



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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August 30, 2010

Ms. Anne Holmes
King County Solid Waste Division
Department of Natural Resources and Parks
King Street Center
201 South Street, Suite 701
Seattle, WA 98104-3855

Dear Ms. Holmes:

Re: Corrective Action at Vashon Island Landfill

Based on discussions during the last couple of Vashon Island Landfill compliance meetings, it seems there is still some confusion on options to address corrective action at the Vashon Island Landfill. The purpose of this letter is to provide clarity on corrective action options, the Department of Ecology's role and how we can work together toward site remediation. The regulation gives both King County Solid Waste Division (KCSWD) and the Department of Ecology (Ecology) requirements to fulfill.

Chapter 173-351 WAC Requirements

According to WAC 173-351-440(6), when a ground water protection standard is exceeded, a facility is triggered into corrective action. Ground water protection standards are defined in Chapter 173-200 WAC Water Quality Standards for Ground Waters of the State of Washington. Chapter 173-200 WAC applies to all waters of the state.

Once there is a release and a standard is exceeded the facility operator is to conduct the following activities:

WAC 173-351-440(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;
- © 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;

Only the state can administer the Model Toxics Control Act (MTCA). WAC 173-351-465 states the roles of Ecology when a facility is in corrective action:

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.]

Options under the MTCA

Several administrative options are available for cleanups under the MTCA. The options range from formal orders to an independent cleanup. See WAC 173-340-510 Administrative Options for Remedial Actions and WAC 173-340-515 Independent Remedial Actions which are attached to this letter.

To date, KCSWD has been clear that you are not interested in a formal MTCA order. Ecology is willing to allow KCSWD to conduct the necessary investigation and remedial action activities as an independent remedial action as long as progress is made to address contamination and there is open communication between KCSWD and Ecology. If progress is not made to address releases from the landfill, Ecology will consider a more formal action under MTCA.

For an independent remedial action, Ecology expects that activities will be consistent with MTCA, as the rule requires. Ecology's role will be advisory because this is not under a formal MTCA order. Ecology's opinions for independent remedial actions are advisory only, and are not official comments, endorsements, or approvals for the proposed work. As an independent cleanup you will not have access to financial assistance from Ecology and there is no cost recovery for our time.

Application to Vashon Island Landfill

Vashon Island Landfill has been exceeding ground water standards since the late 1980's within perched zones. The purpose of the ground water monitoring program of chapter 173-351 WAC is to monitor the hydrostratigraphic unit(s) capable of early detection of a release from a landfill. The definition of hydrostratigraphic unit includes perched zones:

WAC 173-351-100

"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."

According to the approved 2004 Hydrogeologic Report for the Vashon Island Landfill, there are perched saturated zones that occur as three channel deposits within a lacustrine silt. These have been monitored for years and have provided information that a release has occurred from the landfill. These releases have triggered assessment monitoring and corrective action.

The hydrogeologic report indicates it is possible for the ground water from these channel deposits to discharge to the regional aquifer. Vashon Island is designated as a sole source aquifer. The regional aquifer is one of the principle aquifers used for drinking water and if there is the potential for hydraulic connection with the channel deposits, it should also be monitored.

There has been decreasing trends in these perched saturated zones since closure but standards continue to be exceeded. The landfill is in the corrective action phase of monitoring and will be until concentrations of ground water constituents are below cleanup levels at the point of compliance.

After closing the landfill in 2001, KCSWD conducted a ground water investigation and updated the hydrogeologic conceptual model in 2004. This report also had the proposed ground water monitoring network that has been incorporated into the current draft sampling and analysis plan. In addition, KCSWD prepared three reports in 2006-the *Environmental Evaluation* report, *Potential Effects of Landfill Gas and Leachate on Vashon Landfill Groundwater and Springs* and *VOC Sampling and Test Results*. The *Environmental Evaluation* report identified data gaps and tasks designed to fill the gaps. Some of those tasks include activities that would be considered remedial investigation activities.

In 2009 KCSWD conducted the hillslope investigation. This also can be considered an investigation that would be conducted under a remedial investigation.

Based on the draft scope of work for *Environmental Investigations, Monitoring, and Remediation Services For Closed Landfills*, it appears the work will include investigations or review of previous investigation results and technology evaluations. These activities may fulfill all or part of the requirements for a remedial investigation and feasibility study under the MTCA process.

Independent remedial actions must meet the substantive requirements of the MTCA regulation (chapter 173-340 WAC). Cleanup levels, the point of compliance, and reasonable restoration timeframes are important elements of selecting appropriate remedial actions. In general, the

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regulation allows that documents prepared, such as remedial investigation reports and feasibility studies, do not need to be the same in title or format as the reports required in the regulation, but they must contain sufficient information to serve the same purpose. We encourage KCSWD staff to become familiar with the requirements of chapter 173-340 WAC and to contact Ecology with questions regarding its application to the work at the Vashon Island Landfill.

We feel KCSWD has been moving in the right direction and it is time to make it more clearly consistent with MTCA.

Our program is looking at all of our landfills that are in corrective action and ensuring we are following MTCA including entering data into to the Integrated Site Information System (ISIS) list. Vashon Island Landfill is listed but an Initial Investigation and the Early Notice Letter has never been processed. Ecology's Waste 2 Resources will take the lead on this. We will also request a Site Hazard Assessment be conducted for this site.

Attached is our agreement with the Seattle & King County Public Health to help delineate our authorities while the site is under corrective action.

If you have any questions, call me at 425.649.7089 or email at sally.safioles@ecy.wa.gov.

Sincerely,



Sally Safioles, LHG
Waste 2 Resources Program

Attachments: WAC 173-340-510 and -515
Agreement between Ecology and Public Health

cc: Peter Christiansen, NWRO Ecology-Waste 2 Resources
Madeline Wall, NWRO Ecology-Waste 2 Resources
Kevin Kiernan, King County Solid Waste Division
Victor Okereke, King County Solid Waste Division
Dan Swope, King County Solid Waste Division
Bill Lasby, Seattle & King County Public Health
Ed Davies, Seattle & King County Public Health

WAC 173-340-510 Administrative options for remedial actions. (1) **Policy.** It is the responsibility of each and every liable person to conduct remedial action so that sites are cleaned up well and expeditiously where a release or threatened release of a hazardous substance requires remedial action. Potentially liable persons are encouraged to initiate discussions and negotiations with the department and the office of the attorney general that may lead to an agreement on the remedial action to be conducted with the state of Washington. The department may provide informal advice and assistance on the development of proposals for remedial action, as provided by WAC 173-340-515. Any approval by the department or the state of remedial action shall occur by one of the means described in subsections (2) and (3) of this section.

(2) Actions initiated by the potentially liable person. Potentially liable persons may initiate a remedial action, as follows:

(a) A person may initiate negotiations for a consent decree by submitting a letter under WAC 173-340-520(1).

(b) A person may request an agreed order by submitting a letter under WAC 173-340-530.

(3) Action initiated by the department. The department may initiate remedial action by:

(a) Issuing a letter inviting negotiations on a consent decree under WAC 173-340-520(2); or

(b) Requesting an agreed order under WAC 173-340-530; or

(c) Issuing an enforcement order under WAC 173-340-540.

(4) Department remedial action. Nothing in this chapter shall preclude the department from taking appropriate remedial action on its own at any time. Except for emergency actions and initial investigations, reasonable effort will be made to notify potentially liable persons before the department takes remedial actions for which the recovery of public funds can be sought under RCW 70.105D.050(3).

[Statutory Authority: Chapter 70.105D RCW, 01-05-024 (Order 97-09A), § 173-340-510, filed 2/12/01, effective 8/15/01; 90-08-086, § 173-340-510, filed 4/3/90, effective 5/4/90.]

WAC 173-340-515 Independent remedial actions. (1) **Purpose.** An independent remedial action is a remedial action conducted without department oversight or approval and not under an order, agreed order or consent decree. This section describes the procedures and requirements for independent remedial actions. See WAC 173-340-545 for additional requirements pertaining to independent remedial actions anticipated to be part of a private right of action.

(2) **Applicability.** Nothing in this chapter shall preclude potentially liable persons from conducting independent remedial actions at sites not in discussions or negotiations for, or under, an order or decree. However, a potentially liable person may not conduct independent remedial actions after commencing discussions or negotiations for an agreed order or consent decree unless:

(a) Such action does not foreclose or preempt the remedial actions under discussion or negotiation and such action does not foreclose the selection of a cleanup action; or

(b) The potentially liable person has provided reasonable notice to the department and the department does not object to such action.

(3) **Standards.** (a) In reviewing independent remedial actions, the department shall determine whether the remedial actions meet the substantive requirements of this chapter and/or whether further remedial action is necessary at the site. Persons conducting independent remedial actions do so at their own risk, and may be required to take additional remedial actions if the department determines such actions are necessary. In such circumstances, the department reserves all of its rights to take actions authorized by law.

(b) When this chapter requires a consultation with, or an approval or determination by the department, such a consultation, approval or determination is not necessary in order to conduct an independent remedial action. However, independent remedial actions must still meet the substantive requirements of this chapter.

(c) Except for the requirement of a restrictive covenant under WAC 173-340-440, where documents are required under this chapter, the documents prepared need not be the same in title or format; however, the documents must still contain sufficient information to serve the same purpose. The scope and level of

detail in these documents may vary from site to site depending on the site-specific conditions and the complexity of the remedial action.

(4) Reports to the department. (a) Any person who conducts an independent interim action or cleanup action for a release that is required to be reported under WAC 173-340-300 shall submit a written report to the department within ninety days of the completion of the action. For the purposes of this section, the department will consider an interim action or cleanup action complete if no remedial action other than compliance monitoring has occurred at the site for ninety days. This does not preclude earlier reporting of such actions or reporting of site investigations. See WAC 173-340-450 for additional requirements for reporting independent remedial actions for releases from underground storage tanks.

(b) The report shall include the information in WAC 173-340-300(2) if not already reported, and enough information to determine if the independent remedial action meets the substantive requirements of this chapter including, the results of all site investigations, cleanup actions and compliance monitoring planned or under-way. If a restrictive covenant is used, it must be included in the report and it must meet the requirements specified in WAC 173-340-440(9). The department may require additional reports on the work conducted.

(c) If the independent interim action or cleanup action is completed within ninety days of discovery, a single written report may be submitted on both the release and the action taken. The report shall contain the information specified in provision (b) of this subsection and shall be submitted within ninety days of completion of the remedial action.

(d) The department shall publish in the *Site Register* a notice of all reports on independent interim actions and cleanup actions received under this section. If deemed necessary, the department shall also conduct an initial investigation under WAC 173-340-310. Neither submission of information on an independent remedial action nor any response by the department shall release the person submitting the report or any other person from liability. The department reserves all rights to pursue any subsequent action it deems appropriate.

(5) Technical consultations. The department may provide informal advice and assistance (technical consultations) on the administrative and technical requirements of this chapter to persons conducting or otherwise interested in an independent remedial action. Such advice or assistance is advisory only and not binding on the department. This advice may include written opinions. These written opinions shall be limited to whether the independent remedial actions or proposals for those actions meet the substantive requirements of this chapter and/or whether the department believes further remedial action is necessary at the facility. Upon completing the review of an independent remedial action report or proposal that is voluntarily submitted for the department's review and opinion, the department will: (a) Provide a written opinion regarding the remedial actions performed or proposed at the site;

(b) Provide a written opinion regarding the remedial actions performed at the site and remove the site or a portion of the site from the hazardous sites list if the department has sufficient information to show that the independent remedial actions are appropriate to characterize and address contamination at the site, as provided for in WAC 173-340-330 (4)(b); or

(c) Provide a written opinion describing the deficiencies with the remedial action or proposal for a remedial action at the site. It is the department's policy, in conducting reviews under this subsection, to promote independent remedial actions by delisting sites or portions of sites whenever petitions and supporting documents show that the actions taken are appropriate to characterize and address the contamination at the site.

(6) Cost of technical consultations. For information on the payment of remedial action costs, see WAC 173-340-550(6).

[Statutory Authority: Chapter 70.105D RCW. 01-05-024 (Order 97-09A), § 173-340-515, filed 2/12/01, effective 8/15/01.]



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August 27, 2010

Mr. Bill Lasby
Seattle & King County Public Health
401 Fifth Avenue, Suite 1100
Seattle, WA 98014

Dear Mr. Lasby:

Re: Agreement on roles and responsibility during corrective action at the Vashon Island Landfill

The purpose of this letter is to outline our roles and responsibility during the administration of corrective action at the Vashon Island Landfill according to Chapter 173-351 WAC Criteria for Municipal Solid Waste Landfills.

WAC 173-351-440(6) defines the trigger for a facility into corrective action when a ground water protection standard is exceeded as defined by Chapter 173-200 WAC Water Quality Standards for ground Waters of the State of Washington. Once a standard is exceeded the facility operator is to conduct the following activities:

WAC 173-351-440(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;

To aid and guide our working relationship during the period of corrective action, Chapter 173-351 WAC provides clear roles for Ecology and the local health departments. WAC 173-351-460 and 465 states the roles of the jurisdictional health department and Ecology respectively while a facility is in corrective action:

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 act;
- (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.]

To add more specifics, the following list of activities and lead agency for the Vashon Island Landfill is provided. These activities and roles are appropriate when the facility is under the formal MTCA process or conducting an independent remedial action at a 351 facility.

Seattle & King County Public Health

- Issue annual permit with permit conditions for the landfill and surface impoundment for activities that are not considered remedial action activities
- Site inspections
- Oversight of the implementation of approved Operations and Maintenance Plan

Bill Lasby
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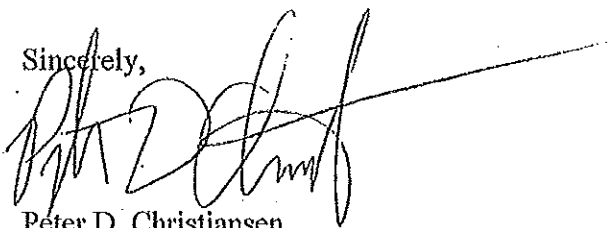
- Compile review comments from both agencies on documents not pertaining to corrective action
- Serve as agency lead for compliance meetings:
 - Schedule meetings
 - Take meeting notes and distribute for review
 - Issue final meeting notes

Ecology

- Oversee the Site Remedial Investigation and Feasibility Study activities
- Serve as agency lead in KCSWD's development of the following documents:
 - Sampling and Analysis Plan
 - Remedial Investigation Report
 - Feasibility Study
 - Cleanup Action Plan
- Issue Early Notice Letter
- Conduct Site Hazardous Assessment
- Input data into Ecology's Integrated Site Information System
- Compile review comments from both agencies on documents pertaining to corrective action
- Serve as agency lead for corrective action meetings:
 - Schedule meetings
 - Take meeting notes and distribute for review
 - Issue final meeting notes

I hope this provides a framework on our regulatory roles. If other situations arise that are not addressed above, we can discuss them at that time and determine the appropriate lead. If you have further questions, you can contact me at 425.649.7076.

Sincerely,



Peter D. Christiansen
Section Manger
Waste 2 Resources Program

cc: Sally Safioles, Ecology Waste 2 Resources
Madeline Wall, Ecology Waste 2 Resources
Ed Davis, Seattle & King County Public Health

