies the requirements of paragraphs (f) (1) through budget. For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18 assures compliance with this public notice component.

(3) *Recordkeeping and reporting requirements.* (i) The local government owner or operator must place the following items in the facility's operating record:

(A) A letter signed by the local government's chief financial officer that:

(1) Lists all the current cost estimates covered by a financial test, as described in paragraph (f) (4) of this section;

(2) Provides evidence and certifies that the local government meets the conditions of paragraphs (f) (1) (i), (f) (1) (ii), and (f) (1) (iii) of this section; and

(3) Certifies that the local government meets the conditions of paragraphs (f) (2) and (f) (4) of this section.

(B) The local government's independently audited year-end financial statements for the latest fiscal year (except for local governments where audits are required every two years where unaudited statements may be used in years when audits are not required), including the unqualified opinion of the auditor who must be an independent, certified public accountant or an appropriate State agency that conducts equivalent comprehensive audits:

(C) A report to the local government from the local government's independent certified public accountant (CPA) or the appropriate State agency based on performing an agreed upon procedures engagement relative to the financial ratios required by paragraph (f) (1) (i) (B) of this section, if applicable, and the requirements of paragraphs (f) (1) (ii) and (f) (i) (iii) (C) and (D) of this section. The CPA or State agency's report should state the procedures performed and the CPA or State agency's findings; and

(D) A copy of the comprehensive annual financial report (CAFR) used to comply with paragraph (f)(2) of this section or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

(ii) The items required in paragraph (f)(3)(i) of this section must be placed in the facility operating record as follows:

(A) In the case of closure and post-closure care, either before the effective date of this section, which is April 9, 1997, or prior to the initial receipt of waste at the facility, whichever is later, or

(B) In the case of corrective action, not later than 120 days after the corrective action remedy is selected in accordance with the requirements of § 258.58.

(iii) After the initial placement of the items in the facility's operating record, the local government owner or operator must update the information and place the updated information in the operating record within 180 days following the close of the owner or operator's fiscal year.

(iv) The local government owner or operator is no longer required to meet the requirements of paragraph (f)(3) of this section when:

(A) The owner or operator substitutes alternate financial assurance as specified in this section; or

(B) The owner or operator is released from the requirements of this section in accordance with §258.71(b), 258.72(b), or 258.73(b).

(v) A local government must satisfy the requirements of the financial test at the close of each fiscal year. If the local government owner or operator no longer meets the requirements of the local government financial test it must, within 210 days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of this section, place the required submissions for that assurance in the operating record, and notify the State Director that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(vi) The Director of an approved State, based on a reasonable belief that the local government owner or operator may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the local government at any time. If the Director of an approved State finds, on days following receipt of the cancellation notice by the owner or operator and the State Director, obtain alternate financial assurance, place evidence of that alternate financial assurance in the facility operating record, and notify the State Director. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within 120 days of the cancellation

notice, obtain alternative assurance, place evidence of the alternate assurance in the facility operating record, and notify the State Director.

(4) If a corporate guarantor no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must, within 90 days, obtain alternative assurance, place evidence of the alternate assurance in the facility operating record, and notify the State Director. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within the next 30 days.

(5) The owner or operator is no longer required to meet the requirements of this paragraph (g) when:

(i) The owner or operator substitutes alternate financial assurance as specified in this section:
or

(ii) The owner or operator is released from the requirements of this section in accordance with §258.71(b), § 258.72 (b), or § 258.73 (b).

(h) *Local government guarantee.* An owner or operator may demonstrate financial assurance for closure, post-closure, and corrective action, as required by §§258.71, 258.72, and 258.73, by obtaining a written guarantee provided by a local government. The guarantor must meet the requirements of the local government financial test in paragraph (f) of this section, and must comply with the terms of a written guarantee.

(1) *Terms of the written guarantee.* The guarantee must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure, post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. The guarantee must provide that:

(i) If the owner or operator, fails to perform closure, post-closure care, and/or corrective action of a facility covered by the guarantee, the guarantor will:

(A) Perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required: or

(B) Establish a fully funded trust fund as specified in paragraph (a) of this section in the name of the owner or operator.

(ii) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the State Director. 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 State Director, as evidenced by the return receipts.

(iii) If a guarantee is cancelled, the owner or operator must, within 90 days following receipt of the cancellation notice by the owner or operator and the State Director, obtain alternate financial assurance, place evidence of that alternate financial assurance in the facility operating record, and notify the State Director. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within 120 days following the guarantor's notice of cancellation, place evidence of the alternate assurance in the facility operating record, and notify the State Director.

(2) *Recordkeeping and reporting.* (i) The owner or operator must place a certified copy of the guarantee along with the items required under paragraph (f) (3) of this section into the facility's operating record before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure, post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(ii) The owner or operator is no longer required to maintain the items specified in paragraph (h) (2) of this section when:

(A) The owner or operator substitutes alternate financial assurance as specified in this section: or

(d) Discounted cost estimates must be adjusted annually to reflect inflation and years of remaining life.

[61 FR 60339. Nov. 27, 1996]

APPENDIX I TO PART 258—CONSTITUENTS
FOR DETECTION MONITORING¹

| Common name ² | CAS RN ³ |
|---------------------------------------------------------|---------------------|
| Inorganic Constituents: | |
| (1) Antimony..... | (Total) |
| (2) Arsenic..... | (Total) |
| (3) Barium..... | (Total) |
| (4) Beryllium..... | (Total) |
| (5) Cadmium..... | (Total) |
| (6) Chromium..... | (Total) |
| (7) Cobalt..... | (Total) |
| (8) Copper..... | (Total) |
| (9) Lead..... | (Total) |
| (10) Nickel..... | (Total) |
| (11) Selenium..... | (Total) |
| (12) Silver..... | (Total) |
| (13) Thallium..... | (Total) |
| (14) Vanadium..... | (Total) |
| (15) Zinc..... | (Total) |
| Organic Constituents: | |
| (16) Acetone..... | 67-64-1 |
| (17) Acrylonitrile..... | 107-13-1 |
| (18) Benzene..... | 71-43-2 |
| (19) Bromochloromethane..... | 74-97-5 |
| (20) Bromodichloromethane.... | 75-27-4 |
| (21) Bromoform; Tribromomethane | 75-25-2 |
| (22) Carbon disulfide..... | 75-15-0 |
| (23) Carbon tetrachloride..... | 56-23-5 |
| (24) Chlorobenzene..... | 108-90-7 |
| (25) Chloroethane; Ethyl chloride | 75-00-3 |
| (26) Chloroform; Trichloromethane | 67-66-3 |
| (27) Dibromochloromethane; Chlorodibromomethane..... | 124-48-1 |
| (28) 1,2-Dibromo-3-chloropropane; DBCP | 96-12-8 |
| (29) 1,2-Dibromoethane; Ethylene dibromide; EDB..... | 106-93-4 |
| (30) o-Dichlorobenzene; 1,2- Dichlorobenzene..... | 95-50-1 |

| | |
|-------------------------------------------------------|----------|
| (31) p-Dichlorobenzene; 1,4 Dichlorobenzene..... | 106-46-7 |
| (32) TRANS-1,4-Dichloro-2-butene | 110-57-6 |
| (33) 1,1-Dichloroethane; Ethylidene chloride | 75-34-3 |
| (34) 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 |

| Common name ² | CAS RN ³ |
|------------------------------------------------------------------------|---------------------|
| (35) 1,1-Dichloroethylene; 1,1- Dichloroethane; Vinylidene chloride | 75-35-4 |
| (36) cis-1,2-Dichloroethylene; cis-1,2- Dichloroethene | 156-59-2 |
| (37) trans-1,2-Dichloroethylene; trans-1,2- Dichloroethene | 156-60-5 |
| (38) 1,2-Dichloropropane; Propylene dichloride | 78-87-5 |
| (39) cis-1,3-Dichloropropene ... | 10061-01-5 |
| (40) trans-1,3-Dichloropropene | 10061-02-6 |
| (41) Ethylbenzene | 100-41-4 |
| (42) 2-Hexanone; Methyl butyl ketone | 591-78-6 |
| (43) Methyl bromide; Bromomethane | 74-83-9 |
| (44) Methyl chloride; Chloromethane | 74-87-3 |
| (45) Methylene bromide; Dibromomethane | 74-95-3 |
| (46) Methylene chloride; Dichloromethane | 75-09-2 |
| (47) Methyl ethyl ketone; ME; 2-Butanone | 78-93-3 |
| (48) Methyl iodide; Iodomethane | 74-88-4 |
| (49) 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 |
| (50) Styrene | 100-42-5 |
| (51) 1,1,1,2-Tetrachloroethane. | 630-20-6 |
| (52) 1,1,2,2-Tetrachloroethane. | 79-34-5 |
| (53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene..... | 127-18-4 |
| (54) Toluene | 108-88-3 |
| (55) 1,1,1-Trichloroethane; Methylchloroform | 71-55-6 |
| (56) 1,1,2-Trichloroethane | 79-00-5 |
| (57) Trichloroethylene; Trichloroethene | 79-01-6 |
| (58) Trichlorofluoromethane; CFC-11 | 75-69-4 |
| (59) 1,2,3-Trichloropropane | 96-18-4 |
| (60) Vinyl acetate | 108-05-4 |
| (61) Vinyl chloride | 75-01-4 |
| (62) Xylenes | 1330-20-7 |

¹ This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1986,

as revised December 1987,1 includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

² Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

³ Chemical Abstracts Service registry number. Where “Total” is entered, all species in the ground water that contain this element are included.

APPENDIX II TO PART 258—LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS¹

| Common Name ² | CAS RN ³ | Chemical abstracts service index name ⁴ | Sug-gested methods ₅ | PQL (μ g/L) ⁶ |
|------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------|
| Acenaphthene..... | 83-32-9 | Acenaphthylene, 1,2-dihydro..... | 8100 8270 | 200 10 |
| Acenaphthylene..... | 208-96-8 | Acenaphthylene..... | 8100 8270 | 10 100 |
| Acetone | 67-64-1 | 2-Propanone | 8260 | 100 |
| Acetonitrile; Methyl cyanide..... | 75-05-8 | Acetonitrile | 8015 | 100 |
| Acetophenone | 98-86-2 | Ethanone, 1-phenyl-..... | 8270 | 10 |
| 2-Acetylaminofluorene; 2-AAF | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- | 8270 | 20 |
| Acrolein | 107-02-8 | 2-Propenal..... | 8030 8260 | 5 100 |
| Acrylonitrile..... | 107-13-1 | 2-Propenenitrile | 8030 8260 | 5 200 |
| Aldrin..... | 309-00-2 | 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro- (1α, 4α,4aβ, 5α,8α,8aβ)- | 8080 8270 | 0.05 10... |
| Allyl chloride | 107-05-1 | 1-Propene, 3-chloro- | 8010 8260 | 5 10 |
| 4-Aminobiphenyl..... | 92-67-1 | (1,11-Biphenyl]-4-amine..... | 8270 | 20 |

Appendix J
Assistant Attorney General Memo

Christine O. Gregoire
ATTORNEY GENERAL OF WASHINGTON
Ecology Division
629 Woodland Square Loop SE 4th Floor • Lacey WA 98503
Mailing Address: PO Box 40117 • Olympia WA 98504-0117

MEMORANDUM

March 21, 1995

TO: Jim Pendowski
Program Manager
Solid Waste Services

FROM: Tanya Barnett
Assistant Attorney General

**SUBJECT: Use of Letter of Credit to Fund Trust Account for Closure of
Municipal Solid Waste Landfill**

This is in response to your question about the legality of using a letter of credit to fund the trust account established for the closure of a municipal solid waste landfill. You have asked whether this practice is allowed under current statutes and regulations.

Your question is based on Waste Management, Inc.'s use of a letter of credit to demonstrate financial assurance for closure of the Greater Wenatchee Regional Landfill. WMI has obtained an irrevocable standby letter of credit from the Chicago branch of Banca Nazionale Del Lavoro, an Italian bank. Under this letter, the bank is obligated to pay \$732,000 -- presumably, the amount of the closure cost estimate -- into a trust fund established by WMI. It must make payment upon presentation by the Chelan-Douglas Health District of two documents, a sight draft and a signed statement that payment is consistent both with the closure plan for the landfill, and with Ecology regulations.

The letter expires one year after issuance, but is automatically renewed for successive one-year periods unless the bank notifies Chelan-Douglas Health District 120 days before the annual expiration date of its intention to terminate the letter. During that 120 days prior to expiration, Chelan-Douglas Health District may demand payment under the letter by presenting the two documents described above.

WMI has created a trust fund that holds this letter of credit as an asset. Moneys paid under the letter of credit will be deposited into the trust fund, and be disbursed in accordance with the terms of the trust agreement.

ATTORNEY GENERAL OF WASHINGTON

Jim Pendowski
March 21, 1995
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What The Law Requires

RCW70.95.215 provides as follows:

(1) By July, 1, 1987, each holder or applicant of a permit for a landfill disposal facility issued under this chapter shall establish a reserve account to cover the costs of closing the facility in accordance with state and federal regulations. The account shall be designed to ensure that there will be adequate revenue available by the projected date of closure. Landfill disposal facilities maintained on private property for the sole use of the entity owning the site shall not be required to establish a reserve account if, to the satisfaction of the department, they provide another form of financial assurance adequate to comply with the requirements of this section.

(2) By July 1, 1986, the department shall adopt rules under chapter 34.05 RCW to implement subsection (1) of this section. The rules shall include but not be limited to:

(a) Methods to estimate closure costs, including postclosure monitoring, pollution prevention measures, and any other procedures required under state and federal regulations;

(b) Methods to ensure that reserve accounts receive adequate funds, including:

(i) Requirements that the reserve account be generated by user fees. However, the department may waive this requirement for existing landfills if user fees would be prohibitively high;

(ii) Requirements that moneys be placed in the reserve account on a regular basis and that the reserve account be kept separate from all other accounts; and

(iii) Procedures for the department to verify that adequate sums are deposited in the reserve account; and

(c) Methods to ensure that other types of financial assurance provided, in accordance with subsection (1) of this section are adequate to cover the costs of closing the facility.

ATTORNEY GENERAL OF WASHINGTON

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Briefly summarized, RCW 70.95.215 requires that trust accounts be established to cover the cost of closing solid waste landfills. These accounts must be designed to ensure that adequate revenue will be available by the projected date of closure. Ecology is to adopt regulations to implement these requirements, including methods to ensure that the reserve accounts receive adequate funds. Specifically, these regulations are to require that the reserve account be generated by user fees, and that moneys be placed in the reserve account on a regular basis. Although Ecology has not adopted regulations implementing the first of these two requirements in chapter 173-351 WAC, it has adopted WAC 173-351-600(5)(c)(ii), which requires owners/operators to make payments into the trust fund annually.

What A Letter of Credit Is

A letter of credit represents a promise by a bank to pay the person named an amount stated in the letter. Once established, an irrevocable letter of credit cannot be modified or revoked except with the consent of the beneficiary – that is, the person to whom payment is promised. RCW 62A.5-106(2). Furthermore, a bank that issues a letter of credit must honor a demand for payment -- accompanied by any documents described in the letter of credit -- made while the letter is still effective. RCW 62A.5-114(1). The beneficiary may demand payment of the full amount of the credit granted in the letter, or of portions of that amount over time. RCW 62A.5-110(1).

While they were created for use in international trade, letters of credit increasingly are used to satisfy financial assurance requirements under environmental laws. The Environmental Protection Agency expressly allows letters of credit to be used to comply with the financial assurance requirements imposed under several subtitles of the Solid Waste Disposal Act, including those dealing with hazardous waste (see 40 C.F.R. § 265.143(c)), underground storage tanks (see 40 C.F.R. § 280.99), and solid waste landfills (see 40 C.F.R. § 258.74(c)). Similarly, Ecology allows facility owners/operators to use letters of credit to satisfy financial assurance requirements of the state Hazardous Waste Management Act (see WAC 173-303-620(4)(a)), the state Underground Storage Tanks Act (see WAC 173-360-426), and, with respect to corrective action requirements, the state Solid Waste Management Act (see WAC 173-351-600(5)(e)(i)). Ecology even allows letters of credit to be used to satisfy the requirement in RCW 70.95.215 that private solid waste landfill disposal facilities used exclusively by their owners provide financial assurance adequate to cover the costs of closure. See WAC 173-304-468(3)(a)(iv).

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Whether Letters of Credit Satisfy Legal Requirements

In my opinion, an irrevocable letter of credit used as the sole asset in a trust account satisfies the applicable statutory and regulatory requirements cited above. By establishing a trust account, the landfill owner/operator meets the statutory mandate for a reserve account. Furthermore, as long as the letter of credit provides for payment in accordance with the terms of the closure plan, then the trust account containing that letter is designed to ensure that adequate revenue will be available by the projected closure date. Presumably, the jurisdictional health department would demand payment under the letter prior to the landfill owner/operator commencing closure.

I also believe that this arrangement satisfies the more specific regulatory requirements of chapter 173-351 WAC. Under WAC 173-351-600(5)(c)(ii) and (iii), the landfill owner/operator must make annual payments into its trust fund; the amount of the payments is set according to a formula explained in the regulation. Depositing the letter of credit into the trust account could be viewed as paying the entire amount of the closure cost estimate, and not just partial payment as required by law. This view depends on an understanding that the "payment" required by WAC 173-351-600(5)(c) need not be in the form of cash.⁹ The term is not defined in the regulations, and in such cases the courts usually look to a dictionary definition to determine a word's meaning. Black's Law Dictionary defines "payment" as the delivery of money or some other valuable thing. This accords with common usage of the term: an employee generally believes he has received payment for his services even if his employer hands him a check rather than cash, for example. Thus, a landfill owner/operator who deposited a letter of credit in a trust account would have more than complied with WAC 173-351-600(5)(c) by paying the total amount of the closure cost estimate even before it was required to do so under that rule.

This interpretation is not inconsistent with the requirements of RCW 70.95.215 and WAC 173-351-600 that cash be placed in the trust fund. Both the statute and regulation require that cash be available in the fund at closure; neither, however, specifically requires that cash be deposited in the trust fund at any particular time. A landfill owner/operator thus could meet all statutory and regulatory requirements by establishing a trust account into which it placed a binding promise to pay the full amount of the closure cost estimate at an appropriate time.

⁹ RCW 70.95.215(2) (b) (ii) instructs Ecology to promulgate regulations to implement the requirement to establish a reserve account to fund closure. The regulations are to include requirements that moneys be placed in the reserve account on a regular basis. Ecology apparently chose not to interpret this term narrowly, since the regulations do not expressly require that cash be placed in the trust account periodically.

Allowing the use of letters of credit as financial assurance mechanisms for the closure of municipal solid waste landfills also is consistent with the practice under numerous other environmental programs. As mentioned above, both EPA and Ecology accept letters of credit in satisfaction of financial assurance requirements under hazardous waste, underground storage tank, and solid waste laws.

While I believe the law allows the use of letters of credit in this situation, Ecology has not yet developed criteria for accepting them. It should consider appropriate wording for the letters, as well as any restrictions it may wish to impose on the type or location of banks issuing such letters. The criteria established by EPA and Ecology for some of the other environmental programs referred to above may serve as useful guidelines.

Appendix K

Questionnaire

FOR CASH

Type of account _____

Name of institution _____

Account # _____

Send a copy to the trust or escrow agreement _____

FOR OTHER THAN CASH

Send a copy of:

Letter of credit

Surety bond

Insurance

If instrument changed what occurred to the prior assets?

Present fund balance _____

Present fund balance consistent with closure plan yes no

Loans against fund (if applicable)

Amount _____

Amount _____

Encumbrances against account _____

Please include a copy of the financial instrument with the completed survey.

Appendix L

Financial Assurance Survey Information

Financial Assurance Survey

| County | Facility Name | Permitting Agency | Type of Facility | Rule | Closure Date | Instrument Type | Closure Amount | Post-closure Amount | Yearly Contribution | Present fund balance | Loans Against | Encumbrances |
|----------|------------------------------------------------------|---------------------------------------|---------------------|------|--------------|-----------------|----------------|---------------------|--------------------------------|-----------------------------|---------------|--------------|
| Adams | Bruce Landfill | Adams County HD | closed msw landfill | 304 | May, 1996 | cash | 500,000 | 342,500 | \$11,000 | line item in budget | none | none |
| Asotin | Asotin County Landfill | Asotin County HD | msw landfill | 351 | 2040 | cash | 4,200,000 | 3,600,000 | 511,000 | 1,400,000 | none | none |
| Benton | City of Richland, Horn Rapids Landfill | Ben./Franklin HD | msw landfill | 351 | 2010 | cash | 2,677,923 | 934,012 | 294,862* amount changes yearly | 1,126,152 | none | none |
| Chelan | | | | | | | | | | | | |
| Clallam | Port Angeles Landfill | Clallam County HD | msw landfill | 351 | 2006 | cash | 2,844,800 | 3,390,000 | 1,002,413 | 2,631,507 | none | none |
| Clark | Lady Island | SW Washington Health District | limited purpose | 304 | unknown | Fin. Test | 4,577,000 | 1,300,000 | n/a | n/a | none | none |
| | Boise Cascade-Rufener Site | SW Washington Health District | limited purpose | 304 | unknown | Fin. Test | 1,768,000 | 1,610,000 | n/a | n/a | none | none |
| Columbia | | | | | | | | | | | | |
| Cowlitz | Weyerhaeuser Landfill | Headquarters Road | limited purpose | 304 | No response | No response | No response | No response | No response | No response | No response | No response |
| Cowlitz | Cowlitz County Landfill | Cowlitz County Dept. of Bldg. & Ping. | msw landfill | 351 | 2014 | cash | 7,666,112 | 6,104,250 | 282,264 | 3,313,189-c 2,157,825-pc | none | none |
| Douglas | Greater Wenatchee Regional Landfill & Recycling Ctr. | Chelan-Douglas HD. | msw landfill | 351 | 2014 | surety bond | 2,288,316 | 2,579,586 | n/a | n/a | N/a | n/a |
| Ferry | Torboy Landfill | NETCHD | msw landfill | 304 | 1993 | cash | No response | 240,000 | 13,200 | 3458 | none | none |

Financial Assurance Survey

| County | Facility Name | Permitting Agency | Type of Facility | Rule | Closure Date | Instrument Type | Closure Amount | Post-closure Amount | Yearly Contribution | Present fund balance | Loans Against | Encumbrances |
|--------------|---------------------------------|-------------------------------------------|------------------|------|--------------|-----------------|----------------|---------------------|---------------------|----------------------|---------------|--------------|
| Franklin | New Waste Inc. | Benton/Franklin HD | msw landfill | 351 | 2001 | cash | 358,000 | 470,000 | No response | 784,190.85 | none | none |
| Garfield | | | | | | | | | | | | |
| Grant | Delano Landfill | Grant County HD | msw landfill | 351 | 2048 | cash | 997,394 | 438,240 | 25734 | 922,725.75 | none | none |
| Grays Harbor | Stafford Creek | Grays Harbor HD | woodwaste | 304 | 2040 | Trust fund | 13,800/cell | 41,800/cell | | 84,551 | none | none |
| | Newskah Quarry Landfill | Grays Harbor HD | woodwaste | 304 | 1989 | Trust fund | No response | 96,000 | 46,441 | 4,800 | none | none |
| Grays Harbor | Weyerhaeuser Spoils Pond | | special waste | 304 | 2005 | Fin. Test | No response | No response | No response | No response | No response | No response |
| Island | | | | | | | | | | | | |
| Jefferson | Port Townsend Paper | Jefferson County HD | woodwaste | 304 | No response | No response | No response | No response | No response | No response | No response | No response |
| King | Vashon Island Landfill | Seattle-King County Dept of Public Health | msw landfill | 304 | 1999 | cash | 6,200,000 | 394,000 | 2,201,115 | 10,400,000 | none | 550,000 |
| King | Cedar Hills Regional Landfill | Seattle-King County Dept of Public Health | msw landfill | 351 | 2012 | cash | 73,100,000 | 760,000 | 6,460,000 | 17,400,000 | none | 7,300,000 |
| Kitsap | Dredge Sediment Landfill | Brem-Kitsap County HD | Sediment | 304 | No response | Fin. Test | 70,000 | 362,000 | No response | No response | No response | No response |
| Kitsap | Olympic View Sanitary landfill | Brem-Kitsap County HD | msw landfill | 351 | July, 2002 | cash | 2,238,499 | 3,149,100 | fully funded | 5,894,468 | none | none |
| Kititas | | | | | | | | | | | | |
| Klickitat | Roosevelt Regional Landfill | Klickitat Dept. of Public Health | msw landfill | 351 | 2068 | cash | 6,158,510 | 3,867,589 | 1,449,111 | No response | none | none |
| Klickitat | Roosevelt Regional Ash Monofill | Ecology | ash monofill | 306 | 2031 | cash | 1,229,143 | 1,640,517 | 7,368 | overfunded | none | none |
| Lewis | | | | | | | | | | | | |

Financial Assurance Survey

| County | Facility Name | Permitting Agency | Type of Facility | Rule | Closure Date | Instrument Type | Closure Amount | Post-closure Amount | Yearly Contribution | Present fund balance | Loans Against | Encumbrances |
|--------------|-----------------------------|-------------------------|--------------------------------|------|--------------|-------------------------|----------------|---------------------|---------------------|----------------------------|---------------|--------------|
| Lincoln | | | | | | | | | | | | |
| Mason | Matlock Woodwaste | Mason County HD | woodwaste | 304 | 2000 | Fin. Test | 300,000 | No response | 10,000 | 203,467 | none | none |
| | Dayton Woodwaste landfill | Mason County HD | woodwaste | 304 | 2020 | Fin. Test | 98,976 | No response | No response | 640,183 | none | none |
| Okanogan | QVL Woodwaste landfill | Okanogan HD | woodwaste | 304 | No response | No response | No response | No response | No response | No response | No response | No response |
| | Okanogan Central Landfill | Okanogan HD | msw landfill | 351 | 2030 | Fin. Test | 3,500,000 | 278,000 | 199,400 | 1,138,522 | none | none |
| Pacific | Rainbow Valley | Pacific County HD | msw landfill | 304 | 1996 | Cash | No response | No response | No response | No response | No response | No response |
| Pend Oreille | South County Landfill | NETCHD | msw landfill | 304 | 1994 | cash | No response | 100,000 | 5,000 | line item in yearly budget | none | none |
| | North County Landfill | NETCHD | msw landfill | 304 | 1994 | cash | No response | 100,000 | 5,000 | line item in yearly budget | none | none |
| Pierce | LRI Landfill | Tacoma-Pierce County HD | msw landfill | 351 | 2030-2040 | cash | 23,955,395 | 11,940,000 | 386,794 | 349,000 | none | none |
| | Tacoma Landfill | Tacoma-Pierce County HD | msw landfill, transfer station | 351 | Dec, 2004 | Fin. Test | 6,410,716 | 25,092,480 | 0 | 1,780,271 | none | none |
| | Ft. Lewis Landfill | Tacoma-Pierce County HD | msw landfill | 351 | 2004 | No financial instrument | 3,000,000 | 4,500,000 | n/a | n/a | none | none |
| | Hidden Valley Landfill | Tacoma-Pierce County HD | msw landfill | 351 | 1999 | cash (in post-closure) | 5,000,000 | 1,590,000 | 1,730,000 | n/a under cleanup order | none | none |
| San Juan | | | | | | | | | | | | |
| Skagit | | | | | | | | | | | | |
| Skamania | | | | | | | | | | | | |
| Snohomish | Cathcart Landfill | Snohomish HD | msw landfill | 304 | 1992 | cash | No response | 2,900,000 | No response | 2,714,000 | none | none |
| Snohomish | Snohomish Regional Landfill | Snohomish HD | msw landfill | 351 | not opened | cash | 29,610,000 | 66,300,000 | 804,854 | No response | none | none |

Financial Assurance Survey

| County | Facility Name | Permitting Agency | Type of Facility | Rule | Closure Date | Closure Instrument Type | Post-closure Amount | Yearly Contribution | Present fund balance | Loans Against | Encumbrances |
|-------------|-----------------------------------------|-----------------------|--------------------------|------|-----------------|--------------------------------|---------------------|---------------------|-----------------------------------|---------------|--------------|
| Snohomish | Northwest Hardwoods | Snohomish HD | woodwaste | 304 | 2004 | letter of credit | No response | No response | No response | No response | No response |
| | Baxter North Woodwaste Landfill | Snohomish HD | Woodwaste | 304 | 1993 | surety bond & letter of credit | 8,700 | n/a | 220,000 | none | none |
| | Summit Timber Company | Snohomish HD | Woodwaste | 304 | 2010 | cash | 91,000 | 10,000 | 11,130 | none | none |
| | Smith Island WW landfill | Snohomish HD | Woodwaste | 304 | 2000 | Fin. Test | 300,000 | n/a | n/a | none | none |
| Snohomish | City of Everett, Water Filtration Plant | Snohomish HD | special waste | 304 | 2052 | cash | 20,000 | | 9,693 | none | none |
| | Go East | Snohomish HD | special waste | 304 | n/a | surety bond | No response | No response | No response | No response | No response |
| Spokane | | | | | | | | | | | |
| Stevens | North Stevens County Landfill | NETCHD | msw landfill | 351 | 2030 | cash | 2,429,280 | 12,000 | 1,852,230 | 127k | none |
| Stevens | Kettle Falls GS Woodash Landfill | NETCHD | limited purpose landfill | 304 | 2030 | Fin. Test | 1,600,000 | 123,500 | n/a | none | none |
| Thurston | Hawks Prairie Landfill | Thurston County HD | MSW landfill | 351 | May, 2000 | cash | 6,000,000 | fully funded | n/a | none | none |
| Wahkiakum | | | | | | | | | | | |
| Walla Walla | Sudbury Road Landfill | Walla Walla County HD | mswlandfill | 351 | 2003 for area 6 | cash | 1,333,657 | 48,000 | 941,690 | none | none |
| Whatcom | Cedarville MSW Landfill | Whatcom County HD | msw landfill | 304 | closed 1992 | cash | 313,000 | No response | 12 yrs. Remaining in post-closure | none | none |

Financial Assurance Survey

| County | Facility Name | Permitting Agency | Type of Facility | Rule | Closure Date | Closure Instrument Type | Closure Amount | Post-closure Amount | Yearly Contribution | Present fund balance | Loans Against | Encumbrances |
|--------------------|----------------------------|-------------------|--------------------|------|--------------|-------------------------|----------------|---------------------|---------------------|-----------------------------------|---------------|--------------|
| Whatcom | GP Corp. Hilltop Landfill | Whatcom County HD | Woodwaste | 304 | 2000 | Fin. Test | 172,550 | 736,890 | n/a | 0 | none | none |
| | GP Corp. Airport Landfill | Whatcom County HD | Woodwaste | 304 | 1992 | Fin. Test | n/a | 1,139,845 | n/a | 12 yrs. Remaining in post-closure | none | none |
| Whatcom Whitman | RECOMP | Ecology | ash monofill | 306 | 2002 | cash | 801,407 | | | 684.5 | | |
| Yakima | Snipes Mtn. | Yakima County HD | msw landfill | 304 | 1993 | cash | 408,000 | 408,759 | No response | 75,300 | none | none |
| Yakima | Terrace Heights | Yakima County HD | msw landfill | 351 | 2005 | cash | 3,889,312 | | 293,000 | 293,000 | none | none |
| | Cheyne Road | Yakima County HD | msw landfill | 351 | 2007 | cash | 1,169,958 | 200,000 | 200,000 | 200,000 | none | none |
| | Lawson/Dais howaLandfill | Ecology | woodwaste landfill | 304 | No response | No response | No response | No response | No response | No response | No response | No response |
| | M-Street Landfill Rayonier | Ecology | woodwaste landfill | 304 | No response | No response | No response | No response | No response | No response | No response | No response |

A total of 37 facilities were included in this survey. This survey does not include a number of facilities that have been in post-closure for a number of years. It must be noted that the cost figures may not be consistent. As an example, Cedar Hills Landfill in King County has a closure cost estimate of 73 million dollars, while Roosevelt Regional Landfill has a closure cost estimate of 6.1 million dollars. Roosevelt Regional landfill has at least four times the capacity as Cedar Hills. This inconsistency can be explained by the fact that Cedar Hills Landfill is identifying the total closure activities cost over the life of the facility while Roosevelt Regional landfill is looking at the cost to close its facility at a point in time when the cost would be the highest. Both numbers are correct, they are looking at the same question from different perspectives.

Appendix M

Comparison of Financial Assurance Rules

| Comparison of Financial Assurance Rules | Ch 304 WAC | Ch 304 WAC | Ch 304 WAC | Ch 351 WAC | Ch 306 WAC | Federal Regs Title 40* |
|-------------------------------------------------|-----------------------------------------------|---------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------|------------------------|-------------------------------|
| ACTIVITY | 173-304-467 Public and Private Owned MSWLF | 173-304-468 Privately Owned for self use | 173-351-600 Public and Private Owned MSWLF | 173-306-470 Publicly or Privately owned incinerator ash monofills | 258.74 Part G MSWLF | |
| Application of rules | | | | | | |
| Publicly Owned - accepts municipal(MSWLF) | yes, between and 11/25/93 | 11/27/89 | No | yes, after 11/25/93 | n/a | yes |
| Privately Owned - accepts municipal (MSWLF) | yes, between and 11/25/93 | 11/27/89 | No | yes, after 11/25/93 | n/a | yes |
| Privately Owned – self use | no | | yes, between 11/27/89 and present | no | n/a | n/a |
| Estimates are required to be in current dollars | yes | | yes | yes | yes | yes |
| Requirements for cost estimate changes | | | | | | |
| 1. Changes in operating plans, design, etc | yes | | yes | yes | yes | yes |
| 2. Changes in expected closure date | yes | | yes | yes | yes | yes |
| 3. Upon Health Dept. request | yes | | yes | yes | n/a | n/a |
| 4. Inflation | yes | | yes | yes | yes | yes |
| 5. Annual review by owner/operator | yes | | yes | yes | yes | rule silent |

| Comparison of Financial Assurance Rules | Ch 304 WAC | Ch 304 WAC | Ch 351 WAC | Ch 306 WAC | Federal Regs Title 40* |
|------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------|--------------------------|------------------------|
| ACTIVITY | | | | | |
| 6. Any total cost increase | rule silent | rule silent | yes | yes | yes |
| 7. DOE evaluation required | rule silent | yes | rule silent | yes | N/a |
| 8. If withdrawals exceed estimates by more than 5% | yes | yes | rule silent | yes | rule silent |
| Submission of revised estimate | | | | | |
| Health Dept | yes, if revised for approval | yes, if revised (approval not stated) | part - only if owner wishes to reduce total costs & Financial Assurance (FA) - approval req | n/a | yes |
| Dept. Of Ecology | rule silent | yes, if revised | rule silent | yes | yes |
| ALLOWABLE MECHANISMS | | | | | |
| Publicly Owned MSWLF | | | | | |
| Reserve Account - Cash and investments (C&I), | rule silent | n/a | yes | yes | see below |
| Solid Waste Fund Balance reserve (C&I) | yes | n/a | rule silent | yes | rule silent |
| Nonexpendable trust fund (C&I) | yes | n/a | yes | yes | yes |
| Trust agreement approval req. | yes, approved by local health dept. | n/a | yes, review by health dept as part of the permit approval. | yes, approved by Ecology | yes |
| Surety Bond (issuer must be on Treasury Dept. Circular 570 and language acceptable to Ecology) | yes | n/a | rule silent | rule silent | yes |
| Irrevocable Letter of Credit | rule silent | rule silent | rule silent | rule silent | yes |
| Insurance Policy | N/a | Yes | N/a | N/a | Yes |

| Comparison of Financial Assurance Rules | Ch 304 WAC | Ch 304 WAC | Ch 304 WAC | Ch 351 WAC | Ch 306 WAC | Federal Regs Title 40* |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------|------------|------------|------------------------|
| ACTIVITY | | | | | | |
| Financial Test and Corporate Guarantee (ratios listed) | n/a | yes | n/a | n/a | n/a | yes |
| Local Government Final test (ratios and public notice listed) | n/a | n/a | n/a | n/a | n/a | yes |
| Corporate Guarantee (parent company guarantee) | n/a | n/a | n/a | n/a | n/a | yes |
| Local Government Guarantee | n/a | n/a | n/a | n/a | n/a | yes |
| Privately Owned MSWLF | | | | | | |
| Trust Account | Appears to be assumed due to law. Rule language says financial assurance acct. does not specifically state trust acct. | n/a | yes (shall be) | yes | n/a | n/a |
| Conditions (doesn't state cash or investments) | rule silent | n/a | yes | yes | yes | yes |
| Trust agreement approval req. | yes , approved by DOE | n/a | yes, review by health dept as part of the permit approval. | yes | yes | yes |
| Trustee | rule silent | n/a | yes | yes | yes | yes |
| Annual payments w/formula | rule silent | n/a | yes | yes | yes | yes |
| More legally binding strmts. | rule silent | n/a | yes | yes | yes | yes |
| Privately Owned for Self Use | | | | | | |
| Trust Fund | n/a | yes | /n/a | n/a | n/a | n/a |
| Surety Bond (Issuer must be on Treasury Dept. Circular 570 and language acceptable to DOE) | n/a | yes | n/a | n/a | n/a | n/a |

| Comparison of Financial Assurance Rules | Ch 304 WAC | Ch 304 WAC | Ch 351 WAC | Ch 306 WAC | Federal Regs Title 40* |
|-------------------------------------------------------------------------------------------------------------------------------|------------|------------|-------------|------------|------------------------|
| ACTIVITY | | | | | |
| Irrevocable letter of credit | n/a | yes | n/a | n/a | n/a |
| Insurance Policy | n/a | yes | n/a | n/a | n/a |
| Financial Test and Corporate Guarantee (ratios listed) | n/a | yes | n/a | n/a | n/a |
| Local Government Financial Test (ratios and public notice listed) | n/a | n/a | n/a | n/a | n/a |
| Corporate Guarantee (parent co. guarantee) | n/a | n/a | n/a | n/a | n/a |
| Local Government Guarantee | n/a | n/a | n/a | n/a | n/a |
| Alternate Financial Test (S&P or Moody's rating, net worth ratios, and percent of US assets.) | n/a | Yes | n/a | n/a | n/a |
| State Approved Mechanism - state assumes responsibility | n/a | n/a | n/a | n/a | n/a |
| Annually confirm financial test is met via CFO letter, and CPA report to DOE. | n/a | yes | n/a | n/a | n/a |
| Health Dept may request an audit if it believes financial test is not met. | n/a | yes | n/a | n/a | n/a |
| Financial Assurance (FA) Audit | | | | | |
| Owner /Operator files with DOE annual audit of accts. & a statement of the percentage of user fees diverted to FA instruments | yes | n/a | rule silent | yes | n/a |

| Comparison of Financial Assurance Rules | Ch 304 WAC | Ch 304 WAC | Ch 351 WAC | Ch 306 WAC | Federal Regs Title 40* |
|-------------------------------------------------------------------------------------------------|------------|------------|-------------|-----------------------|------------------------|
| ACTIVITY Public Owned MSWLF audits req, by State Auditor's Office and filed with DOE. | yes | n/a | rule silent | yes for ash monofill | n/a |
| Private Owned MSWLF audits req, by CPA and field with DOE annually | yes | n/a | rule silent | yes, for ash monofill | rule silent |
| Privately owned for self use req. annual CPA audit submitted to Local health and DOE | Dna | yes | n/a | n/a | n/a |
| | | | | | |

Filename: 00-07-039a.doc
Directory: Y:\michelle\ProgPubs
Template: C:\Program Files\Microsoft Office\Templates\Normal.dot
Title: Appendix A
Subject:
Author: Ecology
Keywords:
Comments:
Creation Date: 02/27/01 9:18 AM
Change Number: 2
Last Saved On: 02/27/01 9:18 AM
Last Saved By: Michelle Payne
Total Editing Time: 3 Minutes
Last Printed On: 02/27/01 9:21 AM
As of Last Complete Printing
Number of Pages: 282
Number of Words: 105,936 (approx.)
Number of Characters: 593,247 (approx.)