

A Landfill Game Changer

EPA proposes air standards for new MSW landfills and requests information on methods to reduce emissions from existing landfills. BY PATRICK SULLIVAN, MATT STUTZ, AND ANGELA MARCONI

On July 1, 2014, the US Environmental Protection Agency (EPA) issued notices of two proposed rules affecting municipal solid waste landfills.

The first is a proposed New Source Performance Standards (NSPS) for MSW Landfills, which will be contained within Title 40 of the *Code of Federal Regulations* (CFR), Part 60, Subpart XXX. The new requirements will apply to MSW landfills that commence construction, reconstruction, or modification after the date the proposed standards are published in the *Federal Register* (July 17, 2014). The final rule is scheduled for promulgation on March 10, 2015.

The second proposed rule is actually an Advanced Notice of Proposed Rulemaking (ANPRM), titled Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills, where EPA is requesting information to assist it in a future rulemaking for existing MSW landfills under the Emission Guidelines (EG). The new EG rule would ultimately replace 40 CFR, Part 60, Subpart Cc and Part 62, Subpart GGG, and the existing federal EG rules as well as state and local EG rules. The current NSPS rule (40 CFR, Part 60, Subpart WWW) would remain in place until the new EG rule is promulgated and adopted at the state and local level.

EPA will be accepting public comment on the two proposed rules for 60 days following the July 17, 2014, publication in the *Federal Register* or by September 15, 2014. Links to the draft NSPS rule, ANPRM, and EPA factsheets on both proposed rulemakings can be found at www.epa.gov/ttn/atw/landfill/landflpg.html. Additional supporting documents are available in the rulemaking docket.

New Landfill Construction, Modification, and Reconstruction

The proposed NSPS (40 CFR Part 60, Subpart XXX) for new landfills would make a number of changes to the current landfill NSPS (40 CFR Part 60, Subpart WWW).

The current NSPS will remain applicable to MSW landfills on which construction, modification or reconstruction was commenced on or after May 30, 1991, but before July 17, 2014 (the date of publication of the new proposal in the *Federal Register*). The current NSPS rule is being used by EPA as baseline for the creation of the new NSPS; however, the changes will only apply to new landfills as defined under 40 CFR Part 60, Subpart XXX—new landfills initially constructed after the *Federal Register* publication date and existing landfills that modify or reconstruct (i.e., increase the permitted design capacity) after the publication date. These changes include:

- **Thresholds for Installing Controls:** Under the current NSPS, an MSW landfill that has a design capacity of 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) must install and start up a gas collection and control system (GCCS) within 30 months after landfill gas (LFG) emissions reach or exceed a level of 50 Mg of non-methane organic compounds (NMOCs) per year. The newly proposed rule retains the same design capacity threshold, but reduces the NMOC emission threshold to 40 Mg per year, resulting in landfills triggering the requirement to install and operate a GCCS earlier.
- **LFG Treatment:** EPA is addressing two

issues related to LFG treatment. First, EPA is proposing to clarify that the use of treated LFG is not limited to use as a fuel for a stationary combustion device but also allows other beneficial uses such as vehicle fuel, production of high-BTU gas for pipeline injection, and use as a raw material in a chemical manufacturing process. Second, EPA is proposing to clarify what constitutes LFG treatment. For filtration (10 microns or less) and dewatering (reduction of dew point to 45°F or lower), the definition contains specific numerical values that would provide long-term protection of the combustion equipment, which would support good combustion. EPA also proposes to clarify monitoring, recordkeeping, and reporting requirements for treatment systems, which would require continuous monitoring/recording with hourly and 24-hour block averages of the specific parameters for comparison to thresholds for compliance. Alternatives to the criteria or monitoring requirements, based on manufacturers' specifications, can be submitted for approval. LFG treatment criteria and monitoring procedures must also be included in GCCS design plans. The proposed numeric limits are problematic and may be difficult to meet for existing facilities that were not designed to these standards. No grandfathering was offered by EPA for existing treatment facilities, which have approved exemptions. Compliance with the new provision could be costly, including equipment retrofits, new monitoring equipment, and new reporting requirements along with the increased potential for noncompliance.

- **Startup, Shutdown, and Malfunction (SSM):** EPA's proposed update specifies the standards would apply at all times, including periods of startup or shutdown, and periods of malfunction. In addition, the one-hour and five-days criteria for control device and GCCS downtime, respectively, would be eliminated. This is a major shift from the existing NSPS, which allows rule exemptions during periods of



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SSM. EPA indicates that this change makes the landfill NSPS consistent with SSM provisions for other source categories. In order to determine the severity of an emissions excess for periods when the GCCS or a control device is not operating, the EPA proposal adds a recordkeeping and reporting requirement for landfill owners or operators to estimate excess NMOC emissions during such periods. This change could be very problematic and will create additional regulatory reporting.

Other Clarifications and Changes

EPA is proposing other clarifications to address issues that have been raised by landfill owners or operators during implementation of the current NSPS or issues that EPA believes should be addressed:

- Improvements to criteria for exempting closed areas from collection and control by allowing the use of actual flow and NMOC data to assess the 1% threshold for exemption rather than the use of LFG generation model results
- Addition of specific criteria and situations when an affected source must update its GCCS design plan
- Clarification of when landfill owners or operators must submit corrective action timeline requests for wellhead exceedances: the proposed rule would require a submittal within 15 days of the initial exceedance for instances when the exceedance cannot be remedied within 15 days and/or if something other than wellfield expansion will be the 120-day remedy.
- Removal of EPA Methods 18 and 25A as options for NMOC testing for Tier 2 studies or performance testing
- Clarification that landfills that accept only fully segregated yardwaste from households are not MSW landfills for the purposes of the rule
- Clarification that higher operating value demonstrations for wellhead criteria must be submitted to the EPA administrator or delegated state or local agency for approval prior to implementation as well as included in the GCCS design plan
- Indication that during quarterly surface emissions monitoring (SEM), all cover penetrations in regulated landfill areas must be monitored during each quarterly event

- Clarification that Tier 2 samples collected from active GCCSs must be obtained from the main header prior to the gas mover equipment and condensate knockout
- Details on EPA's proposed program for electronic submittal of performance test reports (including Tier 2s) and other compliance documents
- Clarification that for non-enclosed flare control devices, monitoring of combustion temperature is not required and, instead, alternative parameters can be used as long as they can demonstrate proper performance of the device

Information/Comment Requests

In addition to the proposed rule changes, EPA is also requesting additional information and comments on the following topics:

- Stack test data on NMOC destruction efficiency for non-flare combustion devices
- Information on open flares to demonstrate that they continue to represent the best system for emission reduction (BSER)
- Comments on the efficacy and costs of LFG collection from the leachate collection and removal system
- Comments on whether current wellhead monitoring and SEM are sufficient to discover water-logged wells
- Comments on possible enhanced SEM requirements, including tighter spacing, integrated sampling, more rigorous surface maintenance requirements, etc. (also including consideration of the provisions of the California AB 32 landfill methane rule, LMR)
- Comments on the use of wellbore seals to reduce emissions around cover penetrations
- Comments on the use of biocovers and biofilters for methane and NMOC oxidation
- Comments on shortening the initial (30-month) or expansion (two- or five-year) time lags for GCCS installation, including whether wet climate or leachate recirculation sites should be treated differently
- Information and data on any new design, operation, or control technology that would represent BSER
- Comments on alternatives for LFG treatment criteria or monitoring
- Comments on wellhead monitoring in general, including whether and why EPA might consider elimination of the

temperature and oxygen criteria and/or a possible reduction in frequency

- Comments on the timeline for wellhead corrective action and suggestions for alternatives, including extending the deadline from 15 to 60 days
- Comments on the possible use of remote-sensing techniques (e.g., tunable diode lasers, tracers, flux chambers, etc.) for landfills that cannot meet SEM standards
- Comments on alternative Tier 1 default parameters, including changes to the "Lo" to reflect organics diversion and adoption of the LFG modeling procedures from the federal GHG mandatory reporting rule
- Comments on a possible Tier 4 methodology for determining when a GCCS must be installed, which would include the use of SEM criteria on landfills without control, similar to what is allowed in the AB 32 LMR.

Section 111 of the Clean Air Act requires EPA to review standards of performance at least every eight years and, if appropriate, revise the standards to reflect improvements in methods for reducing emissions. EPA was sued by the Environmental Defense Fund for failure to revise the existing landfill NSPS and, under a consent decree, agreed to propose and take action on new standards. The final rule is scheduled for promulgation on March 10, 2015.

ANPRM for Emission Guidelines and Compliance Times

In its ANPRM, EPA indicated its intention to consider the information received in response to the ANPRM in evaluating whether additional changes beyond those in the proposed new NSPS rule for new sources are warranted for existing sources. The ANPRM does not contain any proposed rule language; rather it is a large request for information to assist EPA in a future rulemaking.

Many existing landfills, as they are now defined (with the new rules, this would include all existing EG landfills and all landfills current subject to 40 CFR Part 60, Subpart WWW that are not subject to the new NSPS), are currently subject to control requirements in either the current NSPS, or the federal or state plans implementing the landfill EG. EPA believes that these guidelines merit review to determine the potential for additional reductions in emissions, both for

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NMOCs, as well as methane, to be consistent with the President's Climate Action Plan and accompanying Methane Strategy. In the ANPRM, EPA lays out a series of issues and questions on which it would like comments.

In addition to the same requests for information/comments on the new NSPS rule (see above), EPA is also requesting comments on the following topics:

- Explicit regulation of methane and other GHGs in the landfill air rules
- Changing the regulatory framework for the EG rule to achieve additional LFG emission reductions
- Adjustments to the design capacity threshold to regulate more MSW landfills
- Further reducing the NMOC threshold
- Best management practices and new technologies for LFG control
- Use of horizontal collectors to achieve early control of LFG
- Adjustments to how long the GCCS must remain operational including strategies for reducing emissions during the latter years of the landfill's life cycle
- Various criteria from the California AB 32 LMR, including the enhanced SEM criteria

- Early installation of final cover systems on closed and inactive areas as a means to reduce emissions and improve the effectiveness of the GCCS
- Organics diversion and source separation as a means to reduce the potential LFG generation capacity
- Monitoring and reporting flexibility, including provisions to improve the review and approval of design plans and other documents by air agencies, such as third-party certification
- Making design plans and other compliance reports readily available to the public

As with the other proposal, comments must be received by EPA on or before 60 days after the publication of the ANPRM in the *Federal Register* or by September 15, 2014.

Potential Impacts on the Industry

It would appear that after 12 years of consideration for updates to the NSPS rule (the first proposed revision was in 2002), EPA has simply "kicked the can down the road" for many of the major rule revisions that were being considered. On first glance, the proposed new NSPS rule would appear to have a minor effect on the landfill industry,

because it is likely to impact only a small number of future "greenfield" landfills, as well as a small percentage of existing landfills that undergo expansion in subsequent years. However, this is not the case; the proposed rule will have a major impact on the entire landfill industry in several ways.

First, any rule changes set forth in 40 CFR Part 60, Subpart XXX will almost certainly be carried forth into rules promulgated for existing landfills. As such, the landfill industry must look at the proposed NSPS rule as affecting the entire universe of new and existing landfills, not just the smaller subset that it may initially impact.

Second, many of the proposed changes to the rule will make compliance more difficult and expensive for the landfill industry, some without a requisite benefit to air quality. As an example, the change in the SSM provisions and the elimination of the one-hour-and-five-day downtime thresholds creates a situation where any or all instances of GCCS downtime may be considered violations by regulatory agencies, subject to enforcement action and fines. Further, it creates a presumption that all GCCS downtime events result in excess



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emissions, which is not true. Landfills are unique emission sources, in that when their control devices go offline, they do not immediately have excess emissions. Besides the SSM provisions, there are various other rule changes and so-called clarifications that will be burdensome to the landfill industry. In fact, very few actually improve the current situation or resolve any of the issues the landfill industry has had with rule implementation to date.

Third, the proposed NSPS rule contains a large number of requests for comment and information from stakeholders on a variety of topics. With the information submitted and considered, EPA has the ability to add further provisions to the final version of the rule, depriving the industry of the ability to comment directly on any new rule language. This makes the industry responses to these requests for comment critical in terms of helping to properly frame EPA's rulemaking process.

Beyond the new NSPS rule, with the ANPRM, the EG rule is now an open book with a huge universe of possible rule revisions and options that EPA would have at its disposal. The items upon which EPA has requested comments cover a wide range of possible issues, some of which go beyond the scope of previous rulemakings. While there is no specific rule language to comment on, it will be incumbent on the landfill industry to provide EPA with a compelling argument to support our position on the key issues. The impact of the EG rule revision is very far reaching since it will ultimately affect the entire universe of existing NSPS and EG landfills.

Industry Comments

The landfill industry is currently conducting a detailed review of the two proposed rules, as well as the accompanying documentation that EPA has placed in the docket. It is a daunting task—one that will clearly take more than the allotted 60 days. Therefore, the first comment the industry is likely to make is a request for more time.

Beyond that, the industry will update and resubmit previous comments and information on certain topics where EPA appears to have ignored what was provided to them. The general intent is to comment at the "big picture" level on the overall framework EPA has established for the rulemaking, as well as on the details of each specific rule change and request for information. The industry will be engaging other stakeholders who may hold common views to ours to show solidarity on specific comments we make, including the Small Business Administration, state and local air agencies, and such. A meeting will be requested with EPA staff to discuss some of the major issues with the proposed rule prior to the submittal of industry comments. Comments will be submitted through the Solid Waste Association of North America (SWANA), National Waste and Recycling Association (NWRA), as well as from individual public and private landfill owners/operators. This is certainly a "game changer." **MSW**

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