

**FINAL REPORT**

**of the**

**Small Business Advocacy Review Panel on**

**EPA's Planned Proposed Rules**

**Standards of Performance for Municipal Solid Waste  
Landfills and Review of Emissions Guidelines for  
Municipal Solid Waste Landfills**

**July 21, 2015**

# Table of Contents

1. INTRODUCTION .....	1
2. BACKGROUND .....	2
2.1 Regulatory History of the Rulemakings .....	2
2.2 Description and Scope of Existing Rules .....	2
2.3 Related Federal Rules .....	3
3. OVERVIEW OF REVISIONS UNDER CONSIDERATION.....	4
4. APPLICABLE SMALL ENTITY DEFINITIONS .....	4
5. SUMMARY OF SMALL ENTITY OUTREACH .....	5
6. LIST OF SMALL ENTITY REPRESENTATIVES.....	5
7. SUMMARY OF COMMENTS FROM SMALL ENTITY REPRESENTATIVES.....	6
8. PANEL FINDINGS AND DISCUSSIONS .....	10
8.1 Number and Types of Entities Affected .....	10
8.2 Potential Reporting, Recordkeeping, and Compliance .....	11
8.3 Related Federal Rules .....	11
8.4 Regulatory Flexibility Alternatives .....	11
8.4.1 Federal Plan.....	11
8.4.2 Direct regulation of methane.....	11
8.4.3 Site-specific emission threshold determinations (Tier 4) .....	11
8.4.4 Design capacity and emission threshold.....	11
8.4.5 Requirements for gas collection system installation and expansion.....	12
8.4.6 Removing a GCCS .....	12
8.4.7 Surface monitoring .....	12
8.4.8 Organics diversion.....	13
8.4.9 Gas well monitoring .....	13
8.4.10 Landfill gas treatment .....	13

Appendix A: List of Materials EPA Shared with SERs

Appendix B: Written Comments Submitted by Small Entity Representatives

## List of Tables

Table 1. Industry/Sectors Potentially Affected by EPA’s Planned Actions ....	<b>Error! Bookmark not defined.</b>
Table 2. Number of Small Entities Potentiallky Affected by EPA’s Planned Actions ....	<b>Error! Bookmark not defined.</b>
Table 3. Small Entity Representatives.....	6
Table 4. Summary of Written Comments from Small Entity Representatives Submitted after the April 14, 2015 Panel Outreach Meeting.....	6

# **Final Report**

## **Small Business Advocacy Review Panel**

### **Standards of Performance and Review of Emission Guidelines for Municipal Solid Waste Landfills**

#### **1. INTRODUCTION**

This report is presented by the Small Business Advocacy Review Panel (SBAR Panel or Panel) convened for the proposed rulemakings on the “Standards of Performance for Municipal Solid Waste Landfills” and the “Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills” that are currently being developed by the U.S. Environmental Protection Agency. Under section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), a Panel is required to be convened prior to publication of the initial regulatory flexibility analysis (IRFA) that an agency may be required to prepare under the RFA. In addition to EPA’s Small Business Advocacy Chairperson, the Panel consists of the Director of the Sector Policies and Programs Division of the EPA Office of Air and Radiation, the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget, and the Chief Counsel for Advocacy of the Small Business Administration.

This report includes the following:

- Background information on the proposed rules being developed;
- Information on the types of small entities that would be subject to the proposed rules;
- A description of efforts made to obtain the advice and recommendations of representatives of those small entities; and
- A summary of the comments that have been received to date from those representatives.

Section 609(b) of the RFA directs the Panel to report on the comments of small entity representatives and make findings on issues related to certain elements of an IRFA under section 603 of the RFA. Those elements of an IRFA are:

- A description of, and where feasible, an estimate of the number of small entities to which the proposed rules will apply;
- A description of projected reporting, record keeping, and other compliance requirements of the proposed rules, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule; A description of any significant alternatives to the proposed rules which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. This analysis shall discuss any significant alternatives such as:
  - the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
  - the clarification, consolidation, or simplification of compliance and reporting requirements under the rules for such small entities;
  - the use of performance rather than design standards; and
  - an exemption from coverage of the rules, or any part thereof, for such small entities.

Once completed, the Panel Report is provided to the agency issuing the proposed rules and is included in the rulemaking record. The agency is to consider the Panel’s findings when completing the draft of the proposed rules. In light of the Panel Report, and where appropriate, the agency is also to consider whether changes are needed to the IRFA for the proposed rules or the decision on whether an IRFA is required.

The Panel's findings and discussion will be based on the information available at the time the final Panel Report is drafted. EPA will continue to conduct analyses relevant to the proposed rules, and additional information may be developed or obtained during the remainder of the rule development process.

Any options identified by the Panel for reducing the rules' regulatory impact on small entities may require further analysis and/or data collection to ensure that the options are practicable, enforceable, environmentally sound, and consistent with Section 111 of the Clean Air Act.

## **2. BACKGROUND**

### **2.1 Regulatory History of the Rulemakings**

Section 111 of the Clean Air Act (CAA) requires the EPA Administrator to list categories of stationary sources, if such sources cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare. The EPA must then issue performance standards for such source categories. These standards are referred to as new source performance standards or NSPS. The EPA has the authority to define the source categories, determine the pollutants for which standards should be developed, identify the facilities within each source category to be covered, and set the emission level of the standards. Emission Guidelines are established for existing sources under CAA section 111(d) for source categories that emit pollutants not regulated under other parts of the CAA and to which an NSPS would apply if such existing source were a new source. The emission guidelines are implemented through individual state plans. If a state does not have an approved state plan, section 111 of the CAA and the general provisions (40 CFR 60.27(c) and (d)) require EPA to develop, implement, and enforce a federal plan for existing MSW landfills in that state.

### **2.2 Description and Scope of Existing Rules**

A municipal solid waste (MSW) landfill is defined as an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. The pollutant of concern for landfills is municipal solid waste landfills emissions, commonly referred to as landfill gas. Landfill gas comprises approximately 50 percent methane, 50 percent carbon dioxide, and trace amounts of nonmethane organic compounds (NMOC). On March 12, 1996 (61 FR 9905), the EPA promulgated the NSPS for new or modified municipal solid waste (MSW) landfills and Emission Guidelines for existing MSW landfills under authority of CAA section 111. The goal of the NSPS and Emission Guidelines was to control landfill gas emissions.

The current NSPS apply to landfills that commenced construction, modification, or reconstruction on or after May 30, 1991. The current Emission Guidelines apply to existing landfills that accepted waste on or after November 8, 1987. Under both the NSPS and Emission Guidelines, landfills with a design capacity of at least 2.5 million megagrams and 2.5 million cubic meters are required to collect and control landfill gas. NSPS are implemented by EPA. The Emission Guidelines provide guidance for regulating landfill gas emissions and states must implement the Emission Guidelines by developing individual State plans. State plans must generally be as stringent as the Emission Guidelines, but states have the flexibility to apply less stringent limits or compliance schedules on a case-by-case basis.

The EPA is conducting a periodic review of the landfills NSPS as required under the CAA. CAA section 111(b)(1)(B) requires the EPA to "at least every 8 years review and, if appropriate, revise" performance standards. The EPA proposed amendments in 2002 and 2006 to clarify several issues related to the landfill NSPS and Emission Guidelines. On July 17, 2014, the EPA proposed revisions to the landfill NSPS and issued an Advanced Notice of Proposed Rulemaking (ANPRM) for the EG. Both actions requested comment on implementation issues.

Although a review of the landfill Emission Guidelines is not statutorily required, the EPA believes that exploring revisions to the landfill Emission Guidelines is appropriate for several reasons. Information is now available to conduct a more robust assessment of the size, type, and emissions of landfills, as well as their ability to support energy recovery projects. The population of existing landfills is much larger than the projected number of new sources. Finally, the Emission Guidelines' applicability thresholds, monitoring, recordkeeping, and control requirements rely on and parallel the NSPS. Based on comments received on the ANPRM and the NSPS proposal (where appropriate), and the additional data available, the EPA is proposing revisions to the Emission Guidelines. Additionally, the EPA intends to issue a revised Federal Plan, should it be deemed appropriate, after finalizing the Emission Guidelines.

### **2.3 Related Federal Rules**

MSW landfills that are subject to the Emission Guidelines or NSPS are also likely to be subject to the National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (40 CFR part 63, subpart AAAAA). However, the landfills NESHAP works in conjunction with the Emission Guidelines and NSPS and points to the Emission Guidelines and NSPS for control requirements. Landfills that beneficially use landfill gas may also be subject to combustion-related NSPS or NESHAP, however, those rules do not conflict with the NMOC destruction or LFG treatment requirements of proposed subparts Cf and XXX. Further, the landfills expected to become subject to subpart Cf are currently subject to 40 CFR part 60 subpart WWW, 40 CFR part 62 subpart GGG, or the state plans implementing 40 CFR part 60 subpart Cc. Once subpart Cf is fully finalized and implemented, the state and federal plans implementing this new subpart Cf will supersede the requirements of the subparts WWW and Cc.

Many of the MSW landfills subject to the proposed Emission Guidelines and NSPS are subject to 40 CFR part 98, subpart HH of the GHG reporting rule. For both the landfills Emission Guidelines/NSPS and subpart HH of the GHG reporting rule, landfills must report (or use in calculations) data elements such as landfill capacity, open/closed status, and waste acceptance. Landfills subject to both the Emission Guidelines/NSPS and subpart HH of the GHGRP must calculate emissions. The Emission Guidelines/NSPS requires calculation of an annual NMOC emission rate, based on default values or site-specific measurements of methane generation rate and NMOC concentration, whereas subpart HH of the GHGRP requires calculation of quantity of methane destroyed, based on monitoring data such as flow, moisture, and methane concentration. Although landfills will record or report similar data elements (i.e., design capacity, waste acceptance, methane concentration, GCCS details, flowrate) under the two sets of landfills rules, the rules have different objectives. The Emission Guidelines/NSPS requires landfill owners and operators to control NMOC emissions using a collection and control system, whereas subpart HH of the GHGRP reporting rule requires landfill owners and operators to report specific landfill parameters and to estimate methane emissions.

The landfills Emission Guidelines and NSPS cover air emissions from MSW landfills and were not intended to be duplicative of, or overlap significantly with, RCRA requirements. Emission guideline and NSPS landfills may also receive Resource Conservation and Recovery Act (RCRA) subtitle D waste (e.g., commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste, and industrial waste). Subtitle D of RCRA addresses location, liner specifications, leachate collection and removal systems, operating practices, groundwater monitoring, corrective action measures, closure and post-closure care, and financial assurance of non-hazardous solid wastes. Under subtitle D, the state and local governments are the primary planning, permitting, regulating, implementing, and enforcement agencies for management and disposal of household and industrial or commercial non-hazardous solid wastes. EPA establishes technical design and operating criteria (which, at a minimum, the states include in their own regulations) for disposal facilities.

While methane migration control measures are required under both subtitle D and the Landfill NSPS, subtitle D deals with explosive hazards in facility structures and at property boundaries. Surface monitoring requirements under the landfill NSPS were designed to ensure that the landfill cover or cap and gas collection system were properly designed and operated. Well monitoring under subtitle D is for leachate migration and not gas monitoring (which is required for the Landfills NSPS).

### 3. OVERVIEW OF REVISIONS UNDER CONSIDERATION

Through Agency review and stakeholder input, a broad range of program improvements have been suggested. From these, the EPA identified those that could be addressed only through regulation change, and further limited to those that would provide the most protective impact. The following is a listing of regulatory revisions currently being considered and evaluated by EPA, and is not final at this time.

- Changes to the design size threshold
- Changes to the emission threshold
- Changes to the time allotted for gas collection system installation
- Changes to the time allotted for well-field expansion
- Changes to surface monitoring requirements
- Landfill Gas Treatment
- Well operating parameters
- Surface emissions monitoring
- Alternative site-specific basis for installing and removing controls
- GCCS Best Management Practices and Organics Diversion

### 4. APPLICABLE SMALL ENTITY DEFINITIONS

The Regulatory Flexibility Act (RFA) defines small entities as including “small businesses,” “small governments,” and “small organizations” (5 USC 601). The regulatory revisions being considered by EPA for this rulemakings are expected to affect a variety of small businesses. The RFA references the definition of “small business” found in the Small Business Act, which authorizes the Small Business Administration to further define “small business” by regulation. The SBA definitions of small business by size standards using the North American Industry Classification System (NAICS) can be found at 13 CFR 121.201. Table 1 provides a summary of the potentially affected industries.

**Table 1. Industry/Sectors Potentially Affected by the EPA’s Planned Actions**

Industry/Sector	NAICS <sup>a</sup>	Examples of affected facilities
Industry: Air and water resource and solid waste management	924110	Solid waste landfills
Industry: Refuse systems--solid waste landfills	562212	Solid waste landfills
State, local, and tribal government agencies	924110	Administration of air and water resource and solid waste management programs

<sup>a</sup> North American Industry Classification System.

The following table displays the number of potentially affected small entities, including private industries/sectors described in Table 1. The small, private firms shown in Table 2 are those with estimated revenues of \$38.5 million or less per year. Table 2 also displays public entities that may also be affected by these regulations. Public entities are small governments, defined by statute as those serving a population of 50,000 people or fewer.

**Table 2. Number of Small Entities Potentially Affected by the EPA’s Planned Actions**

Rule Action	Small Firms	
	Type	Number
Emission Guidelines* (proposed 40 CFR part 60, subpart Cf)	Public	52
	Private	46
NSPS (proposed 40 CFR part 60 subpart XXX)	Public	7
	Private	6

\* Emission Guidelines serve as a model. Impacts are actually imposed by state or federal plans

## 5. SUMMARY OF SMALL ENTITY OUTREACH

The EPA conducted meetings/teleconferences with potential SERs in 2013: an October 30, 2013 pre-Panel outreach meeting and a December 19, 2013 outreach meeting. Prior to both meetings, EPA sent materials to each of the potential SERs to help SERs prepare for the meeting/teleconference. A list of the materials shared with the SERs during the outreach meetings is contained in Appendix A. Comments raised during the 2013 outreach meetings and written comments submitted by the SERs are summarized in the docketed item *Summary of Small Entity Outreach, 2014*.<sup>1</sup>

The EPA conducted an additional Panel outreach meeting/teleconference with the SERs on April 14, 2015. A total of eight SERs participated in the meeting, as indicated in Table 3 of Section 7 of this document. Appendix A lists materials shared with the SERs prior to the outreach meeting. Comments raised during the April 14, 2015 outreach meeting and written comments submitted by the SERs are summarized in Table 4 of Section 7 of this document.

## 6. LIST OF SMALL ENTITY REPRESENTATIVES

The EPA consulted with Advocacy to develop the list of SERs. The EPA issued a press release inviting self-nominations by affected small entities to serve as potential SERs. The press release directed interested small entities to a web page where they could indicate their interest in serving as a SER. The EPA launched the website June 20, 2013 and accepted self-nominations until July 5, 2013. In addition, the EPA supplemented the self-nominations by engaging SBA who in turn contacted the National Solid Waste Management Association (NSWMA). NSWMA shared information about the panel with their members. The EPA sent Advocacy a Formal Notification with the suggested list of potential SERs on August 28, 2013 and Advocacy responded on September 12, 2013.

Following the October and December 2013 outreach meetings with SERs, the EPA published on July 14, 2014 a notice of proposed rulemaking on the new source performance standards for municipal solid waste landfills<sup>2</sup> and an advanced notice of proposed rulemaking on the amendments to the emissions guidelines for municipal solid waste landfills<sup>3</sup>. During the public comment period for these actions, the EPA received comments from two potentially affected small entity representatives. In February 2015, Advocacy recommended that the Panel include the two small entities that submitted public comments to EPA in 2014. Those representatives were added in February 2015 and were included in the invitation to the April 2015 Panel outreach meeting. Table 3 lists the SERs.

<sup>1</sup> See Docket ID No. EPA-HQ-OAR-2003-0215-005 and EPA-HQ-OAR-2014-0451.

<sup>2</sup> <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2003-0215-0037>

<sup>3</sup> <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2014-0451-0001>

**Table 3. Small Entity Representatives**

<b>Name</b>	<b>Affiliation</b>
1. Alek Orloff	Alpine Waste & Recycling Colorado
2. Donald Pyle	Solid Waste Authority for Delta County, Michigan
3. Susan McIntyre	Solid Waste Division of Delaware County Department of Public Works, New York
4. Anne Germaine	Representing Caroline County, Maryland
5. Matt Stutz	Representing Ponca City Landfill, Oklahoma
6. Larry Sweetser	Rural Counties' Environmental Services Joint Powers Authority
7. Todd Green	American Environmental Landfill, Inc., Oklahoma
8. Michael Michaels	Representing City of Riverview, Michigan
9. Robert Lee	Eco-Tech operates Clark-Floyd Landfill, Indiana also member of the National Solid Waste Management Association (NSWMA)
10. Kimberly Smelker	Granger Waste Services Wood Street Landfill and Disposal Center Lansing, MI
11. Curt Publow	Decatur Hills, Inc. Greensburg, IN
12. Jesse Maxwell	Solid Waste Association of North America Silver Spring, MD

## **7. SUMMARY OF COMMENTS FROM SMALL ENTITY REPRESENTATIVES**

As described in section 5, the Panel conducted outreach with small entity representatives in October and December 2013 and again in April 2015. EPA summarized the 2013 small entity outreach and posted this information to the rulemaking dockets<sup>4</sup> during the 2014 notice of proposed rulemaking and advanced notice of proposed rulemaking public comment periods. Table 4 summarizes the comments small entities provided during and following the April 2015 outreach meeting with the Panel.

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<sup>4</sup> See Docket IDs EPA-HQ-OAR-2003-0215-0051 and EPA-HQ-OAR-2014-0451-0012.

**Table 4. Summary of Comments from Small Entity Representatives Submitted for the April 14, 2015 Panel Outreach Meeting**

Topic	Comments
<b>Federal Plan or Model Rule Language</b>	<ul style="list-style-type: none"> <li>• EPA should develop a Federal plan or a template for an approvable State plan concurrent with the proposed revisions to the EG.               <ul style="list-style-type: none"> <li>○ This approach would reduce confusion on interpretation and inconsistent application of requirements.</li> <li>○ Approach would reduce burden on state agencies.</li> <li>○ Approach would reduce burden on landfill owner/ operators that have landfills in more than one jurisdiction of the country.</li> </ul> </li> <li>• When EPA promulgated the original Emission Guidelines (EG), it provided regulatory language that outlined how a state could develop an approvable plan by linking EG requirements to the requirements in the NSPS. Many states chose to simply adopt the NSPS requirements by reference into their State plans for the EG and EPA could develop a Federal plan or State plan template in a similar manner.</li> <li>• Although states can maintain operational standards for wellheads in their state plans, we recommend that EPA provide clear guidance to states regarding problems associated with prescriptive wellhead standards. The EPA should also suggest streamlined approaches for approval of higher operating values (HOVs) and alternative timelines for corrective actions.</li> </ul>
<b>Regulating Methane Directly</b>	<ul style="list-style-type: none"> <li>• Direct regulation of methane is unlikely to affect the structure or environmental benefits of the revised EG. The BSER determination is effective for destroying all components of LFG and they are not designed to destroy one or more specific constituents in the LFG.</li> <li>• Significant investments have been made to design and install GCCS to meet the current 98% NMOC destruction criteria. Reconfiguring those systems for a different target pollutant would create additional costs without commensurate environmental benefits.</li> <li>• Changing the target pollutant would create administrative burden and legal uncertainty.               <ul style="list-style-type: none"> <li>○ Methane emissions are not typically identified as a separate pollutant in Title V permits.</li> <li>○ States may seek additional monitoring, recordkeeping, and reporting requirements emphasizing methane.</li> <li>○ Direct regulation of methane would result in confusion under EPA's regulations of GHG in the prevention of significant deterioration (PSD) program.</li> </ul> </li> </ul>
<b>Modified Landfills</b>	<ul style="list-style-type: none"> <li>• Number of modified landfills that would become subject to the new NSPS (subpart XXX) and require controls</li> </ul>
<b>Tier 4</b>	<ul style="list-style-type: none"> <li>• Generally support Tier 4 site-specific surface emissions alternative, which provide compliance flexibility when models overestimate emissions and recognize climatic site-specific differences in emissions from MSW landfills.</li> <li>• Tier 4 should be allowed at any point in time instead of Tiers 1-3, and not limited to use only after Tier 3.</li> <li>• Tier 4 promotes methane reduction best practices, such as upgraded covers or early/interim GCCS infrastructure.</li> <li>• Tier 4 should allow for corrective action when surface emissions above 500 are identified, consistent with corrective action provisions for quarterly surface monitoring. Without corrective action allowances, the usefulness of Tier 4 is limited. If a site is unable to remediate an</li> </ul>

Topic	Comments
	<p>exceedance, then a GCCS would need to be installed within 30 months of the initial Tier 4 exceedance.</p> <ul style="list-style-type: none"> <li>• Closed portions of an active landfill should be allowed to discontinue Tier 4 monitoring if no exceedances are detected.</li> <li>• Tier 4 should be allowed for determining when GCCS must be installed and when all or portions of the GCCS can be removed from NSPS/EG requirements.</li> <li>• States would review and verify the use of Tier 4 in the same manner that they review and verify quarterly surface emissions monitoring data and threshold determinations.</li> <li>• Methane surface concentration readings at closed landfills with shutdown collection systems have been shown in the range of 0 to 400 ppm</li> <li>• True exceedances of the surface emission methane concentration are on the order of 10,000 ppm, so it is not appropriate to debate a level between 200 to 500 ppm</li> </ul>
<b>Closed Landfills</b>	<ul style="list-style-type: none"> <li>• If EPA were to reduce the NMOC threshold for existing landfills, a disproportionate number of smaller, older, and mostly closed landfills could become affected by the regulation. The cost burden for compliance is significantly greater for small vs. larger facilities, especially if the facility is closed and generates no revenue. These closed landfills also represent a much smaller potential for achieving emission reductions.</li> <li>• Many closed landfills struggle to maintain sufficient gas flow to continue operating their GCCS at the current 50 Mg/yr threshold; thus lower thresholds of 34-40 Mg/year would make GCCS operations at closed landfills even more difficult and would require supplemental (fossil) fuels to maintain continuous flare operations which would increase costs and emissions.</li> <li>• Wellhead standards are more difficult to meet in aging waste areas as the gas quality declines.</li> <li>• Recommend that landfills that have already shut down or decommissioned their GCCS remain under the existing NMOC threshold because they do not have the revenue stream to offset operational costs for the additional operating time required to achieve the lower NMOC emission rate</li> <li>• Recommend that are closed landfills be exempt from the lower emission thresholds</li> </ul>
<b>Emission Threshold</b>	<ul style="list-style-type: none"> <li>• The impacts analysis is based on conservative modeling assumptions and may overestimate the benefits of reducing NMOC.</li> <li>• Reducing the threshold will extend the number of years a landfill must operate its GCCS.</li> </ul>
<b>Size Threshold</b>	<ul style="list-style-type: none"> <li>• Lowering the design capacity would disproportionately affect small, older, and closed landfills. Citing the 1996 Background Information Document for the initial standards (EPA-453/R-95-021), EPA found that a size of 2.5 million Mg and m<sup>3</sup> would capture 85 percent of NMOC emissions potential, while exempting 90 percent of existing small landfills.</li> </ul>
<b>Installation and Expansion Lag Times</b>	<ul style="list-style-type: none"> <li>• Do not shorten the lag times from the current requirements in subpart WWW.</li> </ul>

Topic	Comments
	<ul style="list-style-type: none"> <li>• Reduced lag times will result in personnel safety concerns and damage to GCCS equipment in active areas resulting from heavy equipment or waste settlement.</li> <li>• Permitting a GCCS is a lengthy process, taking between several months to up to two years after the permit application is submitted.</li> </ul>
<b>Removing a GCCS</b>	<ul style="list-style-type: none"> <li>• EPA should clarify when the 15-year clock should begin.</li> <li>• A 15-year requirement is a one-size-fits all requirement and should be reconsidered, taking into account that emissions are minimized until a discontinuation of controls is warranted.</li> <li>• Additional environmental benefits could be achieved if landfills are allowed to intermittently operate a GCCS in lieu of capping and removal of the system.</li> </ul>
<b>Surface Emission Monitoring</b>	<ul style="list-style-type: none"> <li>• Support no changes to current SEM requirements in subpart WWW.</li> <li>• Costs for enhanced monitoring are significant burden for small entities, particularly small local governments and closed landfills. The extensive cost increase does not deliver commensurate emission reduction benefits.</li> <li>• Integrated readings: <ul style="list-style-type: none"> <li>○ EPA reviewed and rejected an integrated monitoring requirement in the 1996 rule development.</li> <li>○ Report from SCS Engineers<sup>5</sup> found exceedances of integrated readings in only 2.1% of grids, of which 0.5% of grids could not remediate the exceedance and were required to expand.</li> </ul> </li> <li>• Instantaneous readings: <ul style="list-style-type: none"> <li>○ Report from SCS Engineers<sup>6</sup> found that requiring readings at all surface penetrations increased the number of penetrations monitored by 84%, but exceedances were detected at only 1.1% of the additional penetrations monitoring.</li> <li>○ Report from SCS Engineers<sup>7</sup> found that a tighter traverse pattern (25-foot instead of 30-meters (98 feet)), surface exceedances increased from 1.6% of all acres monitored to 4.4%. However, most exceedances were remedied with cover repairs and did not require GCCS expansion.</li> </ul> </li> <li>• Wind speed: <ul style="list-style-type: none"> <li>○ Given that the SEM utilizes a probe just a few centimeters from the surface of the landfill, the effect of wind speed is minimal.</li> <li>○ Wind speed restrictions will make it costly or impossible to perform SEM at some sites due to rescheduling or cancelation of planned SEM events.</li> <li>○ Wind speed restrictions will require additional recordkeeping, monitoring, and reporting burdens on the landfill.</li> <li>○ Under the current SEM program (without wind speed restrictions), exceedances are being detected and corrected.</li> <li>○ If wind speed restrictions are adopted, the EPA should allow for alternatives to account for site-specific circumstances.</li> </ul> </li> </ul>
<b>Organics Diversion</b>	<ul style="list-style-type: none"> <li>• The EPA WARM model and other reports show that a landfill with a GCCS and energy recovery has less emissions than composting.</li> <li>• The EPA should not mandate, or even encourage, organics diversion in the rule.</li> </ul>

<sup>5</sup> SCS Engineers. "A Comparison of Monitoring Results for California Landfills under the New Source Performance Standards and the California Landfill Methane Rule." October 2014.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

Topic	Comments
	<ul style="list-style-type: none"> <li>• Diversion of waste from landfills to facilities that are less regulated or controlled has the potential to create environmental concerns.</li> </ul>
<b>Wellhead Monitoring</b>	<ul style="list-style-type: none"> <li>• Maintain monthly monitoring, but remove the temperature and oxygen/nitrogen operating standards. Instead, relay on wellhead pressure and quarterly SEM to assure a well-operated GCCS. This position has been re-iterated many times in proposed amendments to the original 1996 rules.</li> <li>• Wellhead standards are indicators for potential air intrusion and are not a compliance parameter.</li> <li>• Wellhead standards are counterproductive to optimizing GCCS operations and methane reductions. They present barriers to implementing early collection of GCCS and other BMPs.</li> <li>• Affected landfills have had difficulty in getting approval of higher operating values (HOVs) or alternative timelines for corrective actions for wells exceeding temperature and oxygen/nitrogen. The paperwork involved in these requests are burdensome.</li> <li>• The CA Landfill Methane Rule did not include wellhead standards in its rule. Similarly, several CA local air agencies (SCAQMD, BAAQMD) that promulgated landfill rules prior to subpart WWW do not include wellhead standards.</li> <li>• No negative impact to safety or environment can be associated with the lack of wellhead standards.</li> </ul>
	<ul style="list-style-type: none"> <li>• Instead of a numerical standard, EPA can implement a work practice that is based on manufacturer or site-specific specifications. Many states have issued guidance that outlines required elements of an acceptable preventative maintenance plan (PMP) based on manufacturer specifications. Landfills in the Title V program are required to have a preventative maintenance plan (PMP) based on manufacturer specifications. The inspector is allowed to request the plan but the details within the plan are site- and equipment-specific</li> <li>• Treatment systems are not an emission source and additional requirements will not result in emission reductions. The CAA defines standard of performance to mean a “standard for <i>emission</i> of air pollutants” 42 U.S.C. § 7411(a)(1).</li> <li>• Numeric treatment definition increases burden with no measurable improvement in emissions</li> <li>• Regulating the operating limits and monitoring will inhibit the development of renewable LFG energy at small entity facilities, which are already challenged with numerous technical and financial barriers due to their small LFG flow. Adding more unnecessary regulatory and financial burden to these projects is inappropriate.</li> <li>• Any landfill gas that is collected and used for beneficial use should be allowed without prescriptive requirement. The energy project has significant interest in treating gas to the needed conditions in order to ensure efficient operation of the energy recovery equipment.</li> </ul>

## 8. PANEL FINDINGS AND DISCUSSIONS

### 8.1 Number and Types of Entities Affected

For a complete description of the small entities to which the proposed rules may apply, see Section 4 of this document.

## **8.2 Potential Reporting, Recordkeeping, and Compliance**

The potential reporting, recordkeeping, and compliance requirements are still under development. However, the Panel anticipates that the requirements will be the minimum required by the statute to ensure compliance with the emission limits. Compliance testing should be in accordance with EPA or other approved methods. Reporting and recordkeeping requirements should be streamlined if practicable.

## **8.3 Related Federal Rules**

See Section 2.3 of this document for a discussion of related federal rules.

## **8.4 Regulatory Flexibility Alternatives**

The Panel agrees that the EPA should explore regulatory alternatives and provide flexibility where appropriate. This flexibility can lessen impacts to small entities as well as entities not classified as small.

### **8.4.1 Federal Plan**

SERs encouraged the EPA to develop a Federal plan or template for an approvable State plan. The Panel recommends that the EPA develop a Federal plan. The Panel agrees that a Federal plan is needed, and recommends that EPA set a schedule for development the Federal plan, if appropriate.

### **8.4.2 Direct regulation of methane**

SERs expressed concerns about changes to the designated pollutant, including administrative burden and legal uncertainty. The Panel agrees that the pollutant of interest should continue to be landfill gas and that NMOC should continue to be measured as a surrogate.

### **8.4.3 Site-specific emission threshold determinations (Tier 4)**

The current landfill regulatory requirements include use of a series of models to determine exceedance of the emission threshold. After exceedance of the threshold, landfills have 30 months to install controls. SERs expressed support for a new approach, known as Tier 4, which would allow for a site-specific measurement in addition to the current approved models.

The Panel recommends that the EPA adjust the current requirements for determining when landfills are required to install GCCS. In addition to the current model requirements, the Panel recommends that the EPA allow the use of site-specific Tier 4 monitoring. The Panel recommends that the site-specific requirements be based on the thresholds and procedures outlined in EPA Method 21 and that Tier 4 be allowed after a failed Tier 1, Tier 2, or Tier 3 test. The Panel also recommends that EPA allow the Tier 4 approach to be used to determine when a GCCS can be removed.

### **8.4.4 Design capacity and emission threshold**

During the Pre-panel and Panel Outreach Meetings, the EPA presented various options that adjusted the design capacity and NMOC emission thresholds currently outlined in the landfill air regulations. SERs recognized that additional emission reductions could be achieved by lowering these thresholds. SERs however, encouraged the EPA to consider the impact (e.g., operations and costs) that significant lowering of these thresholds could have on small entities and landfills with low gas quality or flowrate. SERs specifically encouraged EPA to consider the remaining useful life when lowering the threshold. SERs also encouraged EPA to explore alternatives to modeled emission requirements and expressed concerns about the costs and benefits of lowering thresholds for landfills with declining gas flows.

The Panel agrees that while significant emission reductions may be achievable, lowering of the design and/or emission thresholds should not occur without a practical assessment of barriers to compliance and an assessment of the cost effectiveness of such changes on small entities. Further, changes to design capacity will make additional landfills (that are often small) subject to new requirements. The Panel recommends that EPA consider options for subcategorization to minimize the burden on small entities. For example, closed landfills could be exempted from new requirements that increase stringency of the emission threshold. This would help to ensure that a disproportionate number of closed landfills (which are often small and have declining gas flows and revenues) would not have to incur the burden of additional compliance costs. It should also be noted that the streamlined wellhead monitoring requirements (outlined in Section 8.4.9 of this document) and surface emission-based thresholds for installing and/or removing controls (outlined in sections 8.4.5 and 8.4.6 of this document) would also provide flexibility for closed areas and closed landfills.

#### **8.4.5 Requirements for gas collection system installation and expansion**

The EPA presented various options that reduced timelines for gas collection system installation and wellfield expansion. SERs expressed concerns about the ability to meet compliance deadlines if timelines for gas collection system installation or expansion were reduced. SERs also expressed concerns about increased burden (e.g., permitting, construction, and operational costs) associated with tighter timelines. Additionally, SERs asserted that increased stringency of these parameters was not necessary. The Panel agrees that barriers associated with adjustments to timelines for gas collection installation and wellfield expansion (e.g. monitoring and costs) should be considered. The Panel recommends that EPA avoid making substantive changes to timelines established for collection system installation and expansion unless it has significant evidence that tightening these metrics would be cost effective.

#### **8.4.6 Removing a GCCS**

SERs expressed concerns about the current requirements for GCCS removal, specifically the minimum 15-year time period for GCCS operation and the desire for intermittent operation of a GCCS in lieu of capping and removing the system. The Panel agrees EPA should account for declining gas flow by allowing site-specific measurements as part of the removal criteria. Those changes should allow for consideration of declining gas flow independent of the current 15 year GCCS requirement.

#### **8.4.7 Surface monitoring**

The EPA outlined its current approach to surface monitoring (EPA Method 21) during the Pre-Panel and Panel Outreach Meetings. The EPA also discussed its exploration of alternatives to the requirements currently outlined in Method 21, known as enhanced surface monitoring (modeled after key aspects of the California Landfill Methane Rule). SERs asserted that the current approach to surface monitoring should continue. Additionally, SERs discussed their familiarity with the alternative approaches explored and encouraged the EPA to recognize that those alternatives were not coupled with the monthly gas well monitoring requirements outlined in the landfill air regulations. Further, SERs asserted that surface monitoring was an effective means of ensuring proper operation of gas collection and control systems and, as such, eliminated the need for monthly gas well monitoring of temperature and nitrogen/oxygen (outlined in Section 8.4.8 of this document). SERs also encouraged the EPA to solicit data before adopting new surface monitoring requirements.

The Panel believes that changes to the current surface monitoring requirements are not warranted based upon the information currently available. However, additional data should be considered. As such, the Panel recommends that EPA solicit comment on alternative approaches to surface monitoring and explore changes to current surface monitoring requirements if deemed appropriate. Additionally the Panel recommends that EPA request data on specific parameters such as wind speed, walking patterns, and integrated measurements.

#### **8.4.8 Organics diversion**

SERs expressed concerns with mandating or encouraging organics diversion. The Panel agrees that there are significant barriers to mandating organics diversion and that a mandate should not be pursued at this time. The Panel, however, recognizes the benefits of voluntary organics diversion programs. The EPA asserts that encouraging these practices are beneficial in that they reduce the amount of landfill gas generated and can serve as a useful compliance tool by postponing or preventing the need to install a GCCS.

#### **8.4.9 Gas well monitoring**

During its Pre-panel and Panel Outreach Meetings, the EPA encouraged SERs to discuss their practical experience with the landfill air regulations and recommend options that could potentially reduce regulatory burden while meeting or exceeding the levels of protection currently achieved by the rules. SERs, in turn, asserted that monthly gas well monitoring requirements for temperature and nitrogen/oxygen were onerous and unnecessary. SERs asserted that it was in their best interest to ensure proper operation of gas wells. They also viewed recordkeeping and corrective action requirements associated with monthly gas well monitoring as overly burdensome.

The Panel recommends that EPA remove the requirement to meet operating limits for temperature and nitrogen/oxygen as well as the associated corrective action requirements. The EPA however, asserts that monitoring of temperature and nitrogen/oxygen at wellheads, could be used to inform potential adjustments to the GCCS (while eliminating the requirement to meet a limit). The Panel recommends that EPA explore retention of the negative pressure requirement as well as its associated recordkeeping and reporting requirements.

#### **8.4.10 Landfill gas treatment**

The current landfill air regulations do not define landfill gas treatment. Amendments proposed in 2002 and 2006 attempted to address landfill gas treatment by creating a definition. One approach, under the proposed amendments, sought to define treatment as filtration, dewatering, and compression of landfill gas. Another proposed approach, assigned numeric criteria to the treatment definition to address ambiguity and provide clarity for regulatory compliance. Over the course of Panel meetings, the EPA requested comments on both approaches from SERs. The EPA also presented an additional numeric approach that refined the numeric option outlined in the 2006 proposal.

SERs generally support non-numeric treatment requirements. Many advocated for an interpretation of gas treatment consistent with EPA's 2002 proposed amendments (67 FR 36475), which classified treatment as filtration, compression, and dewatering of landfill gas. The Panel agrees that non-numeric requirements that rely on site-specific treatment monitoring plans are appropriate.

## **Appendix A: List of Materials EPA shared with Small Entity Representatives**

For Outreach held October 30, 2013

- SBAC presentation on the SBAR Panel Process
- Program Power Point presentation, "Pre-Panel Outreach for Potential SERs\_ Landfills 9-26-13\_315pm.pdf"
- Supporting Table, "Pre-panel Outreach Supporting Table FINAL 09-30-13.pdf"
- Questions from Potential SERs, "SER pre-call questions.pdf"

For Outreach held December 19, 2013

- SBAR Supporting Table For 12-5 13 Meeting Final.xlsx
- Background Info NSPS calcs for SBREFA Panel 12-4-13Final.docx
- Panel Outreach Supplemental Briefing 12-5-13\_Final.pptx
- Landfills - clean dataset 112613.xlsx
- ALL\_SurveyResponses\_Oct\_2013 data request.xlsx

For Outreach held April 14, 2015

- SBAC presentation on the SBAR Panel Process
- Landfills-SBAR-Outreach-2015-03-31.pdf – EPA PowerPoint background presentation
- SBAR Supporting Table 031015.xls
- Background-Info-Landfills-EG-calcs-033115 final.pdf
- Landfills Dataset 022515 for SERs final.xlsx
- MSW Landfills Outreach Meeting Agenda 2015-04-14.docx
- MSW Landfills Panel - Invite List April-2015.pdf
- Public Comment List 33015\_final.docx

**Appendix B:  
Written Comments Submitted by Potential Small Entity  
Representatives**

Appendix B is a compilation of documents containing all written comments received from potential SERs.