COMMONWEALTH OF VIRGINIA
Department of Environmental Quality

Subject: Waste Guidance Memo No. 01-2007
Post-Closure Care Termination

To: Regional Waste Program Managers, Debra Miller, Leslie Beckwith, Paul Farrell, Shawn Davis, Geoff Christe

From: Karen Jackson Sismour
Waste Division Director

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Summary:

Solid waste disposal facilities are required to perform post-closure care (PCC) following closure of a unit or the facility in order to protect human health and the environment. Facilities that received waste between 1988 and 1993 have a 10 year PCC period. Many facilities have now completed the 10 year period and wish to terminate PCC. To do so, they are required to submit a certification to DEQ. The length of the PCC period may be decreased or increased by DEQ. This guidance provides criteria in determining whether the PCC period and/or individual PCC requirements should be increased, decreased, or terminated. It applies to facilities with a minimum 10 year or 30 year period, but focuses on the current requests for termination of the 10 year period.

Electronic Copy:

An electronic copy of this guidance is available on DEQ's website at http://www.deq.virginia.gov/guidance.html.

Contact Information:

Please contact Paul Farrell at (804) 698-4214 or epfarrell@deq.virginia.gov with any questions regarding the application of this guidance.

Disclaimer:
This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any alternative method. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

Post-Closure Care Termination

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STAFF GUIDANCE

I. INTRODUCTION

The Virginia Waste Management Act (Act), §10.1-1410.2, and Virginia Solid Waste Management Regulations (VSWMR), 9 VAC 20-80-10 et seq., require solid waste disposal facilities to perform post-closure care (PCC) following closure of a unit or the facility. Facilities are required to perform PCC in order to ensure protection of human health and the environment (HH&E). PCC requirements include, but are not limited to, groundwater monitoring, gas monitoring, leachate collection, stormwater management, and final cover maintenance.

Under the authority of 9 VAC 20-80-250 F.2., facilities are subject to PCC requirements. Sanitary landfills (SLFs) that were not closed prior to December 21, 1988, but stopped receiving waste before October 9, 1993, are subject to PCC requirements for ten (10) years. SLFs that ceased to accept waste on or after October 9, 1993, are required to conduct PCC for thirty (30) years. Per 9 VAC 20-80-260 F.1 (and -270 F.1) , Construction, Demolition, and Debris Landfills (CDD) and Industrial Landfills (ILF) are required to conduct PCC for ten (10) years or for as long as leachate is generated, whichever is longer.

Under the authority of §10.1-1410.2 and 9 VAC 20-80-250 F, 260 F, and 270 F, the length of the PCC period may be decreased or increased by DEQ to complete corrective measures or to protect HH&E. This guidance provides criteria for determining whether the PCC period should be increased, decreased, or terminated.

As required by §10.1-1410.2 B, the facility shall submit to DEQ a certificate, signed by a registered professional engineer, verifying PCC has been completed (including all corrective action) in accordance with the approved PCC plan. To discontinue PCC, the PE certificate shall be accompanied by an evaluation, prepared by a professional engineer licensed in the Commonwealth and signed by the facility, assessing and evaluating the landfill's potential for harm to HH&E in the event that all corrective action, post-closure monitoring and maintenance are completed in accordance with the approved PCC Plan. The certification and evaluation shall be submitted no less than 180 days prior to completion of PCC period specified in the plan or the default period in the regulations whichever is later. (See SI:20 below for preferred format of these documents.)

II. GUIDANCE

"Submission Instruction 20: Post Closure Care Termination" (SI 20) has been developed for facilities to use a standardized format when requesting DEQ determinations to decrease or terminate PCC. Submittals formatted with SI20 should allow quicker review by DEQ.

The following areas should be considered when reviewing the facility's certification and evaluation to determine whether the PCC period may be decreased, increased, or terminated:

- final cover integrity;
- groundwater monitoring program;
- surface water monitoring program;
- gas monitoring program;
- leachate management;
- additional PCC requirements contained in the permit or approved PCC plan; and
- other DEQ programs, e.g., air and water permits

The evaluation may indicate when a specific PCC requirement is no longer required, e.g., maintenance of a final cover system would no longer be necessary after removal of the waste. DEQ may require additional documentation to justify the termination of a specific PCC requirement. If termination of PCC requirements at the landfill or a decrease of the PCC period is not protective of HH&E, then DEQ should not terminate or decrease PCC requirements.

If a monitoring network serves multiple units, then the PCC period should begin upon closure of the last unit. Decreasing or terminating PCC requirements of independently monitored and maintained portions of a facility may be considered provided the certifications and evaluations meet the criteria for decreasing or terminating, as outlined in this guidance.

Throughout the PCC period, DEQ should perform site inspections and record reviews to determine compliance with applicable requirements. If the facility has completed the specified period, yet conditions exist that warrant the continuation of PCC, then the facility should continue with PCC and amend their PCC plan as necessary; no DEQ action is necessary unless the facility requests termination. A facility owner may submit a request for early termination of the PCC.

Once a request for PCC termination or decrease is received, DEQ should perform the following review of records and a final site visit to confirm that all the requirements of PCC have been met.

A. DEQ Facility File Review

DEQ should review the following DEQ files to verify the facility has met PCC requirements:

- a complete copy of the approved permit
- a facility site plan in the form of a survey plat created by a licensed surveyor clearly delineating the waste management footprint [9 VAC 20-80-250 E.5.d(2), 260 E.4.c(2), 270 E.4.c(2)]
- documentation demonstrating the deed notification has been recorded with the local land recording authority [9 VAC 20-80-250 E.5.d(3), 260 E.4.c(3), 270 E.4.c(3)]
- documentation demonstrating a note has been placed on the survey plat restricting disturbance of the site [9 VAC 20-80-250 E.5.d(2), 260 E.4.c(2), 270 E.4.c(2)]
- a copy of the facility's closure plan [9 VAC 20-80-250 E.3.f, 260 E.2.f, 270 E.2.f]
- a copy of the PE's statement certifying the facility has been properly closed in accordance with the approved closure plan [9 VAC 20-80-250 E.5.d(4), 260 E.4.c(4), 270 E.4.c(4)]

- a letter from DEQ acknowledging the facility is closed [9 VAC 20-80-250 E.6, 260 E.5, 270 E.5]
- a copy of the most recently approved PCC plan for the facility [9 VAC 20-80-250 F.5, 260 F.4, 270 F.4] (or PCC plan placed in the operating record before 1993).

Records of groundwater, gas, leachate, and surface water monitoring events required by the VSWMR, permit, and the PCC plan should be reviewed.

If records are incomplete, the facility may be asked to provide the missing documentation and/or perform additional PCC activities. If certain closure documentation is not available, the applicable regulatory requirements at the time closure activities took place should be reviewed to determine compliance with the regulations.

B. Compliance Review

DEQ should review the recent compliance history for the facility. (Ten Year Permit Reviews are not performed on facilities in PCC.) DEQ should address any notices of violation or enforcement actions prior to terminating PCC and releasing the facility from the permit.

DEQ should complete applicable sections of the attached checklist *(Attachment 1)* in evaluating whether PCC requirements should be decreased, increased, or terminated.

C. Groundwater Monitoring Review

DEQ should review groundwater monitoring records, as listed in SI20. If the facility meets the requirements in 9 VAC 20-80-300, release from PCC groundwater monitoring should be approved.

- If the facility is released from groundwater monitoring while continuing to operate an active gas extraction/collection system, the facility may be required to make an additional demonstration that no impact to groundwater should occur on termination of the active gas extraction/collection system.
- A landfill that has a groundwater protection standard (GPS) exceedance should not be released from groundwater monitoring until the issue is addressed.
- A landfill that has no GPS exceedance and a decreasing trend for 3 years should be released from groundwater monitoring.
- For facilities that do not fit these criteria, such as no GPS exceedance and an increasing trend, further evaluation may be necessary, such as off-site receptors, etc.

D. Surface water monitoring

If surface water sampling indicates a threat to HH&E (such as a water quality standards exceedance, aquatic impairment, unpermitted discharge, etc.) further evaluation may be necessary prior to termination of PCC.

If a facility has surface water monitoring requirements in the groundwater monitoring plan, the permit, the operations plan, or other plan, DEQ should review and evaluate the monitoring data.

E. Gas monitoring review

DEQ should review the gas monitoring and control activities at the facility. DEQ should not release the facility from PCC gas monitoring and control requirements if gas levels exceed regulatory thresholds in 9 VAC 20-280.A.2. Monitoring data, at a minimum, should demonstrate the levels of gas migrating from the disposal area have stabilized or are decreasing. DEQ approval of the demonstration does not relieve the facility from the requirements to perform monitoring as required by other State, Federal or local regulations such as Clean Air Act, Title V. Satisfying the Title V requirements may be a prerequisite of termination of PCC.

If PCC gas monitoring is terminated, gas wells should be maintained or abandoned as approved by DEQ.

F. Leachate generation and management review

Leachate generation is a criteria for determining the minimum PCC period of CDD and Industrial landfills (10 years or as long as leachate is generated.). Leachate management for all landfill types is a criteria for PCC termination review.

For the older facilities that were not designed with a leachate collection and removal system (LCRS), leachate review should not be necessary. It may be necessary if there are obvious environmental issues that must be addressed. Most of the landfills in the 10 year period do not have LCRS.

Facilities with LCRS may stop managing leachate if the facility demonstrates the leachate no longer poses a threat to HH&E (9 VAC 20-80-250 F.1.b, 9 VAC 20-80-260 F.1.b, and 9 VAC 20-80-270 F.1.b). Leachate is no longer a potential threat to HH&E when a hypothetical release of leachate does not adversely impact surface water or groundwater and if the leachate buildup on the liner and in the landfill does not cause instability in the waste mass. Further details are available in associated guidance.

Facilities that pump and haul leachate to a treatment plant should not be eligible for release from PCC for leachate management. The characteristics of leachate that is "pumped and hauled" would be considered to be too high in contaminants for an uncontrolled release to groundwater or surface water.

G. Stormwater management review

DEQ should visit the site and determine if any of the following conditions exist:

- solid waste is entering surface water or groundwater;
- stormwater management controls are not functioning properly; and
- facility is not vegetated adequately to minimize erosion.

The above conditions should be addressed before DEQ releases the facility from PCC cap maintenance. DEQ Waste staff should coordinate with DEQ Water staff when possible VPDES permitting issues exist.

H. Cap integrity

DEQ should perform a site visit to inspect the entire site for evidence of disturbance of the cap (including a survey of structures constructed on the disposal area). DEQ should determine whether any of the following conditions exist:

- exposed waste;
- illegal dumping;
- failure of any side-slopes;
- lack of vegetation on the final cover;
- settlement or subsidence of the waste/cover or ponding;
- significant erosion of the final cover;
- evidence of leachate seeps;
- odor or vector problems noted;
- grading problems present that could result in erosion or storm water management problems ultimately exposing solid waste; and
- repeated repairs or uncorrected problems with the final cover system, as documented in the facility operating record.

The above conditions should be addressed before DEQ releases the facility from PCC cap maintenance.

I. Site security

DEQ should confirm that signs are posted stating the site has closed and waste is no longer accepted and that there are suitable barriers installed at former accesses to prevent new waste from being deposited. If this cannot be confirmed, it should be addressed before DEQ can release the facility from PCC requirements (and the permit).

Any use of the site following the PCC period may require continued restricted site access through deed notification.

III. ADMINISTRATIVE PROCEDURES

A. Staff Review

The facility should submit the request to the appropriate DEQ regional office Waste Program Manager. DEQ should acknowledge receipt of the package within 30 days. DEQ should review the package and perform a site inspection within 60 days of receipt of the complete PCC package. If additional information is required, a Notice of Deficiency (NOD) letter should be sent to the facility, stating that all PCC activities should continue until the new information is submitted and evaluated and DEQ releases the facility from PCC responsibilities. Once the

package is deemed complete, DEQ should notify the facility so they may proceed with public participation.

B. Public Participation

The facility should notify the public that PCC termination has been tentatively approved. At a minimum, the facility should submit to DEQ, a signed statement that a written notice has been mailed to all adjacent property owners and occupants stating PCC monitoring at the facility may be terminated, attaching a copy of the notice and the names and addresses of those to whom the notices were sent. The statement should summarize the results of the public participation and the applicant's response to any comments received during the public participation. DEQ should complete the review within 30 days of receipt of the statement and issue a final approval or notice of deficiency (NOD).

If the applicant met the requirements for public participation under a major amendment for early termination, public participation as noted above is not necessary.

C. Permit

If the facility should be released from PCC requirements, the permit should be revoked in accordance with 9VAC20-80-600, provided the applicant provides a signed copy of the waiver of hearing and submits that form to DEQ. The permitted solid waste unit status should be changed to "closed" in DEQ's database (CEDS).

If the facility owner requests termination and DEQ determines that the PCC period should be increased, DEQ staff should notify the Office of Financial Assurance of the intent to modify the PCC period. If changes to the PCC period impact the PCC cost estimate, a revised PCC cost estimate should be submitted for review and the financial assurance mechanism adjusted to reflect the revised amount. Financial assurance should be provided in five year intervals or the timeframe specified in a previously approved corrective action plan, PCC plan, or enforcement proceeding, whichever is greater. The facility shall continue to demonstrate financial assurance until released from PCC requirements. The facility owner may be instructed to amend the PCC plan for a minimum period of 5 years.

If the facility requests a decrease in the PCC period (to a period less than the required 10 or 30 years as applicable) and DEQ approves, staff should notify the Office of Financial Assurance of the intent to modify the PCC period. In order to decrease the PCC period, a major permit amendment is required in accordance 9 VAC 20-80-620 Table 7.2.E.3. Upon receiving notification that the permit has been modified, financial assurance for the facility should be reduced accordingly.

Decisions to increase, decrease, or terminate the PCC requirements are case decisions on the part of DEQ. Any letter announcing such a decision must be signed by a person with the authority to amend a permit. The letter should include the following language.

> "As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

Director
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three (3) days are added to that period. Please refer to Part Two A of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies."

IV. LIABILITY BEYOND THE END OF POST-CLOSURE CARE PERIOD

The termination of PCC monitoring and maintenance is self-certifying and self-implementing, meaning the facility is responsible for ensuring that the information contained in the certification is pertinent and correct and the facility is responsible for any future deficiencies or adverse impacts to HH&E. It is the responsibility of the current owner and any future owners to prevent the facility from becoming an open dump, hazard or nuisance.

In the event that releases are observed from the facility in the future, criteria listed under Part IV, Open Dump, of the VSWMR should be used to determine if the facility has created a substantial present or potential hazard to HH&E. If the site meets any of the open dump criteria in the future, DEQ should require additional activities as may be necessary on the part of the facility owner or future owners to correct such deficiencies.

ATTACHMENTS

1. Termination of Post-Closure Care Checklist
2. Termination of Post-Closure Care Approval Letter
3. Partial Termination of Post-Closure Care Approval Letter
4. Termination of Post-Closure Care Public Notice Request

REFERENCES

DEQ *Submission Instruction 20: Post-Closure Care Termination*

Virginia Solid Waste Management Regulations Amendment 4
http://www.townhall.virginia.gov/chapter/ViewChapter.cfm?Vac=210&Chapter=80

Virginia Waste Management Act
http://www.deq.virginia.gov/regulations/documents/wastelaw2004.doc

The Interstate Technology & Regulatory Council (ITRC), September 2006, *Evaluating, Optimizing, or Ending Post-Closure Care at Municipal Solid Waste Landfills Based on Site-Specific Data Evaluations.*