

ID NO. 100549
WASTE MANAGEMENT DISPOSAL SERVICES
OF PENNSYLVANIA, INC.
PUBLIC HEARING COMMENT & RESPONSE DOCUMENT
APS No. 267491, AUTH No. 638445

On July 19, 2007, the Department of Environmental Protection (DEP) held a public hearing on the Waste Management Disposal Services of Pennsylvania, Inc. (WMDS) solid waste permit application for the consolidation and modification of the closure plan for the Pottstown Landfill located in Douglass and West Pottsgrove Townships, Berks and Montgomery Counties, respectively. The hearing was held at the Montgomery County Community College facility located at 101 College Drive, Pottstown, Pa. Verbal testimony was taken during the hearing. Written testimony was accepted at the hearing and for a period of thirty (30) days thereafter.

All comments have been reviewed and relevant comments derived from both verbal and written testimony received throughout the hearing process are summarized below. Comments may be representative of single or multiple commentators and are organized by subject matter where possible. Department responses are provided for each comment or grouping of comments.

Air Quality Issues

COMMENT: Stack testing should be conducted more than once every five years to insure that control devices are working properly. Annual testing should be conducted for at least the first five years. Bi-annual testing should be independently conducted and results presented at public meetings (1, 2, 21, 30, 31, 37)

RESPONSE: Stack, or emissions, testing is not a requirement under the waste regulations or the landfill's waste permit. This issue has been referred to DEP's air program, for consideration in the landfill's Title V permit renewal. In response to comments on this issue, WMDS indicated a willingness to entertain some form of annual testing and submitted a proposed protocol to DEP's air program. DEP then issued a draft Title V permit with conditions requiring a stack test of the landfill's enclosed flare and the gas turbines once every five years (or at least once during the Title V permit term) and annual testing of the flare and turbines with a DEP-approved portable analyzer, except for the year when a stack test is or will be conducted. The Title V permit is the proper vehicle to address this issue.

COMMENT: There is no plan to stop burning radioactive, hazardous, unfiltered gas prior to combustion. This current contamination includes metals, VOCs, including TCE, and radiation. Air pollution is one of the major reasons this landfill was closed by DEP. These concerns need to be addressed by DEP, including the consideration of non-burn technology. (3, 4, 5, 6, 8, 9, 12, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39)

RESPONSE: Although there have been air permit violations at this facility, this had nothing to do with the closure of the landfill. Rather, DEP denied a vertical expansion of the landfill because the expansion would have violated the conical airspace surrounding the Pottstown Municipal Airport, which is an exclusionary criterion pursuant to 25 Pa. Code 273.202 of DEP's municipal waste regulations. The denial action was appealed by WMDS, and DEP's action was upheld by the Environmental Hearing Board. WMDS decided not to pursue any further appeals. As the landfill was nearing its permitted capacity, no further expansions were likely because of the airport siting issues. Since the solid waste permit was due to expire on October 1, 2005, WMDS decided to close the facility rather than file for a renewal application at a significantly reduced daily volume.

Raw landfill gas is filtered to remove water and particulate before it is routed to one of the turbines or flares where the gas is burned. The flares and turbines at the landfill were required to meet the best available technology requirements at the time of installation. They are also subject to the federal New Source Performance Standards (NSPS). Under the NSPS, all of the flares and turbines at the landfill have to meet a 98% destruction efficiency for non-methane organic compounds (NMOC), or meet an outlet concentration of 20 parts per million NMOC. All of the control devices at the landfill have been stack tested and meet this requirement.

No information has been presented to the Department to show there is a practical and safer non-burn technology to control landfill gas. Furthermore, the Department cannot require the landfill to switch to a different control technology, especially when the existing controls comply with all regulatory requirements.

COMMENT: WMDS's responses to DEP's October 25, 2006, technical review letter's comments on air quality issues were non-responsive. (21)

RESPONSE: DEP revisited this issue in its November 14, 2007, technical review letter (see comment No. 6 of that letter and WMDS's March 6, 2008, response). Although many of the requirements of the landfill's air permits were included in the initial submission of the closure plan

modification, WMDS merely provided these requirements for informational purposes. WMDS did not intend to incorporate those air requirements separately into the facility's solid waste closure plan. In DEP's viewpoint, this was confusing as their inclusion in the body of the closure plan had the effect of inferring a commitment on the part of WMDS to conduct those activities under the jurisdiction of both the air and waste permits. As a result, WMDS moved all requirements related to air monitoring and reporting under the jurisdiction of the facility's air permits to an appendix of the closure plan where this information is still available for reference purposes. Any requirements related to air quality monitoring and reporting under the jurisdiction of the waste permit is presented in Section 9.0 of the closure plan modification. Note that WMDS did agree to conduct quarterly surface monitoring as part of its gas migration monitoring program to augment visual observations of final cover integrity.

COMMENT: Air quality standards, including particulate matter, should be established at the highest standards. (24)

RESPONSE: The landfill is already required to meet stringent emission limitations for the turbines and flares. These controls already meet applicable requirements for total particulate. Note that particulate emissions for turbines and flares are minor compared to other pollutants such as nitrogen oxides. The landfill is also required to meet fugitive emission standards contained in 25 Pa. Code Sections 123.1 and 123.2. These requirements are contained in Section C of the landfill's air permit.

COMMENT: Air monitoring has identified VOCs and metals in the air. The landfill is the major source of these contaminants and yet DEP has not reduced emission levels at the landfill. (25)

RESPONSE: The air monitoring conducted in Pottstown provided ambient air quality levels for the general Pottstown area. The monitoring did not determine the emissions from any particular facility, including the landfill. The results indicated the presence of VOC and metals in the air; however, the levels did not pose an adverse health risk to the community.

COMMENT: A WMDS spokesperson said that there is some form of filtering on some of the combustion sources at the landfill. What kind of filtration, on what sources, and what are they trying to filter out? (36)

RESPONSE: Moisture and particulates (gravel, sand) are filtered to prevent formation of siloxanes that may cause deterioration of the turbines.

COMMENT: Does WMDS have the ability to regulate gas pressure coming out of the landfill to reduce emissions during times of testing? Are there vacuum

pumps in place to draw out more gas so they can burn at an accelerated rate between inspections? Are gas rates being monitored daily, and by whom? (37)

RESPONSE: To some extent, WMDS can regulate flow from individual gas wells. This is routinely done to tune or balance the collection system and optimize collection efficiency. Blowers are used to create a vacuum in the gas collection system, thereby pulling landfill gas out of the waste mass via the gas wells and to the gas turbines and/or flare via the collection/transmission piping. The vacuum at a particular well can be regulated to increase or decrease the “pull” at that particular well in an attempt to increase or decrease the gas flow through that well. The rate of the “pull” is equivalent to the rate at which the landfill gas is being generated.

Gas flow rates to the flare are recorded once every 15 minutes. Gas flow rates to each of the gas turbines are recorded at least once per operating day. The air permit’s testing, monitoring and reporting requirements allow for a comparison of routine operating conditions with conditions encountered during testing so that any unusual deviations would be noted.

Bonding and Final Closure Issues

COMMENT: A major concern is the hazardous gas and leachate from this radioactive waste landfill, which will continue to poison the environment and community forever. The closed landfill will remain a threat forever, but WMDS will only be held accountable for 30 years or less. No certificate of closure should be granted for a very long time. (3, 4, 7, 10, 11, 12, 17, 18, 19, 20, 22, 23, 25, 26, 27, 34, 36, 38, 39)

RESPONSE: Please also see the response to comments under Radiation Issues.

Regarding the certificate of closure issue, there remains some misunderstanding of the difference between closure and final closure under DEP’s regulations. Closure is the date on which the facility ceases to accept waste and access is limited to activities necessary for postclosure care, maintenance and monitoring. A closure certification is a written document attested to by a corporate official stating that a landfill has permanently ceased accepting waste and access has been limited to activities necessary for postclosure care, maintenance and monitoring. The Pottstown Landfill is closed, is in closure at this time and has certified to that effect. The landfill will be required to conduct

the postclosure activities that are the subject of this closure plan modification until final closure is attained.

Final closure is the date after which no further treatment, maintenance or other action is or will be necessary to ensure compliance with the Solid Waste Management Act and the applicable regulations. There is no set timeframe for this to occur; rather, it is based on a demonstration that certain performance standards have been met as outlined in 25 Pa. Code 271.342, relating to final closure certification. The timeframe needed to achieve final closure is indefinite and site-specific.

Certainly, one question that both DEP and the waste industry need to address is whether or not a disposal facility in a dormant state can ever achieve final closure when that dormancy is dependent on the continued integrity of the containment systems. However, even if final closure is eventually achieved, there remains a ten-year bond liability period after final closure. Additionally, after final closure, the operator of the facility remains responsible for any additional measures or activities necessary to bring a facility into compliance should conditions change.

The thirty-year figure is a timeframe used to calculate a bond amount. Whether a facility is five years or fifty years into closure, there will be a bond in place providing for 30-years worth of postclosure monitoring and maintenance.

COMMENT: DEP must declare the landfill as a radioactive industrial waste landfill and contiguous property owned by WMDS should be determined to be unsuitable for any purpose as long as waste remains in place. (3, 10, 11, 17, 18, 19, 20, 22, 23, 27, 28, 34, 35, 36, 39)

RESPONSE: Please also see the response to comments under Radiation Issues.

DEP presently has no authority or justification to restrict land use on properties that are contiguous to the permit area. DEP does have jurisdiction over postclosure land use within the permit area to the extent that any proposed land use must be consistent with, and not adversely effect, the monitoring programs and control/containment systems of the closed landfill. Currently, the postclosure land use is to maintain the landfill as a grass-covered hill. Any change in postclosure land use will require a modification to the closure plan that DEP will have to review on its merits. Under current regulations, any such change to the closure plan would be a major modification to the solid waste permit and would be subject to public notification procedures.

COMMENT: Financial assurance (bonding) in the amount of \$100,000,000 should be required or some other amount determined by an independent fiscal evaluation by a public landfill expert. (3, 7, 10, 11, 17, 18, 19, 20, 21, 22, 23, 26, 27, 31, 36, 37, 38, 39)

RESPONSE: DEP is also concerned regarding the adequacy of its current bond amount calculation methods and is continually looking at alternative approaches. However, until or unless DEP revises its bond amount determination procedures, it will have to utilize its current bonding worksheets and cost estimation procedures. There is no justification for an arbitrary amount of \$100,000,000 as suggested by several commentators. The most recent bond estimate for the facility is now nearly \$34,000,000, which is viewed as adequate based on current DEP procedures.

COMMENT: The closure plan does not adequately cover future use of the closed landfill. The landfill will be toxic for hundreds of years and access should be limited to caretakers, regulators and overseers. (7, 26)

RESPONSE: Currently, the postclosure land use is to maintain the landfill as a grass-covered hill. The monitoring and maintenance plans provided in the pending application are adequate for this intended use. Any change in postclosure land use will require a modification to the closure plan that DEP will have to review on its merits. Based on current postclosure land use, access will be limited to the regulatory community and the operator's maintenance and inspectional staff.

COMMENT: Bonding should include costs for cleanout and repair of the sedimentation basins over the 30 year closure period. (21)

RESPONSE: WMDS estimates that the cost to clean out each of the (4) sedimentation basins once during a thirty-year period would be \$40,000 (\$10,000 each). The bonding estimates for facility maintenance provide for \$108,000 to repair the sedimentation ponds. Thus, sufficient funds should be available in the event basin clean out is required. No additional line item is provided on DEP bonding worksheets to account for basin cleanout, and there is no site-specific justification to require such an exceptional item at Pottstown Landfill when no such item is required of other facilities.

Inspectional Activities

COMMENT: Commercial development is encroaching upon the now closed landfill, bringing people and traffic into close proximity to the landfill. Site

security is even more critical. Enhanced security requirements should be implemented. (1, 21)

RESPONSE: WMDS has agreed to increase the frequency of site security inspections (fencing, gates/locks) from quarterly to monthly. In addition, WMDS was asked about plans to dedicate a portion of the entrance road to West Pottsgrove Township in support of the Upland Square development. Such a dedication is in process. As a result, WMDS will provide the necessary additional security/fencing improvements along the portion of the entrance road dedicated to West Pottsgrove Township to isolate specific operational features (leachate tank, gas flare, sedimentation basin, monitoring points, etc.) from the new public road.

COMMENT: Host community inspectors should continue to inspect the landfill during closure just as they did while the landfill was in active operation. (1, 21)

RESPONSE: Host municipalities are eligible for grants of 50% of the approved cost of up to two certified host municipality inspectors. These grants are not restricted to active, operating landfills. Consequently, certified host municipality inspectors can continue to inspect the landfill throughout the postclosure period. The decision to do so is up to Douglass Township and West Pottsgrove Township, as the two host municipalities.

COMMENT: Will various site monitoring events be scheduled to maximize or minimize presence at the site? (21)

RESPONSE: Section 12.0 of the modification application describes the postclosure monitoring and maintenance activities for the landfill. Minimum inspection frequencies are specified for various activities. It is DEP's understanding that these routine inspectional activities will not necessarily be scheduled to maximize site presence but will be scheduled to make efficient use of personnel. This does not mean that site presence will be limited to times of routine inspections, however.

COMMENT: The closure plan does not discuss the role of the host municipality inspector. (21)

RESPONSE: The closure plan outlines the closure and postclosure monitoring, maintenance and inspectional activities of the landfill operator. It is not the place of the closure plan to discuss the role of the host municipality inspector. If one or both of the host municipalities chooses to have a host inspector conduct inspections during postclosure, then that is entirely their decision. Host municipality inspections are authorized by Section 1102 of the Solid Waste Management Act, not the facility's closure plan.

COMMENT: DEP should have access to the site after operations have ended and should make periodic (at least yearly) inspections for 10 years beyond the 30 year postclosure period. (24)

RESPONSE: WMDS has granted DEP, through the land owner consent form that is part of the landfill permit and that is a recordable document, the right to enter the land subject to the solid waste permit for the duration of solid waste management activities and for a ten-year period following final closure certification for the purposes of inspection, monitoring, and maintenance and for the purpose of conducting such pollution abatement or pollution prevention activities required by the Act, or deemed necessary by the Department to carry out any purpose of the Act, the regulations promulgated thereunder and the terms of the permit as the Department deems necessary. DEP also has authority under Section 608(3) of the Solid Waste Management Act to enter any property or place where solid waste is disposed for the purposes of making such investigation or inspection as may be necessary to ascertain the compliance or noncompliance of any person or municipality with the provisions of the Solid Waste Management Act and the rules or regulations promulgated thereunder. Thus, DEP does have adequate authority for site access.

DEP routinely inspects its closed landfills in the Southeast Region at a frequency that depends on the size, age and compliance status of the landfill. Inspection frequency can range from annually to quarterly with more frequent inspections on an as-needed basis. A minimum inspection frequency for landfills in postclosure is an issue being considered in the regulatory revisions being developed by DEP. Once final closure is attained, if ever, there should be no need for further routine inspection by DEP by the very definition of final closure. However, Section 608(3) of the Solid Waste Management Act (described above) grants DEP the right of entry to the property where solid waste is disposed for the purposes of investigation or inspection. Thus, as long as waste remains at the site, DEP will have access rights even after final closure has been attained.

Leachate Issues

COMMENT: Leachate flows on the western side of the landfill continue to be greater than expected for a closed landfill. Periodic assessment of the flow, and associated bond costs, should be conducted in the event major work is needed to correct excessive flows. (1, 21)

RESPONSE: On December 29, 2006, WMDS submitted an assessment of the leachate flows at Pottstown Landfill. That assessment showed that the recent remediation activities to the final cover on the western side of the landfill were effective and concluded that, in combination with the placement of final cover on the eastern expansion area in 2006, leachate flows related to surface water infiltration should decline. However, the assessment also indicated that groundwater was being captured by the underdrain systems put in place to capture leachate from the older, unlined sections of the landfill. This groundwater capture is believed to be a significant source of the persistently high leachate flows experienced at the landfill. Total flows did decline throughout 2007, but it is not clear how much of this was due to reduced surface water infiltration or dry weather, particularly during the summer and early fall months. Monthly flows did trend back up in November and December when more normal rainfall was experienced. Still, leachate flows are within the maximum 30 day estimates derived for the landfill in its postclosure status. For 2008, flows again started to trend lower after the winter/spring months. In addition, WMDS is adding an additional 1,000,000 gallons in leachate storage to bring its available permitted leachate storage capacity into line with the anticipated maximum 30 day leachate generation rates.

DEP agrees that this issue warrants continuing scrutiny. DEP receives monthly leachate generation reports for the total leachate flows and for flows from the western and eastern areas. This will continue throughout the postclosure period so long as leachate flows are generated. Also, WMDS will continue to submit an annual operation report by June 30 of each year for the preceding calendar year. One of the elements of this annual report is an updated bond amount determination. Thus, DEP will be able to monitor the leachate flow situation and will be able to see that adequate bonding costs are maintained that are reflective of the current leachate situation.

COMMENT: The Borough of Pottstown's wastewater treatment plant sludge should not be allowed to be land applied or used in any way if it takes leachate from the landfill. (7, 26)

RESPONSE: This issue is not relevant to the closure plan modification application that is the subject of this comment and response document. The Pottstown Landfill treats its leachate prior to discharge into the Borough's sewer system under a pretreatment agreement. The Borough applies the pretreatment limitations that it believes are necessary for the acceptable performance of its treatment plant to comply with its NPDES permit for discharge of treated wastewater and for the management of its wastewater residuals. The disposal of wastewater residuals (sewage sludge) is regulated by DEP's Waste Management Program via the

receiving disposal or processing facility's permitted waste acceptance plan. Beneficial use of processed wastewater residuals (biosolids) is regulated under individual and general permits issued by DEP's Water Management Program.

COMMENT: NPDES and air permits for the Pottstown wastewater treatment plant should be suspended and reviewed/amended immediately with public input because of the many pollutants of concern related to the Pottstown Landfill leachate discharge. WMDS should not be allowed to transfer their problems to the public sector. (7, 26)

RESPONSE: This issue is not relevant to the closure plan modification application that is the subject of this comment and response document. Further, suspension of these permits is not warranted in addition to being unfeasible. The landfill's gas and leachate has been, and continues to be, tested. Emissions from the gas management systems of the landfill are adequately managed under various DEP permits. The landfill's leachate is subject to pretreatment prior to discharge into the sanitary sewer system in accordance with a pretreatment agreement with the Borough Authority. The Borough's wastewater discharge is governed by its NPDES permit, which is subject to renewal every five years and is also subject to public notice. The discharges from the landfill are managed by permits that are subject to public participation processes.

COMMENT: A new cap should be placed on the old section of the landfill to address leachate and gas odors. (8, 35, 36)

RESPONSE: Remediation of the cap on the older, western side of the landfill has been completed and the repairs appear to have been successful. Persistent leachate flows appear to be related to groundwater capture in the underdrains below the old, unlined sections of the landfill. There is no technical or regulatory justification to support cap replacement at this time. However, the situation bears continued scrutiny to see if leachate flow trends continue to support this assessment.

COMMENT: Long-term maintenance and calibration of leachate flow meters is essential to ensure safe and reliable operation of the facility. (21)

RESPONSE: DEP agrees. This is also an issue of concern between the Pottstown Borough Authority and WMDS. It is our understanding that these issues have been under discussion and that improvements have been made, or agreed to, consistent with the Authority's recommendations.

COMMENT: Monthly leachate flow reports should be provided to the adjacent local governments. (21)

RESPONSE: WMDS has agreed to submit these reports to the host municipalities and counties as well as to DEP and the Borough Authority. WMDS has also agreed to submit these reports in a format that will allow them to be made accessible to the public, such as via a posting to a website, should DEP, the host municipalities or the host counties be so inclined. In addition, WMDS will make this information available to the public via a website that they will upload, update and maintain for a period of at least three years.

COMMENT: Landfill covers should be as impermeable as the liner and meet the required performance standards. (24)

RESPONSE: DEP agrees. This is the case at the landfill since the cap remediation activities were completed by WMDS. This is an ongoing performance requirement. Also, some of the capped areas overlay older, unlined sections of the landfill. In those areas, the cap greatly exceeds the impermeability of the old unlined or asphalt lined areas.

Monitoring Issues

COMMENT: Comprehensive baseline data is needed for all exposure pathways. (3, 4, 7, 11, 17, 18, 19, 20, 22, 23, 25, 26, 27, 38, 39)

RESPONSE: As part of the closure plan, WMDS has provided baseline data for leachate, landfill gas and groundwater that can be use for comparison against future sample results. This is information that is already in DEP's public files, but has been summarized for ready reference in the closure plan modification application.

COMMENT: DEP should require independent oversight regarding placement of groundwater wells. (3, 4, 17, 18, 19, 20, 22, 23, 27, 35, 36, 39)

RESPONSE: There is no regulatory basis for this. The work conducted by WMDS, and the reviews of that work conducted by DEP, are performed by, or supervised by, professionals who are licensed to perform geologic work in Pennsylvania. It is the judgment of these professionals that the existing monitoring system is performing its primary function, which is to detect the entry of solid waste, solid waste constituents, leachate, contaminants or constituents of decomposition into the groundwater. No factual information has been presented to call into question the effectiveness of the present system, which consists of 44 monitoring wells, 7 extraction wells and four water supply wells. In addition,

annual surveys of Goose Run have not indicated any adverse impacts related to the landfill.

COMMENT: DEP should not allow WMDS to discharge leachate into the municipal sewer system without independently verifying removal of all radioactive isotopes, carcinogenic chemicals and metals. (3, 17, 18, 19, 20, 22, 23, 27, 39)

RESPONSE: Please also see the response to comments under Radiation Issues.

The raw leachate from Pottstown Landfill has been adequately characterized. The leachate is subject to pretreatment prior to discharge into the sanitary sewer system in accordance with a pretreatment agreement with the Borough Authority. The Borough Authority implements its pretreatment program in order to comply with its own NPDES discharge requirements.

COMMENT: WMDS should install more groundwater pump and treat systems towards the Upper Pottsgrove side to address the TCE contamination in the Farmington Avenue area. (8, 12, 34, 35, 36)

RESPONSE: The direction of groundwater flow is not from the Pottstown Landfill to the Farmington Avenue area of Upper Pottsgrove Township. Farmington Avenue is located to the east of the landfill. Groundwater flow at the landfill is radial, downward draining flow with discharge to the stream systems adjacent to the landfill. Along the eastern side of the landfill, steeper downward gradients result in a flow towards the valley that trends southwards from the center of the eastern expansion area.

COMMENT: Tritium should be included in the quarterly groundwater monitoring parameter list. (21)

RESPONSE: At DEP's request, WMDS has agreed to include Tritium in the quarterly groundwater monitoring program, provided that WMDS can request the monitoring be reduced or terminated after the establishment of one to two years of data. DEP believes that this is reasonable to establish a baseline. The decision to terminate or reduce the Tritium monitoring will be made after a review of the data.

COMMENT: There is still an issue regarding the long-term viability of the barhole probe use for gas migration monitoring and WMDS's willingness to replace a probe location with a permanent monitoring point. Related bonding issues. (21)

RESPONSE: WMDS proposes a combination of permanent gas monitoring probe locations in addition to barhole locations. This includes the conversion

of several current barhole locations to permanent probe locations. Should a trend of exceedances be indicated at a particular barhole location for three consecutive monitoring events, a permanent probe will be installed at that location. In addition, WMDS has agreed to include surface scans as part of its routine quarterly gas migration monitoring. A bond cost item has been included to incorporate the surface scan monitoring.

COMMENT: VOC and Tritium should be added to the parameter list when monitoring flow from the leachate detection zone. (21)

RESPONSE: WMDS has agreed to monitor those leachate detection zones that have flow but have not been identified as containing leachate for VOC and Tritium on a one time basis to assist in the determination of whether the flow is indicative of leachate. This monitoring will be conducted during one of the regularly scheduled quarterly 2009 sampling events. DEP retains the authority under 25 Pa. Code 273.255(d)(3) to require sampling and analysis for constituents expected to be found in the waste.

COMMENT: Groundwater and gas migration monitoring should be required at the property lines and beyond for a 1-mile circumference. (24, 37)

RESPONSE: The municipal waste regulations for groundwater monitoring wells require wells to be located within 200 feet of the disposal area or at points of compliance. Points of compliance would be the closer of 150 meters from the perimeter of the disposal area or the property boundary. Likewise, gas migration monitoring is designed to detect gas levels within structures on the site or at the boundaries of the site, i.e., no offsite migration of gas. There is no regulatory justification for monitoring for a 1-mile circumference around the site, particularly when there is no evidence of any detection or migration of contaminants off of the site.

COMMENT: Gas emissions from the landfill are a significant threat to cause explosions or health impacts. Gas migration has already occurred, resulting in vinyl chloride being discovered in the groundwater. (25)

RESPONSE: DEP agrees that gas migration is a significant concern. That is why the landfill operator is required to design and implement a gas monitoring and detection program in addition to a gas collection and control system. As described in a previous comment, WMDS is enhancing the monitoring program by converting some barhole locations to permanent probe monitoring points and by including quarterly surface scans into its gas monitoring program. The gas migration event, which resulted in the detection of vinyl chloride in groundwater, occurred in 1996/1997. Changes to the gas control system were made by WMDS and the gas

migration ceased. Vinyl chloride detections in the groundwater decreased in concentration and became sporadic through 2004. No vinyl chloride has been detected since 2004. This shows that, in addition to the gas probe/barhole monitoring conducted by the operator, the groundwater wells also can be utilized to detect migration of landfill gas.

COMMENT: There should be independent monitoring of the site and the closure committee should decide who does the monitoring. WMDS can't be trusted to do their own monitoring. (36)

RESPONSE: DEP has no authority to require independent monitoring of the site and WMDS has not voluntarily consented to any such monitoring. WMDS is required to conduct their own monitoring, and they are required to utilize accredited laboratories when doing so. On occasion, DEP collects its own samples, such as when it collects split samples with WMDS during selected groundwater sampling events as part of DEP's quality control oversight. No entity besides DEP or a certified host municipality inspector has any right to access the site for the purpose of collecting samples unless granted that right by WMDS.

Radiation Issues

COMMENT: There is a radiation problem at the landfill. Massive amounts of radioactive waste were disposed in the landfill prior to 2004, when the landfill permit was modified to allow radioactive waste dumping. EPA's 1991 hazardous site report stated that landfill leachate contained significant levels of alpha and beta radiation. DEP's own 1997 radiation testing revealed gross beta at 776,820 picocuries/liter and gross alpha at 273,806 picocuries/liter. DEP's own 2005 testing found 17 different kinds of radiation in the landfill leachate including alpha and beta above the MDC level in most samples and strontium 90 in every sample. This radioactive leachate gets discharged into the Pottstown sewer system. (25)

RESPONSE: Allegations about the landfill being a toxic, hazardous or radioactive landfill have been made for many years, and these concerns have been addressed by DEP many times. Reference is made to the comment and response documents for the 1997 public hearing for the Eastern Expansion application, the 2000 public hearing for the Toro Energy/Occidental Chemical/WMDS applications to utilize landfill gas as an alternative fuel, and the 2002 public hearing on the landfill's radiation protection action plan. Reference is also made to DEP's report on its 1996 air, water and soil sampling for radioactivity at the Pottstown Landfill, DEP's 2005 report to the Pottstown Closure Committee on radiation, radioactivity and environmental surveillance at the Pottstown

Landfill, and the Pennsylvania Department of Health's 1998 and 2003 reports on cancer incidence rates in the Pottstown area. Excerpts from these reports are repeated below.

DEP conducted a radiological survey of the Pottstown Landfill during the summer of 1996. Results of the radiological survey were conveyed to the general public during a public meeting held on March 11, 1997. The results of the radiological survey performed by DEP did not justify any further investigation.

The 1996 survey included the collection and laboratory analysis of samples of soil, sediment, surface water and ground water from selected locations on and off-site from the landfill plus samples of leachate from several cells of the landfill and the treatment system. These samples were subjected to standard screening tests for radioactivity including determination of levels of gross alpha and beta radioactivity and gamma spectroscopic analysis.

The radioactivity levels in soils and sediments were all within the range of values expected for natural background in soils for the area. The only "man-made" radionuclide detected was cesium-137, a fission product produced in nuclear weapons and in reactors. The levels of Cs-137 found ranged from below detection limits to 0.27 picocuries per g (pCi/g). These levels are similar to those reported internationally at these latitudes for fallout from 1950's and 1960's weapon testing, and are less than the levels obtained in pre-operational tests near the several nuclear power plants in the general area. Thus, the most logical source of the Cs-137 found is, therefore, fallout.

The levels of radioactivity found in ground and surface water samples were not elevated above what would be expected from natural sources. Radioactivity levels in the leachate samples from several cells and in the leachate treatment system were, in general, higher than in ground water but not at levels of concern. Gross alpha levels ranged from below detection limits to 273 picocuries per liter (pCi/L) and gross beta levels from below detection limits to 776 pCi/L (note: The commentator either got the units wrong or mistook a decimal for a comma as the gross alpha and beta results were not 273,806 pCi/L and 776,820 pCi/L, respectively, as alleged). The only finding from gamma spectroscopy was the presence of potassium-40 (K-40), a natural radionuclide which emits both beta and gamma radiation and is found in rocks and all living things. K-40 levels ranged from 255 to 616 pCi/L and largely account for the gross beta levels found.

To determine which radioisotopes were responsible for the gross alpha and beta levels found in the leachate samples, additional samples were

obtained from cells W-2, 7 and 10 on January 6, 1997. In addition to the screening tests performed on the previous samples, specific analyses were done for the thorium and uranium isotopes, strontium-90, and for tritium. Thorium and uranium are present in rocks and soils in the area, and potentially in waste disposed in the landfill over the years by area industrial facilities. These materials had to meet the U.S. Nuclear Regulatory Commission (NRC) Branch Technical position release criteria for unrestricted release. Small amounts of radioactivity were also known to have been in several loads of sludge disposed in the landfill from the Royersford Waste Water Treatment Facility (WWTF) after evaluation by the U.S. NRC and the Department. Tritium, a radioactive form of hydrogen, is found at low-levels in the environment, and has been reported at higher levels in landfills in England and Austria. Leachate sample analyses for thorium, uranium, strontium-90, or cobalt-60 were negative. The gross alpha levels were below detection limits. Gross beta levels ranged from 0.9-776 pCi/L but, within the statistical limits of the analyses, were accounted for by the natural K-40 and lead-210 identified by gamma spectroscopy. Tritium levels were elevated, ranging from 14,100 pCi/L in cell 10 to 101,200 pCi/L in cell 7. For comparison, the U. S. Environmental Protection Agency (EPA) and PA-DEP limit for tritium in drinking water is 20,000 pCi/L, the NRC and PA limits for tritium in the environment is 1,000,000 pCi/L, and 10,000,000 pCi/L for release to the sewer. Background tritium levels in water from past weapons testing and continuous atmospheric cosmic ray production currently range from 50 to 150 pCi/L. Nonetheless, the levels found in the leachate are substantially below either of the latter limits, which might apply to tritium in the environment. The drinking water limits would not apply to leachate in a landfill.

To further investigate these findings, DEP and the landfill operator jointly collected additional leachate samples from the same three cells. In addition, samples were collected at the intake and outlet of the on-site leachate treatment plant, the discharge from the Pottstown WWTF to the Schuylkill River, at the Route 113 bridge (near the Philadelphia Suburban Water intake) and from the lunchroom sink at the landfill which gets water from an on-site well. These samples were all tested for tritium.

These data confirmed that tritium was present in the landfill. The source of the tritium is not known but is most likely from disposal of self-luminous signs such as commercial-grade exit signs. These signs are manufactured under general license from the U. S. Nuclear Regulatory Commission and should be returned to the manufacturer for disposal. However, in recent years, there have been reports of such devices being found in waste streams or demolition debris. The NRC has recently

taken action to require periodic inventory of generally licensed devices. The above data also indicated that, while there was tritium in the landfill, levels reaching the surface water through discharge of treated leachate were not different from levels found in PA streams in general.

In response to an application from Toro Energy to beneficially use landfill gas as an alternative fuel, DEP conducted a study designed to determine, over a period of several weeks, whether or not radioactivity released from the landfills flares and gas turbines could be detected. This study was conducted in 1999.

The absolute values of tritium-in-air ranged from 0.0 to 2.12 pCi/m³ at the landfill site and 0.0 to 0.97 pCi/m³ at the background site. None of these values exceeded the lower limit of detection, determined statistically from counting data (less than 5 pCi/m³). For comparison, the regulatory limit for tritium in air for an unrestricted environment is 100,000 pCi/m³.

The only radioisotope identified by gamma spectroscopy of the composited particulate filters was beryllium-7, a naturally occurring cosmic ray generated radionuclide. Analyses for Sr-90 were negative in all samples, as were alpha spectroscopic analyses for thorium and uranium.

A positive reading of 0.3 pCi/L was obtained on one of two radon monitoring units at the background location. All other readings were below the detection limit of 0.2 pCi/L. According to the EPA, the ambient outdoor radon levels are of the order of 0.1 to 0.3 pCi/L. However, DEP has in the past received reports of several pCi/L for outdoor radon levels from persons conducting research in the Reading Prong area.

The available data from the 1996 and 1999 monitoring events did not support a conclusion that natural or man-made radionuclides were being released from the landfill at levels of regulatory concern, via release of treated leachate to the sewer system or through burning of landfill gas. The screening results from the 1996 survey indicated that levels of radionuclides in the surface and ground water collected were not cause for concern. The 1997 follow-on study demonstrated that radioactivity levels released to the Pottstown POTW were within regulatory limits and that levels reaching the Schukill River were not different from PA streams in general. And, the 1999 study found that Tritium appears to be the only radionuclide in landfill gas, and it would be converted to tritiated water in a combustion process.

As part of the 2004 permit modification for the radiation protection action plan, DEP required an enhanced monitoring program consisting of annual leachate monitoring for tritium, gross alpha and gross beta and included a gross gamma spectroscopic scan. The annual results are compared to the maximum values observed during DEP's 1996/1997 sampling. So long as results remain at the levels of values observed in 1996/1997, then the baseline assumptions and evaluations of the previous studies remain intact. In the monitoring conducted since 2004, gross alpha, gross beta and tritium results have been at or below the 1996/1997 levels that were previously determined to be of no regulatory concern. In addition, gamma radiation detection levels were either less than the standard error and were reported as undetected or were detected at levels representative of background conditions. Also, since this time, all loads of waste received at the landfill have been screened for radioactivity in accordance with the radiation protection action plan, which utilized portal monitors at the waste acceptance scale.

Thus, sample results collected since 1996-1999 confirm DEP's original findings that natural or man-made radionuclides are not being released from the landfill at levels of regulatory concern, via release of treated leachate to the sewer system or through burning of landfill gas.

In both its 1998 and 2003 reports, the Pennsylvania Department of Health concluded that, based on the types of cancer in the area and the rates, there isn't an indication that the environment contributes to the cancer rates, and there is no environmental data demonstrating that there are human exposures to carcinogens in the area that could increase the risk.

Recordkeeping and Reporting Issues

COMMENT: WMDS should make available, in electronic format, ongoing reports for all sampling and inspections at the landfill. Also, on-site record retention periods should be standardized to five years. (1, 21, 31)

RESPONSE: WMDS has agreed to submit to DEP and the host municipalities and counties the following information in a format that will allow them to be made accessible to the public.

- Quarterly and annual groundwater monitoring results;
- Semi-annual surface water discharge monitoring results;
- Annual Goose Run Macroinvertebrate Survey Reports;
- Reports submitted to the facility's Title V permit;

- Annual physical and chemical analytical results of landfill gas, condensates and other residues required per 25 Pa. Code 273.293(b);
- Quarterly gas migration monitoring results;
- Quarterly and annual leachate monitoring results and leachate detection zone flow monitoring results;
- Monthly leachate flow and leachate detection zone flow reports; and,
- Monthly/quarterly inspection summary reports.

WMDS has also agreed to make this information available to the public via a website that they will upload, update and maintain for a period of at least three years. In addition, the website will also contain the closure plan permit modification and the associated application.

WMDS has also agreed to standardize on-site records retention to a five year period.

COMMENT: There should be a record of all the amounts of waste disposed in the landfill over the years: municipal waste, residual wastes, asbestos, incinerator ash, infectious waste, radioactive waste and so on. (10, 39)

RESPONSE: This information already exists as part of the facility's daily operational records. This information must be retained by the facility for the life of the facility bond. These records must be made available to DEP upon request. In addition, information on the amount of municipal waste, residual waste, sewage sludge, infectious waste, construction waste, ash residue and asbestos waste disposed each quarter and each year since 1989 is available on DEP's website for all permitted landfills in Pennsylvania. Please refer to the following link:

www.depweb.state.pa.us/landrecwaste/cwp/view.asp?A=1238&Q=464453

Lastly, WMDS provided copies of records of asbestos waste disposal locations and quantities that the Title V permit required as an appendix to the closure plan modification application.

COMMENT: Annual topographic surveys should be required as part of an annual report submission throughout at least the first five years of closure. (21)

RESPONSE: WMDS has agreed to provide topographic survey updates and isopach maps as part of their annual operation report submittal for five years, which will be seven years past closure of the Eastern Expansion area. DEP may require topographic surveys beyond that timeframe.

Other Issues

COMMENT: WMDS should be required to remediate the historic, 30-year old contamination of groundwater, surface water, residential wells and soil. To date, no cleanup has occurred. (3, 8, 17, 18, 19, 20, 22, 23, 27, 28, 38, 39)

RESPONSE: In 1979, evidence of offsite leachate contamination was noted in a residential well (O'Boyle residence). This well was located to the south of the landfill. Potable water was supplied to the homes along Sell Road by way of a new water supply line. A landfill well (PDE04) and a residential well were pumped for 2 years in an effort to capture the contaminated water. This pumping appears to have drawn the leachate contamination farther from the landfill and pumping was ceased. After a series of detailed investigations, a groundwater extraction system was installed to the south of the old leachate lagoon and the unlined area of the landfill. This extraction system has been in operation since 1992. Its operation is monitored and enhancements have been made over time. The current version of the system includes seven extraction wells. This system is controlling the groundwater flow from beneath the unlined area of the landfill and the old leachate lagoon area.

COMMENT: DEP should defer any action on the pending modification application until the proposed revisions to the waste regulations are finalized. These revisions should address landfill closure. (3, 17, 18, 19, 20, 22, 23, 27, 39)

RESPONSE: There is nothing to be gained, and much to be lost, by deferring action on the application until the waste regulations are revised. First, the timeframe for any such regulatory revision is indefinite. Second, the regulations may not address closure issues. If they do, any such revisions will be applicable to WMDS at the time they are promulgated. Third, this closure plan modification application does enhance the postclosure monitoring, maintenance and inspection requirements above and beyond the current regulations. To defer action would be to defer the implementation of these enhancements.

COMMENT: The landfill closure committee process was flawed and should not be utilized in other places. The committee never figured out how to deal with the public and locked out the local environmental group. (7, 26)

RESPONSE: The closure committee process was an initiative facilitated by DEP with the cooperation of WMDS and the local municipalities and counties. Its purpose was to bring affected communities and WMDS together to work voluntarily and collaboratively, thereby ensuring that the needs of the communities were met in the closure and post closure phases of the

landfill. There was, and is, no set or prescribed process to be followed. The public was invited to attend all meetings and offer their input. The meetings were taped and aired by the local cable access channel, and covered regularly by the local press. This process led to numerous draft recommendations by the committee for the closure of the landfill. These recommendations were the subject of a public meeting held by the committee before finalizing their recommendations and submitting them to DEP for consideration. One major outcome of these recommendations was the submittal of the waste application for the consolidation and modification of the closure plan. This application, in turn, provided the committee, DEP and the public further opportunity to gather information and provide comment on the closure and postclosure management of the landfill. Through this entire process, WMDS has agreed to make many enhancements that it would not otherwise have had to make.

[Included as ATTACHMENT A to this document is an information summary, in a tabular format, of the committee's recommendations and WMDS's response to those recommendations. Many of the comments and responses in this document deal with the issues raised by the committee. This attachment is not meant to be a comprehensive summary, but is merely intended as a brief overview of how many of the committee's 27 recommendations WMDS agreed to implement or adopt. It is not being offered as part of this document's response to comments, but is provided for informational purposes as a related topic.]

COMMENT: EPA documents show that, back in 1991, the landfill should have been declared a Superfund site. Instead, it was allowed to continue to operate and expand. (8, 36)

RESPONSE: According to EPA records, Pottstown Landfill is an archived site. This means that the site is of no further interest to the Federal Superfund program based on available information. According to EPA records, a site inspection was conducted and the site was determined to be classified for no further remedial action on August 21, 1991. On June 10, 1993, EPA completed a hazard ranking system package and classified the site as no further remedial action planned. On this date, EPA archived the site records. According to EPA's own records, they determined that the site required no further action on their part and listed the site status as not on the NPL (National Priority List). EPA determined that the Pottstown Landfill was not a Superfund site – the opposite of the claim alleged by this comment.

COMMENT: DEP should decide on this permit modification based on common sense, rational judgment and sound science, not on a smear and fear campaign. No links have been made between the landfill and local health issues.

The landfill expansion was denied because issues with the Pottstown Airport, not any environmental or health problem. (13)

RESPONSE: DEP acknowledges this comment.

COMMENT: Need notification of all adjacent or impacted communities as part of contingency procedures. (21)

RESPONSE: WMDS has agreed to expand its notification list to include Upper Pottsgrove Township for gas migration issues and to include Douglass Township and the Borough of Pottstown as potential downstream users in the event of an emergency or spill. The PPC plan contact/notification list has been so modified.

COMMENT: A consultant should be selected by DEP and paid for by the landfill owner to evaluate the human health and environmental risks associated with the post closure use identified by the landfill owner. Failure to implement post closure land use as identified in the host municipality agreement should cause a fine to be paid by the landfill to the host municipality. (24)

RESPONSE: There is no statutory or regulatory basis for requiring the landfill owner/operator to pay for a third-party consultant for this purpose. The current postclosure land use is a grass covered hill. Any future changes to postclosure land use will require local land use approvals as well as a modification to the landfill's solid waste permit. Any restrictions placed on postclosure land use by the host municipality agreement are strictly a contractual issue between WMDS and the host municipality. Failure of WMDS to comply with its solid waste permit, which includes the closure/postclosure plan that is subject to the pending modification, would subject them to possible enforcement action and associated penalty liability.

COMMENT: All closure regulations should be carefully considered and cross-referenced to other existing environmental laws and regulations. (24)

RESPONSE: This is current DEP practice.

COMMENT: Stormwater detention ponds must be retained to control potential stormwater impacts. (24)

RESPONSE: WMDS agreed to retain the stormwater detention basins throughout the postclosure period, even though the regulations would allow them to seek removal of the basins based upon a future demonstration that the basins are no longer necessary to met the requirements of 25 Pa. Code 273.241.

COMMENT: DEP must assure the host municipality that the postclosure plan has been implemented in a manner protective of human health and the environment. (24)

RESPONSE: DEP submits that its regulations governing postclosure care are protective of human health and the environment and that it wouldn't approve a closure plan that didn't satisfy these regulatory requirements. In addition, WMDS, via this permit modification application, has agreed to go above and beyond the minimum regulatory requirements. DEP will continue to inspect and regulate the facility throughout the postclosure period.

COMMENT: DEP should not allow or permit WMDS to sell or transport radioactive, hazardous, corrosive and explosive gas off site by pipeline or any other way. (36)

RESPONSE: WMDS is not proposing any off-site gas use projects at this time. Should such a project be proposed in the future, DEP will entertain such a request on its own merits. Any such request will likely require one or more DEP permits, which will no doubt be the subject of public review and commentary.

COMMENT: Contamination was proven decades ago at Dandy Dam and never cleaned up. Who will pay for this? (38)

RESPONSE: DEP is not aware of any past contamination issue regarding Dandy Dam. The dam has a permit, E46-033, and is subject to quarterly inspection and evaluation by WMDS as part of its dam safety, surveillance and evacuation plan. Groundwater monitoring wells PDG15 and PDG16 were installed in 1987 and are on the east and west side, respectively, of Goose Run in the vicinity of the dam. These wells were installed for the purpose of detailed hydrogeologic evaluation and were subsequently included in the groundwater monitoring plan. Neither these wells nor the aquatic surveys of Goose Run indicate any water quality problems.

Commentators via Verbal Testimony

- | | |
|---|---------------------|
| 1) Ruth Damsker, Pottstown Closure Committee | 8) Lisa Smoyer |
| 2) Don Read, Pottstown Borough Authority | 9) Dr. Fred Winter |
| 3) Dr. Lewis Cuthbert, ACE | 10) Shirley Whyte |
| 4) Donna Cuthbert | 11) Valerie Harris |
| 5) Diane Mazze | 12) Georgia Smith |
| 6) Lorraine Ruppe | 13) Jim Burns |
| 7) Tina Daly, PEN | 14) Samantha Sibley |
| | 15) Kiersten Hepler |
| | 16) Chris Miller |

Commentators via Written Testimony

- | | |
|------------------------------------|---------------------|
| 17) Sen. John C. Rafferty | 28) Darlene Heere |
| 18) Rep. Tim Hennessey | 29) Kiersten Hepler |
| 19) Rep. Thomas Quigley | 30) Diane Mazze |
| 20) Borough of Pottstown | 31) Leslie Rohrbach |
| 21) Pottstown Closure Committee | 32) Lorraine Ruppe |
| 22) ACE | 33) Samantha Sibley |
| 23) Jean Benedetto | 34) Georgia Smith |
| 24) Carolyn Brunschwylar | 35) Anna Smoyer |
| 25) Donna Cuthbert | 36) Lisa Smoyer |
| 26) Tina Daly, PEN | 37) Mike Tiley |
| 27) Jason Halteman | 38) George Wausnock |
| | 39) Shirley Whyte |

File

ATTACHMENT A

Pottstown Landfill Closure Committee Recommendation Summary

Pottstown Landfill Closure Committee Recommendations

Recommendations

WMDS Response

How Addressed in Application

| | | |
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| <p>1. Self-contained Post Closure Plan</p> | <p>Agreed to submit a consolidated closure/post closure document.</p> | <p>On 6/30/06, submitted major modification to consolidate the closure/post closure plan for the Pottstown Landfill. After review and comment by DEP, closure committee members, host municipalities and counties, and the public, a permit modification will be issued to incorporate the enhanced post-closure monitoring and maintenance plan into the landfill's permit.</p> |
| <p>2. Turn over landfill information for repository at DEP regional office.</p> | <p>Records are too voluminous to copy and DEP does not have the storage space to retain all landfill records. Information will be archived at a secure, third party storage location. Documents will be made available to DEP upon request from DEP, subject to prior notification and scheduling constraints.</p> | <p>2/07 application supplemental response describes how and where records will be kept and how access will be provided. Daily Operational records will be kept for the life of the bond. Pre-closure records will be stored off-site at an Iron Mountain Storage facility. Post-closure records will be kept on-site for 5 years and then stored off-site at Iron Mountain Storage. Permits and application documentation will be kept on-site for the life of the bond. Environmental monitoring data will be kept for the life of the bond. Data is kept on-site for five years and then stored off-site at Iron Mountain Storage. Construction records area kept on-site for the life of the bond. On-site records are available for DEP review during routine site inspections or visits. Off-site records will be made available to DEP upon formal request.</p> |
| <p>3. Site characterization of hot spots or suspect cells.</p> | <p>Current site conditions do not warrant such action. Agreed to include, in the consolidated closure plan, the response and remediation protocols to be followed should the need arise.</p> | <p>Various sections in the application refer to the standard response procedures required by the regulations, i.e. groundwater monitoring, leachate detection zone monitoring, gas probe monitoring, etc.</p> |
| <p>4. Replace the clay cap on the western portion of the landfill with a geomembrane cap.</p> | <p>Maintenance and upgrades have been performed to bring the western portion's final cover system into compliance with regulatory requirements, which allow for clay cap systems. An assessment of these remediation efforts was submitted to DEP concurrent with the review of the consolidated closure plan.</p> | <p>Not addressed in the application, other than the routine monitoring and inspection programs to be performed to ensure the integrity of the final cover system throughout the post closure period. 12/06 assessment response shows that surface infiltration most likely repaired but groundwater sources may be responsible for continued high leachate volumes. DEP does not believe there is justification to require replacement of the clay</p> |

Pottstown Landfill Closure Committee Recommendations

How Addressed in Application

WMDS Response

Recommendations

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| <p>5. Leachate recirculation or bioreactor systems may hold promise, but are better investigated at other, more suitable facilities.</p> <p>6. Reevaluate and enhance the perimeter gas monitoring system.</p> | <p>Comment directed towards DEP.</p> <p>Agreed.</p> | <p>cap, nor is there justification to require bonding for a large scale cap replacement project. Leachate flows will be monitored by review of the monthly flow reports and the annual operation report.</p> <p>Comment acknowledged by DEP. Other PA facilities are using recirculation techniques and bioreactor design issues are being pursued by both the industry and regulatory authorities. However, no such proposals are under consideration for Pottstown Landfill.</p> |
| <p>7. Test gas semi-annually as well as test suspect cells when needed.</p> | <p>Agreed in part. Will continue to test gas monthly for methane, carbon dioxide and oxygen at all gas wells per schedule in Title V permit. Full gas composition testing done semi-annually for two years and then revert to annual per the waste regulations. Results to date do not warrant more frequent testing on a long-term basis.</p> | <p>Section 9 of the application addresses this issue. WMDS proposes to convert 12 barhole monitoring locations to permanent monitoring probe locations. 2/07 application supplemental response elaborates on response procedures. 3/08 application supplemental response states that WMDS will conduct quarterly surface scans as part of waste permit.</p> |
| <p>8. Testing of fugitive and post-combustion emissions should be evaluated and expanded if necessary.</p> | <p>Landfill is monitored for fugitive emissions on a regular basis. Testing and monitoring performed per Title V permit requirements. WMDS has agreed to additional monitoring for fugitive emissions in its revised Title V permit and has also agreed to test all control devices during the per permit term.</p> | <p>Application provides information on the AQ and Title V permit monitoring requirements that are subject to regulation by AQ. Testing of the landfill gas and the gas condensate per the waste regulations will be done semi-annually for two years and then revert back to annual testing.</p> |
| <p>9. DEP should continuously review new technologies, such as non-burn technologies, to better manage landfill gas.</p> | <p>Although the comment is directed mainly towards DEP, WMDS agrees with DEP that there is no commercially viable non-burn technology presently available for landfills at the present time.</p> | <p>As part of Title V permit review, WMDS has agreed to a stack test once in five years and interim annual testing with a portable device.</p> <p>DEP continually works with the industry to review new technologies.</p> |

Pottstown Landfill Closure Committee Recommendations

How Addressed in Application

WMDS Response

Recommendations

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| <p>10. DEP, WMDS and others should explore the use of non-burn or other innovative technologies at Pottstown Landfill.</p> <p>11. Additional detection zone monitoring when any flow exists and not just when flow exceeds 100 gpad.</p> <p>12. Testing for methane should be done in perimeter groundwater monitoring wells and extraction wells.</p> <p>13. Address monitoring of NPDES Stormwater runoff.</p> <p>14. Continue monitoring of Goose Run throughout the post closure period.</p> <p>15. Continue tritium monitoring.</p> | <p>WMDS continuously investigates and monitors new technologies. WMDS would consider utilizing a new technology if and when it is proven to be technologically and economically feasible and compliant with all regulatory requirements.</p> <p>Agreed. Refers to Form 50 and 25 Pa. Code 273.255 requirements. Acknowledges that DEP may add additional parameters to standard indicator parameters required in the regulations.</p> <p>Agreed that testing should be conducted quarterly in the perimeter gas monitoring probes, but not in the groundwater wells. Did agree to utilize nearby groundwater wells as additional monitoring point if gas probe monitoring indicates presence of landfill gas.</p> <p>Although already included in the existing plan via the bond worksheets, this item is more specifically addressed in the consolidated post closure document.</p> <p>Agreed.</p> <p>Agreed to continue for at least 5 years in accordance with current enhanced monitoring program or to substitute any future DEP requirements in place of the current program.</p> | <p>N/A.</p> <p>Application refers to current DEP monitoring form requirements (Form 50) for required monitoring frequencies and parameters. 3/08 application supplemental response agrees to do testing of detection zone flow not currently identified as leachate-impacted for VOC and tritium for one quarter to evaluate impacts.</p> <p>Quarterly monitoring of the gas probes and barhole locations is provided in the application. The contingency use of nearby groundwater monitoring wells is added in the 2/07 application supplemental response.</p> <p>Section 7 of the application addresses this issue and provides a copy of the Stormwater NPDES permit. There are five monitoring locations (Sedimentation Basins A, B, C, F and the concrete flume), which are monitored once every six months for chemical oxygen demand, oil and grease, pH, total dissolved solids, total organic carbon, ammonia, nitrate-nitrogen and a list of inorganics (i.e., metals).</p> <p>Section 7 of the application acknowledges this ongoing requirement. 2/07 application supplemental response acknowledges that survey will continue throughout post closure and provides bonding cost for annual survey.</p> <p>2/07 application supplemental response agrees to continue with enhanced monitoring until Form 50 is revised, and to monitor both east and west sides.</p> |
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Pottstown Landfill Closure Committee Recommendations

How Addressed in Application

WMDS Response

Recommendations

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| <p>16. Include tritium in the groundwater monitoring program and commence indoor air monitoring.</p> <p>17. Committee should hire a consultant to conduct a peer review of DEP's BRP 9/9/2005 report with the potential for supplemental or revised recommendations.</p> <p>18. Conduct weekly monitoring of final cover.</p> | <p>There does not appear to be any need to monitor the air at this time. Agreed to continue the enhance leachate monitoring program (see above) and to monitor groundwater.</p> | <p>3/08 application supplemental response agrees to monitor tritium in groundwater wells for one to two years, reserving the right to request cessation depending on results.</p> <p>N/A.</p> |
| <p>19. DEP should review monitoring programs every five years to update as necessary.</p> | <p>Agree with the concept for monitoring and inspection of the final cover. Agree to do a formal inspection on a monthly basis. Also agrees to incorporate final cover inspection as part of other on-site activities, such as gas well monitoring, leachate inspection/collection and other regularly scheduled tasks. It is anticipated that these informal final cover inspections will occur on at least a weekly basis.</p> <p>WMDS agreed to review its program periodically with DEP and noted that the regulations require such a review every 5 years.</p> | <p>Section 12 of the application discusses monitoring and inspection frequencies. Final cover will be inspected monthly and after significant storm events and during monthly gas well monitoring. Repairs will be made on an as-needed basis. 9/08 supplement to 3/08 response agrees more clearly to the concept of an informal weekly inspection of final cover to augment the more formal monthly inspection. Also will do inspections after significant storm event (defined) and agrees to include quarterly surface emission scans as part of the waste closure plan.</p> <p>N/A. 5 year review is a current regulatory requirement in 25 Pa. Code 271.211(d).</p> |
| <p>20. DEP should better define criteria and process in determining final closure certification.</p> | <p>WMDS will seek final closure certification in accordance with the regulations and requirements in effect at the time. Issue has been raised with Bureau of Waste Management for consideration as part of the re-evaluation of the waste regulations.</p> | <p>N/A.</p> |

Pottstown Landfill Closure Committee Recommendations

| Recommendations | WMDS Response | How Addressed in Application |
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| <p>21. WMDS should develop a formal relationship with West Pottsgrove and Upper Pottsgrove police to augment security.</p> | <p>Agreed to continue discussions with West Pottsgrove police and fire departments, and to provide appropriate emergency responders with copies of PPC Plan.</p> | <p>Section 12 discusses existing site security provisions – fencing, gates, roads, and signs – and their monthly or quarterly inspection frequency. No mention is made of any formal relationship with local police or fire other than the inclusion of the Pottstown and West Pottsgrove police and fire departments in the PPC Plan’s list of emergency response agencies. 3/08 application supplemental response agrees to monthly security inspections</p> |
| <p>22. PPC Plan should be updated annually and copies provided to local responders.</p> | <p>Agreed to review PPC Plan on an annual basis. If updated, the updates will be made available to local responders as appropriate.</p> | <p>The PPC Plan lists the local agencies to which copies and updates will be provided. 2/07 application supplemental response adds language to have PPC Plan reviewed or evaluated annually at a minimum.</p> |
| <p>23. DEP should not make any partial releases of bonds until 2055.</p> | <p>WMDS may elect to seek partial releases in accordance with the regulations. It is not appropriate to make an arbitrary determination regarding the post closure period.</p> | <p>The application includes revised bond worksheets that reflect additional monitoring costs and the completion of final cover on the eastern portion of the landfill. 3/08 application supplemental response increased the bond amount to nearly \$34 million. The amount increased because of re-evaluation of leachate flows and other missing costs identified in the comment letter.</p> |
| <p>24. Bonding should account for some type of catastrophic failure scenario.</p> | <p>The bond for the landfill is in accordance with DEP requirements. DEP has the discretion to determine bond amounts on a site-specific basis.</p> | <p>DEP cannot unilaterally refuse a partial bond release if the request is justified. All that DEP can do is require that the remaining bond amount be adequate for the facility.</p> <p>The bond worksheets referenced above follow current DEP guidelines, which do not include a catastrophic failure scenario as a routine cost calculation.</p> |
| <p>25. WMDS should provide a legacy information system.</p> | <p>WMDS agreed to host a website for at least 3 years that will commence after issuance of the consolidated post closure permit modification. This will include the posting of the closure plan, permit and inspection/monitoring data in an electronic format that can be made available to the public via the website. Website to be updated on a quarterly basis, consistent with most data submission requirements.</p> | <p>DEP asked WMDS to include monitoring data summaries to establish a comparative baseline in the closure plan that can be used to compare against future monitoring results. DEP also asked for more site history and facility descriptions to provide a single-source summary of site conditions. 2/07 application supplemental response provides this information and also commits to submitting certain reports and monitoring results in a</p> |

Pottstown Landfill Closure Committee Recommendations

| Recommendations | WMDS Response | How Addressed in Application |
|---|--|--|
| <p>26. Consider a citizen-based oversight committee for all landfills that are within 2 years of closing.</p> | <p>Issue was raised with Bureau of Waste Management for consideration as part of the re-evaluation of the waste regulations.</p> | <p>pdf format so that it can be made available to the public by posting on a web site to be hosted by others. In the 9/08 supplement to the 3/08 application supplemental response, WMDS agrees to host such a website for at least 3 years.</p> |
| <p>27. The closure committee should be continued and formalized as an oversight committee working.</p> | | <p>N/A.</p> |

