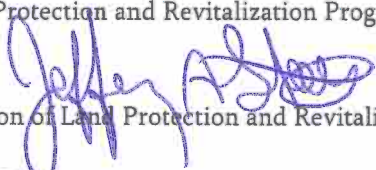


COMMONWEALTH OF VIRGINIA
Department of Environmental Quality

Subject: Division of Land Protection and Revitalization Guidance Memo
LPR-GWSI- 2011-08
SUBMISSION INSTRUCTIONS FOR GROUNDWATER ALTERNATE POINT OF
COMPLIANCE VARIANCE PETITIONS

To: Regional Land Protection and Revitalization Program Managers

From: Jeffery A Steers 
Director, Division of Land Protection and Revitalization

Date: December 16, 2011

Copies: Regional Directors

Summary

This guidance provides owner/operators of regulated solid waste management facilities with an overview of the information applicable to the submission of a variance petition for use of a groundwater alternate point of compliance (APC) at solid waste sites undergoing groundwater monitoring in accordance with 9 VAC 20-81-250 of the Virginia Solid Waste Management Regulations (VSWMR).

Electronic Copy

An electronic copy of this guidance applicable to solid waste sites is available on DEQ's website at <http://www.deq.virginia.gov/waste/guidance.html>.

Contact Information

Owner/operators who wish to petition for the use of a groundwater APC should contact their respective Regional Office for any site specific questions. Please contact the groundwater program coordinator, Mr. Geoff Christe at (804) 698-4283 or via email geoff.christe@deq.virginia.gov with any questions regarding the development or 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.



Submission Instruction

Groundwater Alternate Point of Compliance (APC) Variance Submission

Division of Land Protection &
Revitalization
629 East Main Street, 5th Floor
Richmond, VA 23219

I - APPLICABILITY

This Submission Instruction (SI) is applicable to all solid waste management facilities conducting groundwater monitoring under the requirements of the Virginia Solid Waste Management Regulations (VSWMR), originally promulgated by the Virginia Waste Management Board, December 21st, 1988; as amended. This SI has been designed in a manner consistent with regulatory language within Amendment 7 of the VSWMR, effective March 16th, 2011.

The allowance to use an alternate point of compliance (APC) for groundwater monitoring at regulated solid waste landfills via the variance procedure is described under *9 VAC 20-81-250.A.3.a.(2)*. The allowance is sourced from Federal Subtitle D language in 40 CFR 258.40.(d). While EPA's Subtitle D rule established the criteria an APC must meet, the Federal language did not define the manner under which States approved the use of such allowance. EPA's guidance regarding use of APC may be found on pages 188-191 of its 1993 Solid Waste Disposal Facility Criteria technical manual guidance document [EPA 530-R93-017].

II - DEVELOPMENT

This SI has been developed to assist an owner/operator in the preparation of a groundwater APC variance and provides an outline of the required minimum variance technical content. It also includes a sample public notice, a sample variance language, and a copy of the Department's technical review checklist that will be used when reviewing APC variance submissions. It is ultimately the responsibility of the Permittee to include all the data or information necessary to support each of the conclusions presented in the variance submission.

All SI are considered 'living' documents which will be updated or revised as needed. Comments or suggestions for future SI revisions can be submitted at any time to the attention of the solid waste *Groundwater Program Coordinator* at the address listed on the cover of this SI.

III - LIMITATIONS / DISCLAIMER

This SI has not been developed as Department rule or policy. It has not gone through public comment. It does not supersede any regulatory requirement found in the VSWMR and its use is not mandated under the VSWMR. If used, the Department recognizes that the SI may need to be altered to fit facility-specific conditions that cannot be adequately accounted for in the boilerplate SI. While use of this SI may assist the Permittee in development of a complete APC variance, use of the SI does not imply any guarantee of final Department approval of the content or conclusions contained within the variance.

IV – TECHNICAL ISSUES

Who Needs To Submit

The need to submit an APC variance will be triggered by specific site conditions/actions. Owner/operators are not required to submit an APC variance when physical obstacles on site prevent installation of monitoring wells at the edge of the disposal unit. If this occurs, compliance wells may be installed at the closest practical distance downgradient of the unit as allowed by *9 VAC 20-81-250.A.3.a.(3)*. Physical obstacles may include, but are not limited to: haul roads, storm water run-off or collection features, power lines, leachate or landfill gas conveyance lines, and engineering aspects of expansion of the unit or closure of the unit, etc.

Owner/operators are required to submit an APC variance when placing or relocating a monitoring well away from the edge of waste for any reason other than a physical obstacle. The APC must be located within the facility boundary, no more than 150 meters (492 feet in the case of Subtitle D equivalent facilities) from the disposal unit boundary, positioned such that the applicant can demonstrate that there is sufficient response time (based on groundwater flow rates) to identify, remediate or otherwise contain groundwater that may demonstrate landfill impacts before it reaches the permitted facility boundary (*9 VAC-20-81-740.A*) and potentially affects off site property.

An owner/operator should recognize that submission of a variance request to use an APC may be premature if the proposed well has not been successfully installed and sampled. If the APC sampling results do not alleviate the groundwater exceedance that triggered consideration of APC use, then going forward with variance submission would not be supported. It should also be recognized that use of APC is but one of several options available to address a groundwater exceedance. Other options include an Alternate Source Demonstration (*9 VAC 20-81-250.A.5*), request for site-specific Alternate Concentration Level use (*9 VAC 20-81-250.A.6.b.(4).(b)*), installation of additional wells to revise site background and address potential spatial variability (*9 VAC 20-81-250.A.4.d/e*), or exceedance (plume) characterization (*9 VAC 20-81-260.C.1.a*). It is the responsibility of the owner/operator to choose the option that best fits the site conditions.

Well Location

As noted above, EPA established the requirement that the APC be located within the facility boundary (on land owned by the owner/operator) and no more than a defined maximum distance from the disposal unit boundary. It is not the intent of the APC process to move monitoring wells uniformly to a position of maximum allowable distance from the edge of the waste mass simply because EPA defined a maximum downgradient location distance.

EPA noted in its 1993 subtitle D guidance that:

"If the uppermost aquifer is the sole water supply source available, all reasonable efforts should be made to locate the relevant point of compliance as close as possible to the actual waste management unit boundary."

"If the groundwater is not currently or reasonably expected to be used for drinking water, the state/tribe may allow the relevant point of compliance to be set near the 150 meter limit."

As a result, the actual distance an approvable APC well location can be set will depend on a review of the technical factors required within the variance request and as described within the following sections. The 150 meter limit does not reflect an automatically approvable distance at each and every landfill site.

Submission Review Timeframes

Because the VSWMR define the actions required for a groundwater exceedance (and the timing associated with those actions), any owner/operator who is considering APC use should undertake the following steps in the timeframes below to ensure, to the greatest extent possible, that compliance with the regulatory timeframes defined within 9 VAC 20-81-260 is maintained:

1. Within 14-days of recognizing the exceedance of a Groundwater Protection Standard (GPS), notify the Department under 9 VAC 20-81-250.B.3.f.(3)(a) or C.3.e.(3)(a) of the exceedance. Within this notification, the facility should state their desire to pursue the variance and request Departmental approval of the proposed location and depth of completion of any potential APC well(s). A site visit by Department staff may be appropriate as a means of reviewing the proposed APC location.
2. Within 60-days of exceedance notification, successfully install, develop, and sample the potential APC well(s) for the Table 3.1 Column A (plus detects) constituent list. If the sample results show landfill-derived constituents at exceeding levels, then further consideration of APC use should be abandoned and the owner/operator should notify the Department within 14 days of the laboratory report issuance that APC use is being abandoned. In cases such as this, other actions to address the exceedance must be undertaken within the regulatory defined timeframes.
3. If the APC well(s) do not display exceeding constituent levels, and the owner/operator will formally request use of APC, then within 90-days of the exceedance notification, report the APC sampling results to the Department along with the signed variance request and associated variance fee.
4. Within 135-days of exceedance notification, the public advertisement of the tentative decision on the variance should be issued and public comment gathered for 30-days, as required by the VSWMR. Please note that the 45-day time period between variance submittal and public

notice issuance requires that the Department successfully review the variance, and if items require revision, that the owner/operator submit the revisions within a very quick turnaround time. Please note that if the APC variance is not advertised by day 135, the final decision on the variance request will not be issued within 180-days of the notification of the groundwater exceedance identified in step #1 above. This would put the owner/operator in potential conflict with the requirements to submit a complete Assessment of Corrective Measures (ACM) or Proposal for Presumptive Remedy (PPR) within 180-days of the exceedance as otherwise required by *9 VAC 20-81-260.C.1.f*. In those cases where APC variance revisions are needed, but cannot be completed in a short turnaround timeframe, the owner/operator should request an extension to the ACM/PPR submission requirements as allowed under *9 VAC 20-81-260.C.1.g* in order to maintain compliance with regulatory timeframes.

5. Within 165-days of exceedance notification, the public comment period will close and any public comments received will be addressed. The Director will issue a final decision on the variance request in 15 days.

V - VARIANCE CONTENT

Any variance (including APC) requested by an owner/operator from one or more of the groundwater monitoring requirements found in *9 VAC 20-81-250* must contain the following required information:

- All information required under *9 VAC 20-81-760.A.1*
- All information required under *9 VAC 20-81-720.A.1 & 2*
- All information required under *9 VAC 20-81-740.A, B, & C*
- The associated fee defined under *9 VAC 20-90-120, Table 3.1-3*

Until the Department has fully implemented electronic filing in the solid waste program, complete copies of the APC variance shall be submitted to the appropriate DEQ Regional Office and DEQ's Central Office, attention of the groundwater program coordinator. Once electronic filing has been fully implemented, it shall only be necessary to submit the variance to the appropriate DEQ Regional Office. If there are questions about where to submit, please contact either the regional groundwater remediation staff or the solid waste groundwater program coordinator in DEQ's Richmond, Virginia office.

For the sake of consistency and to ensure an expeditious review, the information (technical content) of the APC variance should be arranged in the order presented below. The sections discussed herein shall be considered standard technical content as the content is sourced from the VSWMR. The Department notes that there may be some site-specific instances where a facility's technical data may require additional or different information beyond that listed in these SI as a means of more fully characterizing the technical data available and conclusions derived. These instructions set no limit on the number or content of additional variance sections as long as the information included directly pertains to that required in the APC variance. If the Department finds the submission is lacking any of these

items, the submission will be deemed incomplete and will undergo no further review until the missing items have been submitted.

The administrative and technical content required for each section of the APC variance is briefly described below. As further noted below, the Department recommends that the owner/operator contact the respective Regional Office prior to submitting the APC variance to ensure the Department agrees with the proposed APC well location(s) and installation depth(s) to be described in the variance. Such early contact may lessen the chance that a variance submission will face tentative denial.

Cover Page

- *Landfill name and Permit number*
- *Title: Alternate Point of Compliance (APC) Variance Petition*
- *Applicant's name and address* [760.A.1.a]
- *Date report submitted.*

Certification Page

- *Applicant's certification* [760.A.1.h]

This certification must be signed by the applicant or his authorized representative and state:

"I certify that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Purpose

- *Statement of Interest and Requested Action* [760.A.1.b. & c]

Clearly state that the applicant is requesting approval for a variance to the location for the groundwater monitoring system or an individual well other than at the disposal unit boundary as required by 9 VAC 20-81-250.A.3 referencing 9 VAC 20-81-740.A in the request.

- *Description of the need and justification behind the facility's requested variance petition* [760.A.1.d].

The applicant must give the need and justification for the variance. Most commonly the need will be a demonstration that a groundwater protection standard exceedance has occurred in close proximity to the unit boundary. Use of the APC is justified however, based

on additional groundwater data which shows that the zone of impacted groundwater does not extend any great distance from the edge of waste unit, does not impact any on-site or off-site environmental receptors, and the owner/operator controls potential exposure routes 'above' the plume.

- *Demonstration that strict application of the regulation will result in undue hardship to the owner/operator or the alternate design (APC) will result in a facility that is equally protective of human health and the environment* [720.A.1.a & b].

This discussion will most commonly focus on demonstrating the APC is equally protective of human health and the environment. This may be accomplished by summarizing the technical / risk basis of the petition such as:

1. Groundwater is not currently used on landfill property for potable or non-potable use within the known area of groundwater impact and the proposed distance to the requested APC well lies within the facility boundary and does not conflict with EPA's defined maximum distance allowance.
2. Environmental receptors are not located within the known area of groundwater impact.
3. The site hydrology supports the proposed APC location by allowing for adequate response time to identify, remediate, or otherwise contain any groundwater that may become impacted before it reaches the facility boundary.

While an owner/operator may claim undue hardship as a basis for moving to an APC (and thus not having to implement full plume delineation actions at the original compliance well location), the APC variance alone will not produce a decrease in routine yearly compliance monitoring costs (since the facility will simply be replacing one compliance well with the new APC well) or economic savings with respect to long-term remediation if the groundwater impacts at the original compliance well migrate over time to the APC well. In cases such as these, it may be more cost effective to remediate the release while it is small in size, rather than address a much larger area of groundwater impact at a later date if the plume is allowed to expand to the APC location.

- *How long the variance will be requested for* [760.A.1.e].

Most commonly the variance will be requested for use during the remainder of the active life and post-closure care periods of the landfill.

Technical Basis for use of APC

- *Detailed discussion of which well(s) the APC variance will be applied* [760.A.1.c].

Most commonly this discussion will include the permitted well(s) that are being replaced and the proposed APC well(s). The facility should include a site plan discussed under the

Figures section of this document.

- *Surveyed demonstration that the proposed alternate groundwater point of compliance monitoring well is located no further than 150 meters (~500 feet) from the edge of the waste disposal unit boundary and lies within the permitted facility boundary [740.A].*

The applicant should supply the distance of the proposed APC from the unit boundary, the facility boundary, and the nearest environmental receptor. While the VSWMR reference 500 feet as the maximum distance, the Federal regulation which pertains to Subtitle D equivalent landfills, is 150 meters (492 feet).

If the proposed APC cannot be sited within the current permitted facility boundary, the owner/operator may choose to submit a Part A revision to modify the facility boundary. If a Part A revision is needed, it should be submitted concurrently with the APC variance request. If a facility lacks a Part A, the owner/operator should submit: (1) a vicinity map meeting the requirements of *9 VAC 20-81-460.C* to identify the current and proposed boundary, and (2) demonstrate legal control over the site [*9 VAC 20-81-460.D*].

The one location that cannot be selected as an APC is the property boundary. EPA noted in Appendix F to the Subtitle D preamble [56 FR 51068; October 9, 1991] that:

“... the alternate boundary ... must be located on property owned by the owner/operator to prevent contamination off site.”

The Department will not approve a proposed APC well location situated at a property boundary or located so close to that boundary that contamination discovered in the APC will have no reasonable chance to be remediated prior to its migration off site. Based on Department records, it takes at least 12 to 18 months to install an aggressive groundwater remediation system including permeable reactive trench fill, air-sparge systems, extraction wells, treatment system(s) including discharge permits, etc. To account for this reality, it is advised that no APC well be proposed in a location which is less than two (2) groundwater travel-time years away from the permitted facility boundary. For facilities with extremely high or low flow rates, it may be necessary to collect additional site-specific data to calculate the flow rate rather than relying on textbook values or ranges.

To lessen the chance that a variance will contain an inappropriate proposed well location, the owner/operator should contact his/her Regional office to discuss potential well locations and a potential site visit prior to variance submittal.

- *Discussion of the site hydrology including groundwater flow rate and direction and estimated plume width and depth that may migrate from the unit [740.B.1 & 3].*

Most commonly the hydrology information will be sourced from the facility's Annual Groundwater Report. The plume information will need to be estimated based on the limited

site data available and results from the APC sampling. Simple extrapolation or dispersion modeling is discouraged unless multiple data points along a groundwater flow path are available for use. Include/discuss the results of the APC well sampling in this section.

- *Demonstration that the landfill-derived contaminants observed in the well seeking to be replaced by the APC well will be detectable in the APC well because the APC well(s) location is demonstrably downgradient from the current well [740.B.3].*

Most commonly this information will be based off the potentiometric information submitted in the facility's Annual groundwater report. The Department will not approve an APC well location which is not demonstrably downgradient from the well being replaced. In addition, the facility should include a copy of the proposed APC well boring and construction logs with the site plan, as discussed under the Figures section of the variance submission.

- *Demonstration that the owner/operator has the practical capability to complete any required groundwater corrective actions if GPS is exceeded at the requested APC well, recognizing that the areal extent of the plume will be much larger than if GPS had been exceeded at the original compliance well [740.B.7].*

Any owner/operator who requests use of an APC to avoid the need to address groundwater impacts at the edge of the waste assumes the risk of having to remediate a much larger extent of impaired groundwater if GPS exceedances are recognized in the APC well(s) in the future. While EPA acknowledged one of the goals of using an APC was to allow for potential contaminant concentrations to:

"... diminish due to degradation, dispersion, and attenuation ...",

there is no guarantee that this will be successful in every instance. This section requires some indication of the financial capability of the owner/operator to maintain a longer and more costly corrective action program if a much larger plume is allowed to develop. Under the current regulations, if the corrective action program is triggered, the facility is required to provide additional financial assurance in the amount of \$1 million dollars (*9 VAC 20-81-260.C.1.d*).

Site Risk Screen

- *Description of the landfill design type (lined, unlined, trench fill, area fill, etc.), the type of waste accepted, and the current (or final) estimated volume of waste disposed and (if available) a discussion of the history of leachate analytical results [740.B.2].*

For owner/operators of closed unlined landfills who do not collect or sample landfill leachate, the lack of leachate sampling results will not be considered a defect in variance content.

- *Review of the available groundwater quality data on site and a review of any known alternate sources of groundwater impact in the site vicinity* [740.B.6].

In most cases, the request to use APC will be triggered because of recognition of groundwater impacts at the edge of the waste disposal unit. For landfills located in developed areas, the owner/operator should screen available environmental databases (such as those compiled during Phase 1 type assessments) to define whether or not there are other sources of groundwater impairment in the site vicinity that are undergoing characterization or remediation efforts.

- *Linear distance to, and withdrawal rates of, the nearest current users of groundwater (including potable and non-potable use), regardless of their hydrologic setting with respect to the landfill property and an estimation of the groundwater travel time separation of these users from the edge of waste* [740.B.4].

When estimating groundwater travel times, the owner/operator must take into account that active withdrawal of groundwater on any surrounding properties will accelerate its lateral movement the closer it gets to the point of extraction. Failure to account for this may yield travel times much greater than those actually present. The applicant should include land use or zoning map(s) to support either suspected groundwater use, or restrictions to groundwater use, in the Figures section of the submission.

- *Discussion of whether the site or any surrounding properties can be reasonably expected to be future users of groundwater for any purpose* [740.B.6].

Unless otherwise prohibited by some binding legal provision which can be demonstrated by the owner/operator which prevents its use (for potable or non-potable reasons), unrestricted groundwater use should be the default future assumption for the site and the surrounding properties regardless of the current usage. The facility should include current aerial photograph(s) as discussed under Figures showing the use of surrounding properties.

- *The availability of alternate drinking water supplies to adjacent landowners in the event of a groundwater contamination problem* [740.B.5].

The applicant should discuss alternate water supplies currently available and include current public works/utilities map(s) as discussed under Figures.

- *Distance to the nearest potentially affected surface water* [740.C.1].

EPA defined in its Subtitle D rule that remediation of contaminated groundwater would be necessary in those instances where a landfill plume is discharging contaminants to surface water in a:

“... concentration that would exceed the groundwater protection standard ...”.

In other words, it was not deemed appropriate to let landfill contaminant plumes simply discharge to surface water bodies without treatment. Consistent with this approach, the Department will not approve of a proposed APC well location which lies within the permitted facility boundary, but lies on the opposite side of a surface water feature which represents a local discharge point for contaminated groundwater. For sites which contain surface water, any proposed APC must be located between the landfill and the surface water body (but no more than 150 meters (Subtitle D equivalent) or 500 feet (all other landfills) from the edge of waste, and far enough away from the surface water feature such that there will be a reasonable chance to remediate the groundwater prior to its discharge to surface water if the APC well displays groundwater constituents which exceed GPS. The facility should also include a topographic map or site plan that delineates all surface water bodies on site as a Figure.

- *Summary statement that the Department's granting of the APC variance will not result in an unacceptable risk to human health or the environment [720.A.2; 760.A.1.f].*

Fee

- *Processing of the Variance requires submission of a fee as described under Table 3.1-3 of 9 VAC 20-90-120.*

Most commonly, the APC will deal with replacing a single impacted compliance well. As a result, the fee associated with the variance will be the base fee (currently \$390). For sites which are proposing to move all (or the majority of) their downgradient wells to APC, then the supplemental fee (currently \$920) will be added to the base fee because the monitoring well 'system' is being moved to an APC.

The fee should be submitted under separate cover to the attention of DEQ-Receipt control. A copy of the transmittal letter and the check should be included in the variance petition submitted to the Regional office and the Central Office Groundwater Program Coordinator. If there is any confusion over the correct fee to submit, the owner/operator should contact the Regional Office for guidance.

Figures

Figures included within the variance shall consist at a minimum of:

- a USGS 7 ½-minute topographic map showing the site location and nearest surface water.
- a site plan showing the permitted facility boundary, potentiometric surface contours and flow direction arrows, surface topography, waste disposal unit boundary, permanent structures, surface water features, a bar scale, north arrow, and the location of the APC well in relation to the existing monitoring wells.
- well boring and construction logs of the permitted well(s) that are being replaced and the proposed (installed) APC wells. These logs must include the soils or rock encountered, the hydraulic conductivity of the geologic units encountered, the total depth of the well, the

location of the screened interval, the top and bottom of the sand or gravel pack, and the top and bottom of the seal.

- current aerial photograph covering the site and surrounding properties.
- current land use or zoning map covering the site and surrounding properties with the locations of any water supply wells plotted.
- (if applicable/available) current public works/utilities map showing the location of municipal water supply lines which may act as an alternate water supply.

VI - VARIANCE PROCESSING

Any variance requesting use of an APC will be reviewed for content completeness. Incomplete submissions will be returned for addition of the missing information consistent with *9 VAC 20-81-760.B.1*.

After the submission has been deemed complete, the Director will make a tentative decision to grant or deny the request. This decision will be based on the technical review of the information contained within the complete submission as well as the topics contained defined within *9 VAC 20-81-740.C*. A copy of the checklist which will be utilized by Department during the review process can be found as Attachment III to the SI.

If the request is tentatively denied, the Director will offer the owner/operator the chance to withdraw the request or resubmit the request with revised information (*9 VAC 20-81-760.B.3.b*). If the request is not withdrawn or revised, the Director will proceed with public notification (*9 VAC 20-81-760.B.3.c*). The tentative decision will be subject to a 30-day public comment period and will be advertised (see Attachment I) in a local newspaper that has circulation where the facility is located. The owner/operator shall be responsible for the cost of newspaper advertisement. After evaluating any public comment received, the Director will issue a final decision on the variance request within 15-days of the close of the public comment period (*9 VAC 20-81-760.B.3.d*) by notifying the applicant and any commenting individuals. The final decision may be variance denial, variance approval as requested, or the granting of a modified or partial variance (*9 VAC 20-81-720.B.1*).

Any variance approved by the Department may be terminated upon a finding by the Director that the applicant has failed to comply with any of the variance requirements (*9 VAC 20-81-760.C.2*).

In granting a variance, the Director has the authority under *9 VAC 20-81-720.B.2* to issue a variance termination date (unless otherwise stated, this date will be the termination of post-closure care monitoring responsibilities), a compliance schedule to achieve any requirements/conditions contained in the variance, and require implementation of any control measures which, in the case of APC, may include timeframes for implementation of immediate interim measures (as allowed under *9 VAC 20-81-260.F.2 & 3*) in the cases where GPS are exceeded in the future in any APC well(s) located away from the waste mass (see Attachment II for example language).

ATTACHMENT I – Boilerplate APC Public Notice Language

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on the proposal to utilize an alternate groundwater point of compliance (APC) at the below-described solid waste landfill with a permit issued from the Department of Environmental Quality.

PUBLIC COMMENT PERIOD: 30 days total, extending from (Month) (Day) 2012 to (Month) (Day) 2012

PERMIT NUMBER: XXXX

FACILITY NAME AND LOCATION: The applicant landfill, located in the County of XXXX is located at XXXXXX. The landfill is located on the XXXXX, Virginia, USGS 7 ½-minute topographic quadrangle map.

DESCRIPTION: The landfill has requested a variance to locate one or more of its groundwater monitoring wells somewhere other than at the edge of the landfill waste mass as is normally required by the Commonwealth's solid waste regulations. The applicant has demonstrated that moving the location of the monitoring well(s) further from the edge of the waste mass will not result in an unreasonable risk to public health or the environment and will result in facility design that is equally protective of human health and the environment. If approved, this variance will allow the facility to locate MX-xx(a) XXX feet downgradient from the edge of the waste mass, but the well(s) will remain located on landfill property.

HOW TO COMMENT: DEQ accepts comments by e-mail, fax or postal mail. All comments must include the name, address and telephone number of the person commenting and be received by DEQ within the 30-day comment period defined above. The public may review all related variance petition documents at the DEQ Regional office named below.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS, AND ADDITIONAL INFORMATION: (name); Groundwater Remediation Specialist, (regional location) Office; Phone: (xxx) xxx-xxxx; Email:xxxx@deq.virginia.gov; Fax: (xxx) xxx-xxxx.

Attachment II – Boilerplate APC Variance Language

Variance to the Virginia Solid Waste Management Regulations
Use of Groundwater Alternate Point of Compliance (APC)

In response to a variance request (9 VAC 20-81-740), submitted by XXXX for its solid waste landfill, Permit number XXXX, the Director hereby grants approval of the request limited to the conditions below. If any of the conditions below are violated, consistent with 9 VAC 20-81-760.C.2, the variance approval shall be immediately terminated.

1] The approval is for the relocation of MW-xx approximately XXX downgradient from the edge of the disposal unit. The new well shall be identified as MW-xx (APC). The former compliance well shall be maintained on site as a piezometer and groundwater elevation measurements shall be obtained from it during each subsequent groundwater sampling event.

[At subD landfills substitute this language as well => The former compliance well shall be sampled during each compliance event for the associated Table 3.1 sampling list and the results shall be reported to the Department with the rest of the facility's routine sampling actions. However, no groundwater program decisions will be made based on data from this former compliance well. All decisions will instead be made from the results of the APC well.]

2] Relocation of any other compliance well not mentioned in this approval will require the submittal and review of a separate variance petition.

3] If the APC well exceeds groundwater protection standards (GPS) at any point in the future, the Permittee shall follow the actions normally required to address the exceedance under 9 VAC 20-81-260 within the timeframes defined in the VSWMR.

4] For any APC well found to exceed GPS and located within 100 feet of the permitted facility boundary or an environmental receptor such as surface water, the Permittee shall within 30-days of noting the exceedance, provide a Plan for interim measures (9 VAC 20-81-260.F) to the Director in addition to following the actions required under 9 VAC 20-81-260.C.

5] If an Interim Measures work-plan is not submitted by the owner/operator within 30-days, the Director, using authority under 9 VAC 20-81-260.F.2, shall notify the Permittee of the Interim Measures which shall be required on site to prevent off site plume migration or impact to on site ecologic receptors.

APPROVED: _____
Name, Title

DATE: _____

Attachment III – DEQ Review Checklist

APC Variance Petition – DEQ Review Checklist

Facility Name: _____ Permit Number: _____

Review Date: _____ Subtitle D Facility: Yes No

Reviewer: _____ Regional Office: _____

Administrative Completeness Review:

Item	Included?
Applicant Name and Address [760.A.1.a]	
Description of Requested Action [760.A.1.b-c]	
Duration of Variance [760.A.1.e]	
Certification Statement [760.A.1.h]	
Fee Received [9 VAC 20-90-120]	

[content found to be missing should be immediately requested from the owner/operator and rec'd within 7-days]

Technical Review:

Technical Basis Topics	Adequate?
Detailed discussion of which wells will be affected by the APC variance [760.A.1.c].	
Surveyed demonstration that the proposed APC well is located no further than 492 feet (150 meters) for Subtitle D or 500 feet for Non-Subtitle D facilities from the edge of the waste disposal unit boundary and lies within the permitted facility boundary [740.A]. If the owner/operator fails to demonstrate either of these required conditions, stop reviewing the variance and proceed to issue tentative denial or request a 'choose to withdraw' letter.	
Discussion of the site hydrology including groundwater flow rate. If groundwater impacts are already present, determine direction and depth the plume may migrate away from the unit [740.B.1 & 3]. If no plume exists, estimate those parameters. Groundwater information should be consistent with what is presented in Annual reports. If the presented flow rate or direction has changed, what's the reason for the change. APC sampling data should also be discussed, if available.	
Demonstration that landfill-derived contaminants observed to exceed GPS (or BKG) in the well seeking to be replaced by the APC well will be detectable in the APC well because the APC well(s) location is demonstrably downgradient from the current well [740.B.3] and the APC well will be screened at a depth appropriate to intercept the contaminant flow path. The DEQ will not accept an APC well screened at the top of the water table since the majority of LF-derived CoCs do not float on the top of the aquifer.	
Demonstration that the owner/operator has the practical capability to complete any required groundwater corrective actions if GPS is exceeded at the requested APC well, recognizing that the areal extent of the plume will be much larger than if GPS had been exceeded at the original compliance well [760.B.7]. Note that EPA guidance did not further spell out what was to be provided to meet this requirement. For DEQ, the most important thing is that there remains a sufficient buffer to the property line such that a plume will not quickly go off site (which limits the practical capability of the owner/operator to remediate in a simple manner.	

Site Risk Screening Topics	Adequate?
Description of the landfill design type (lined, unlined, trench fill, area fill, etc.), the type of waste accepted, and the current (or final) estimated volume of waste disposed and (if available) a discussion of the history of leachate analytical results [740.B.2]. For many of the older sites, leachate data will not be available but lack of data will not be considered a defect toward APC approval.	
Review of the available groundwater quality data on site and a review of any known alternate sources of groundwater impact in the site vicinity [740.B.6]. Other sources of potential GW impact can be gathered from existing Phase-1 type environmental database screening results.	
Linear distance to, and withdrawal rates of, the nearest current users of groundwater (including potable and non-potable use), regardless of their hydrologic setting with respect to the landfill property and an estimation of the groundwater travel time separation of these users from the edge of waste [740.B.4].	
Discussion of whether the site or any surrounding properties can be reasonably expected to be future users of groundwater for any purpose [740.B.6]. The default presumption is future unrestricted GW use unless there is a legal mechanism or ordinance in place which prevents such use on the surrounding properties.	
The availability of alternate drinking water supplies to adjacent landowners in the event of a groundwater contamination problem [740.B.5]. If municipal water lines are not in place then no alternate supplies are available unless bottled water is provided. APC approval cannot hinge upon future potential options like replacing the current well with a deeper well isolated by a confining unit from any LF-derived impacts, or providing an alternate water source via delivery unless a binding legal requirement is in place.	
Distance to the nearest potentially affected surface water [740.C.1]. Within EPA's Subtitle D rule, GW remediation was required if the plume was to be found to discharge to, or likely discharge to surface water at concentrations which would exceed the groundwater MCL. Use of an APC cannot be a mechanism to circumvent this provision.	
Use of APC will result in a facility that is equally protective of human health and the environment [720.A.1.a & b]. If the owner/operator cannot satisfactorily demonstrate this, APC approval would not be warranted.	