



October 21, 2015

U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW (Mail Code: 28221T)  
Washington, DC 20460

Attention Docket ID No. EPA-HQ-OAR-2014-0451

Re: Proposed Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

To Whom It May Concern:

The Pennsylvania Department of Environmental Protection (DEP) appreciates the opportunity to submit comments on the U.S. Environmental Protection Agency's (EPA) proposed new subpart (Subpart Cf) which updates the Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills (Emission Guidelines or Guidelines) published in the *Federal Register* for review and comment on August 27, 2015 (80 FR 52100). This proposal is designed to achieve additional reductions of landfill gas (LFG) emissions and its components, including methane, by lowering the emissions threshold for the installation of controls at municipal solid waste (MSW) landfills. The proposed rulemaking incorporates new data and information EPA received in response to the Advanced Notice of Proposed Rulemaking published in the *Federal Register* on July 14, 2014 (79 FR 41772). The proposed Subpart Cf also addresses other issues including surface emissions monitoring, wellhead monitoring, and the “landfill gas treatment system” definition.

### General Comments

The DEP fully supports EPA's efforts to reduce methane emissions from landfills. According to EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013*, landfills are the third largest source of methane emissions in the United States, accounting for approximately 18 % of the methane emissions in the country. The DEP believes that the proposed “Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills” will allow EPA, States, and Tribes to further reduce landfill gas and its components including methane from the MSW landfill sector.

As currently proposed in Section 60.30f (relating to scope and delegated authorities), the final Guidelines would require States to develop and submit a State Plan to EPA nine months after the date the final Emission Guidelines for MSW landfills are published in the *Federal Register*. While the DEP is committed to implementing measures expeditiously in Pennsylvania to reduce LFG emissions including methane, the proposed nine-month deadline for the development and submission of the State Plan is not achievable, in light of the resources devoted to developing the State Plan to implement EPA's “Clean Power Plan” by September 2016. To this end, the DEP recommends that EPA provide at least 12 months for the development and submission of State Plans to reduce LFG emissions including methane.

Secretary

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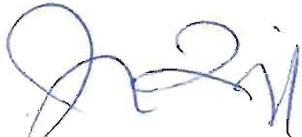
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The Department also supports EPA's proposal to require that the LFG emission standards apply at all times including start-up, shutdown and malfunction (SSM) periods. Additionally, the DEP fully supports provisions requiring MSW landfill owners and operators to estimate emissions during SSM periods, when gas collection systems or control devices may not be operational.

Thank you for the opportunity to comment on the proposed Emission Guidelines and Compliance Times for MSW Landfills. The DEP recommendations provided in response to EPA's specific requests for comments on the proposed Guidelines are enclosed for your consideration (See Enclosure).

Should you have questions or need additional information, please contact Kenneth Reisinger, Acting Deputy Secretary for Waste, Air, Radiation and Remediation, by e-mail at [kereisinge@pa.gov](mailto:kereisinge@pa.gov) or by telephone at 717.772.2724. You may also contact Joyce E. Epps, Director of the Bureau of Air Quality, by e-mail at [jeepss@pa.gov](mailto:jeepss@pa.gov) or by telephone at 717.787.9702.

Sincerely,



John Quigley  
Secretary

Enclosure

**ENCLOSURE**

**Pennsylvania DEP's Recommendations Concerning EPA's Specific Requests for Comments on the Proposed Emission Guidelines and Compliance Times for MSW Landfills**

- 1. EPA is seeking additional comments on potentially establishing a “third-party design certification program,” which could reduce the burden associated with EPA or state review and approval of site-specific design plans and plan revisions.*

The DEP reviews and approves the design plans for MSW landfills. Therefore, the creation of a third-party design certification program is unnecessary. While such programs are represented as reducing burdens on permitting agencies and permitting backlogs, concerns regarding the integrity of third-party programs and the potential for conflicts of interest should not be ignored. EPA’s rationale for not adopting a similar program for EPA’s Mandatory Greenhouse Gas Reporting Program requirements in 40 CFR Part 98 should be fully considered in this instance.

- 2. The EPA is also seeking comments on the suitability of an independent third-party verification program for landfills that includes the following design elements to ensure its effectiveness and integrity: The use of competent and independent auditors; accurate audits; public transparency; and effective regulatory oversight.*

DEP believes that EPA should not adopt a third party verification program for MSW landfills. The DEP determines compliance with complex Federal and State requirements for MSW landfills and does not support EPA’s proposal to establish a third party verification program, which could be administratively burdensome, especially in regards to ensuring the integrity of the program and maintaining effective oversight.

- 3. The EPA is soliciting comments on an alternative approach which would expand the closed landfill subcategory to include those landfills that close within 13 months after publication of the final emission guidelines.*

The DEP believes that it is appropriate to allow MSW landfill owners to permanently close MSW landfills within 13 months after publication of the final Emission Guidelines. To this end, EPA should expand the “closed landfill” subcategory in the final Subpart Cf provisions.

- 4. The EPA is requesting comment on defining “closed areas” of open landfills. EPA has proposed alternative criteria for capping or removing GCCS at closed landfills or closed areas of active landfills based on surface emissions monitoring. EPA is also seeking comment on whether owners and operators of physically separated or closed areas of MSW landfills should be allowed to model NMOC emission rates or determine actual flow rates of LFG to demonstrate that the closed area should not be subject to gas collection system requirements.*

Pennsylvania requires owners and operators of MSW landfills to maintain a physical separation between closed and active areas in the landfill in accordance with 25 Pa. *Code* 273.234 (relating to final cover and grading) and 273.252 (relating to general limitations). Consequently, DEP supports provisions that would allow owners and operators of closed landfill areas with physically separated closed areas to model NMOC emission rates or determine actual LFG flow rates in order to allow low or non-producing areas to be excluded from the LFG control requirements. Therefore, the final Emission Guidelines should provide flexibility by allowing an owner or operator to model NMOC emission rates or measure the actual flow rate of landfill gas.

5. *The EPA solicits comment on whether the devices that burn LFG to recover energy, such as boilers, turbines, and internal combustion engines can in fact achieve at least 98 percent destruction of NMOCs and whether uses of the LFG other than for combustion achieve equivalent reductions.*

In Pennsylvania, control systems must be designed to achieve and maintain either a destruction/removal efficiency of at least 98%, by weight of NMOCs or an outlet NMOC concentration of less than 20 parts per million, by volume, dry basis, as hexane, corrected to 3% oxygen, whichever is less stringent. As required in the DEP's "Best Available Technology and Other Permitting Criteria for Municipal Solid Waste Landfills" guidance document,<sup>1</sup> the following conditions are set forth on page 3:

- (2) *The collected landfill gas should be treated in accordance with 40 C.F.R. Part 60, Subpart WWW for subsequent use or sale, or controlled by one of the following technologies:*
  - a. *A horizontal incinerator;*
  - b. *A boiler;*
  - c. *An enclosed flare;*
  - d. *An internal combustion engine;*
  - e. *Combustion turbine;*
  - f. *Carbon adsorption system; or*
  - g. *Other technologies approved by DEP.*

*Please note that open or candlestick flares are appropriate only when installed and operated within the limitations set forth in this document.*

- (3) *The control system will be designed to achieve and maintain the less stringent of:*
  - a. *A destruction/removal efficiency of at least 98%, by weight, of non-methane organic compounds (NMOC); or*
  - b. *An outlet NMOC concentration of less than 20 parts per million, by volume, dry basis, as hexane, corrected to 3% oxygen.*

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<sup>1</sup> <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-75264/7.10%20Best%20Available%20Technology%20and%20Other%20Permitting%20Criteria%20for%20Municipal%20Solid%20Waste%20Landfills.pdf>

Therefore, all control technologies for landfill gas must meet a 98% destruction/removal efficiency (DRE). This practice, which has been implemented and enforced in Pennsylvania for more than 20 years, demonstrates that a 98% DRE is achievable.

6. *The EPA solicits comments on incentive approaches to encourage landfill owners or operators to productively use landfill gas for energy rather than flaring.*

Landfill gas to energy (LFGTE) projects in Pennsylvania have yielded over 185 MW of electrical power for more than 20 years, ranking Pennsylvania second in the nation for using landfill gas productively. The DEP believes that the revenue generated from the sale of electricity, Renewable Energy Certificates and energy cost savings will continue to provide incentives for LFGTE projects.

7. *The EPA is requesting comments on compliance flexibilities to better promote the use of Gas Collection and Control System (GCCS) Best Management Practices (BMP) that could be used in the final Emission Guidelines.*

The DEP supports the creation of technical documents and other tools for educating owners and operators of affected MSW landfills about how GCCS BMPs and oxidative controls can be implemented to achieve additional methane and NMOC reductions. As proposed, State Plans for MSW landfills are due to EPA nine months after the final Subpart Cf requirements are published in the *Federal Register*. To this end, EPA should provide technical documents and other tools in a timely manner to assist agencies in implementing the guidelines expeditiously.

8. *In addition to the three compliance flexibilities discussed in Sections VI.B (wellhead monitoring), VII.A (Tier 4 emission threshold determination), and VIII.B (criteria for capping or removing a GCCS), the EPA is seeking comments on other compliance flexibilities it should consider when issuing the final Emission Guidelines to encourage more organics diversion. The EPA is also requesting comments on other ways to structure the guidelines to credit organics diversion. The EPA is also seeking comments on what, if any, role organics diversion policies or measures could play in an approvable state plan. The EPA also seeks comments on how a state that relies on organics diversion could do this.*

As required in the DEP's "Best Available Technology and Other Permitting Criteria for Municipal Solid Waste Landfills" guidance document,<sup>2</sup> the following conditions are set forth on pages 2 & 3 of the document:

- (1) *The owner or operator of the landfill should install an active landfill gas collection system as described in 40 C.F.R. Section 60.752(b)(2)(ii)(A) and collect the landfill gas in accordance with 25 Pa. Code Section 273.292 so as to prevent off-site migration. The gas collection system shall be designed to:*

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<sup>2</sup> <http://www.eLibrary.dep.state.pa.us/dsweb/Get/Document-75264/7.10%20Best%20Available%20Technology%20and%20Other%20Permitting%20Criteria%20for%20Municipal%20Solid%20Waste%20Landfills.pdf>

- a. *Collect gas from the entire MSW landfill that warrants control over the intended use period of the gas control or treatment system, and be operated to collect gas at a sufficient extraction rate (40 C.F.R. Section 60.752(b)(2)(ii)(A)); and,*
- b. *Accommodate the maximum proposed gas flow rate of the landfill.*

(2) *The collected landfill gas should be treated in accordance with 40 C.F.R. Part 60, Subpart WWW for subsequent use or sale, or controlled by one of the following technologies:*

- a. *A horizontal incinerator;*
- b. *A boiler;*
- c. *An enclosed flare;*
- d. *An internal combustion engine;*
- e. *Combustion turbine;*
- f. *Carbon adsorption system; or*
- g. *Other technologies approved by DEP.*

*Please note that open or candlestick flares are appropriate only when installed and operated within the limitations set forth in this document.*

(3) *The control system will be designed to achieve and maintain the less stringent of:*

- a. *A destruction/removal efficiency of at least 98%, by weight, of non-methane organic compounds (NMOC); or*
- b. *An outlet NMOC concentration of less than 20 parts per million, by volume, dry basis, as hexane, corrected to 3% oxygen.*

Pennsylvania's Best Available Technology (BAT) Program requires that emissions of air contaminants from new sources be reduced to the maximum extent. This BAQ Program assures that BSER is being met and therefore organics diversion is not an issue in Pennsylvania.

9. *The EPA is soliciting comments on whether an NMOC threshold higher than 34 Mg/yr may be appropriate for all, or a subset of the existing landfills affected by this proposal, in addition to retaining the current threshold of 50 Mg/yr for the closed landfill subcategory, as proposed.*

The DEP agrees with EPA's approach of lowering the NMOC threshold at which an affected MSW landfill must install controls. The DEP's VOC threshold for existing MSW landfills is 1.0 tons per year (0.9 Mg/yr), which is substantially lower than EPA's proposed 34 Mg/yr threshold. The DEP agrees with retaining the current threshold of 50 Mg/yr for the closed landfill subcategory, as proposed.

*10. The EPA is seeking comments on additional enhancements to surface emissions monitoring.*

The DEP believes the proposed enhancements to surface emission monitoring (SEM) and wellhead standards are effective and will minimize surface emissions of landfill gas. The DEP also recommends that the final Guidelines for MSW landfills include provisions requiring a landfill owner or operator to provide notice to state and local agencies at least seven working days prior to commencing SEM monitoring activities.

*11. The EPA requests comments on an alternative that extends the requirement for notification from 15 days to as soon as practicable, but no later than 60 days from when an exceedance is identified, in order to address implementation concerns associated with the time allowed for corrective action.*

The DEP supports retention of the 15-day notification requirement for owners or operators to provide notice to Federal, State and local agencies of exceedances of emission standards, especially during malfunctions. As proposed, the alternative would extend the notice requirement from 15 days to as soon as practicable but no later than 60 days from when an exceedance is identified. This alternative approach provides the facility owner or operator too much discretion to determine when it is practicable to provide notice of exceedances of LFG emissions including methane, benzene and other hazardous air pollutants. EPA should consider providing flexibility for regulatory agencies to provide additional time, when warranted.

*12. The EPA requests comments on whether a level between 200 and 500 ppm is appropriate for the Tier 4 provisions, and whether setting the level below a specific point in this range poses fire or other safety concerns for operating a GCCS. The EPA also requests data that might support a different surface emissions threshold.*

The DEP agrees with EPA that a level of 200 ppm may cause operators of voluntary GCCS to overdraw vacuum on the GCCS (to avoid a surface exceedance) which in turn could draw in too much oxygen, possibly causing a fire in the landfill. The DEP believes that the level should be 500 ppm in keeping with the same level and procedures established in 40 CFR Part 60, Subpart WWW.

*13. The EPA is requesting comments on whether additional provisions should be considered for closed landfills when establishing the revised Emission Guidelines, including whether the closed landfill subcategory should be expanded to include landfills that closed within 13 months after publication of the Emission Guidelines in the Federal Register.*

The DEP believes that it is appropriate to allow MSW landfill owners and operators to close a landfill within 13 months after publication of the final Emission Guidelines to avoid being significantly affected by the final rule. The closed landfill subcategory will operate at the existing NMOC emission rate threshold of 50 Mg/yr instead of the proposed rate of 34 Mg/yr, which is appropriate.

*14. During control device malfunctions, in order to prevent free venting of landfill gas to the atmosphere, EPA proposes to include a requirement in Subpart Cf (40 CFR 60.34f(e)) that in the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of gas to the atmosphere must be closed within 1 hour. The EPA proposes to use the term “not operating,” which includes periods when the gas collection or control system is not operating for any reason. EPA also requests comments on the technical feasibility of this approach as well as alternate ways to prevent free venting of landfill gas to the atmosphere during control device malfunctions. The EPA is interested in comments on whether there are alternative ways in which the emission limit could be complied with when the control device malfunctions.*

As required in the DEP's "Best Available Technology and Other Permitting Criteria for Municipal Solid Waste Landfills," "the enclosed flare should be operated with a flame present at all times. The enclosed flare should be equipped with an automatic shut-off mechanism designed to immediately stop the flow of gases when a flame-out occurs. During the restart or start-up, there should be sufficient flow of auxiliary fuel to the burners such that unburned landfill gases are not emitted to the atmosphere." The DEP recommends the EPA consider this approach in the final Subpart Cf requirements.

## **Conclusion**

Thank you for the opportunity to comment on EPA's proposed Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills (Emission Guidelines). Overall, DEP supports the updated Subpart Cf proposal to the extent that the provisions are at least as stringent as Pennsylvania's requirements for MSW landfills.