

# Technical Bulletin

## Summary of Proposed NSPS and EG Rules for Landfills

### Background

The U.S. Environmental Protection Agency (EPA) landfill gas (LFG) rules were published in the Federal Register on August 27, 2015. These include a draft Emission Guideline (EG) rule under 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf and a supplemental draft New Source Performance Standards (NSPS) rule under 40 CFR Part 60, Subpart XXX. Neither the NSPS nor EG rules were finalized with this issuance. They are actually supplemental or new proposals affecting NSPS sites (i.e., “new” landfills that are new or expanded in capacity after July 17, 2014) and EG sites (i.e., “existing” landfills that have not been expanded and were not newly constructed after July 17, 2014), respectively.

The EG rule will ultimately replace the existing NSPS rule (40 CFR Part 60, Subpart WWW) and EG rules (40 CFR Part 60, Subpart Cc and state-equivalent rules). The NSPS proposal supplements the July 2014 proposal for the same. Comments on both proposed rules will be due within 60 days of their publication in the Federal Register or by October 26, 2015. Finalization of both rules is expected in the first quarter 2016.

Once the EG rule is issued as final, states and local air jurisdictions will have nine months to prepare their EG rules. Recall, EG rules are implemented by the states/local agencies not EPA; that is why they are called guidelines. If a state chooses not to implement them, then it defaults to a Federal

Plan rule (still to be developed by EPA) after an allotted timeframe. EPA has an additional four months to approve or disapprove of the state/local EG rules. So, for existing sites, there will be a time lag before the EG rule becomes effective after finalization next year. Once the NSPS rule is issued as final, it will become immediately effective for any sites that were constructed or modified (expanded) after July 17, 2014. EPA has indicated that the final EG and NSPS rules will likely be very similar.

### New Requirements in Both NSPS and EG Rules

The major component of both rules is that the 50 Mg/year of non-methane organic compounds (NMOCs) emission threshold, which triggers installation of a LFG collection and control system (GCCS), will be lowered to **34 Mg/year** for all landfills except existing, closed sites as defined in the rule under the closed landfill Subcategory (for which the threshold will stay at 50 Mg/year). This appears to be the centerpiece of EPA’s plan to create additional NMOC and methane reductions from landfills nationally. This is the only item contained within the supplemental NSPS proposal.

### Key Components of the Proposed EG Rule

Other key areas of the EG rule (not presently included in the July 2014 draft of the NSPS rule) include:

**Treatment Definition.** The definition of LFG treatment has reverted to the original definition of just filtration, dewatering and compression, without numeric limits or special monitoring. EPA has added a notation that beneficial use can include technologies beyond combustion, such as vehicle fuels, pipeline quality gas, etc. This is a major victory for the LFG to energy industry, which was afraid that a rigid definition of treatment could negatively impact existing and new projects with additional costs and new compliance issues. However, the EG rule includes a requirement for each regulated landfill to develop and submit for approval a treatment system monitoring plan to address treatment criteria. There is a concern that this plan could give states and local agencies the ability to require numeric limits and monitoring on a site by site basis. EPA is also seeking comment on whether to consider numeric limits, so they have not completely given up on the concept.

**Surface Monitoring.** All penetrations to the landfill cover and open areas of the cover must be monitored during each quarterly surface emission monitoring (SEM) event. Also, latitude and longitude must be recorded for each location of exceedance within +/- 3 meters. Monitoring all penetrations can add significant time and cost to quarterly SEM events, particularly for landfills that have additional penetrations beyond the LFG wellheads. Furthermore, in some instances, exceedances at penetrations can be more difficult to mitigate. However, EPA considers penetrations to be the largest source of surface emission exceedances, and so they are mandating additional monitoring. The use of hand-held global positioning system (GPS) devices for flagging SEM exceedances should satisfy EPA's proposed requirements for location data; however, extra efforts will be needed to plot these locations on SEM maps.

**Tier 4.** A new Tier 4 methodology has been proposed to assess whether a GCCS is required once NMOC emissions exceed 34 Mg/year. The procedure includes four quarters of SEM with no exceedance of the 500 parts per million by volume (ppmv) threshold for methane and then semi-annual SEM after the initial monitoring. Monitoring under the Tier 4 must be conducted during wind conditions less than 5 miles per hour (average) and/or 10 miles per hour instantaneous, and wind speed monitoring is required during the SEM event. The procedure can also be used as one of the criteria when a GCCS can be removed from a landfill or landfill area. It is unclear whether the Tier 4 methodology will be acceptable for use in extending the time when the GCCS must be expanded into areas meeting the 2- or 5-year criteria. This is a very positive development, which should be very helpful for dry climate, or low gas-producing landfills, which only triggered the GCCS requirements due to a high NMOC concentration during Tier 2 testing and/or model defaults that over-predict LFG generation. However, the wind speed requirement and the fact that one single exceedance can cause a failure of the Tier 4 may limit its value.

**Wellhead Criteria.** EPA has removed the wellhead criteria for oxygen and temperature. Oxygen and temperature monitoring will still be required monthly, but no limits or exceedances will exist. Negative pressure is still a requirement as in the existing NSPS and EG rules. Alternative timeline requests have been clarified as only being required if the exceedance cannot be corrected in 15 days and the remedy will not be complete within 120 days and/or will not include expansion of the GCCS. EPA is seeking further comment on this issue as well. This is one of the major issues put forth by industry and represents a major success story for this rule development.

Removing the oxygen and temperature requirements will eliminate the vast majority of wellhead exceedances and avoid the situation of operating the GCCS to meet arbitrary wellhead criteria rather than to minimize emissions.

**Low Producing Areas.** Low producing areas can be considered for removal of the GCCS if they meet each of three criteria: (1) must be a closed landfill or landfill area; (2) GCCS must have operated for 15 years or you must show that GCCS could not operate for 15 years due to declining flow; and (3) must demonstrate methane emissions less than 500 ppmv for 4 quarters of SEM with no exceedances. This proposed provision provides some additional flexibility for eliminating GCCS requirements in these closed and low gas-producing areas, but it is unclear how difficult it will be to meet all of the stated criteria.

**Startup, Shutdown, and Malfunction (SSM) Requirements.** The rule will now apply at all times, **including** SSM. This would remove the former SSM “exemption” that was contained within the NSPS rule and allowed landfills to avoid the loss of SSM protections that others sources faced due to legal decisions regarding the National Emission Standards for Hazardous Air Pollutants (NESHAPs). EPA has defined a new term of “not operating” to clarify what would be considered SSM events for landfills, as in the GCCS is not operating. Also, landfills will have to estimate excess NMOC emissions when not operating. EPA’s focus seems to be primarily on malfunctions of the GCCS and GCCS monitoring equipment. EPA has defined the concepts of “normal” or “usual manner” for periods of startup and shutdown since those events are expected to be part of the normal GCCS operation cycles. Unfortunately, SSM events could become deviations; however, EPA has suggested that good faith efforts to comply and minimize

emissions during downtime could reduce the enforcement burden. EPA has eliminated the duration of SSM events (e.g., five days for GCCS and one hour for control devices), noting that it is common for SSM events to go beyond these timeframes. However, landfills still must control free venting to less than one hour by shutting down gas mover equipment once a control device goes offline. EPA proposes no alternative standards during SSM; however, they are seeking comment on whether such alternatives are feasible.

It is clear EPA wants to make landfills similar to other sources, which have lost their SSM protections. However, such a decision fails to recognize the unique nature of landfills as a source. While EPA suggests that there may be ways that landfills can limit/avoid violations and enforcement actions for SSM events; this provision creates a presumption of excess NMOC emissions and potential deviations during SSM events. The SSM language is likely to be a major issue to be further addressed by industry during the comment period.

### **Other Issues Addressed in the Proposed EG Rule**

EPA has provided rule clarifications and other minor changes to the rule on the following issues:

**GCCS Design Plans** will be required to be updated under two situations: (1) due 90 days after expansion of the GCCS into a new area and (2) if changes made to the GCCS were not consistent with current plan. This requirement seems reasonable and more flexible than previous proposals.

**Organics Diversion** is not mandated in the rule, but EPA encourages wider organics diversion as a best management practice (BMP). EPA would consider organics diversion as an element of a state plan.

Although not included in the proposal, EPA's willingness to consider organics diversion as part of a state plan is still troubling and misplaced.

### **Best System of Emission Reductions**

**(BSER).** No new technologies were added to the definition of BSER, and open flares are still allowed as BSER. However, EPA indicates that BMPs can be useful in certain circumstances and are encouraged, such as well bore seals, well dewatering, biocovers, etc. This is a positive development and allays fears that open flares would not be allowed under the rule. Also, EPA clearly heard industry's comments that the various BMPs are not a "one size fits all" and should only be a case-by-case decision. As such, EPA agreed not to include them as rule requirements.

**Electronic Reporting** for performance test reports, NMOC emission rate reports, and annual compliance reports will be required. Although this may seem simple, experience with electronic reporting under the federal greenhouse gas reporting rule has been more complex and costly than originally thought.

**EPA Method 25A** will be included in the rule for testing low NMOC concentrations on the control device outlet, but **EPA Method 18** will not be allowed for NMOC analysis. It can, however, be used in conjunction with Method 25A. The return of EPA Method 25A is an important allowance for stack testing of control devices for NMOC destruction.

**Waste Definitions.** EPA has clarified the definitions of "household waste" and "segregated yard waste" so that landfills that take this material would not be defined as municipal solid waste (MSW) landfills under the rule unless they accepted other materials that would classify them as MSW. This should clear up previous confusion and avoid enforcement actions that several EPA regions

attempted against construction and debris (C&D) landfills.

**Early Collection.** It is important to note that EPA, despite earlier collection being part of initial discussions, did not change the time periods for GCCS installation. Initial GCCSs are still required 30 months after exceeding 34 Mg/year (or 50 Mg/year for closed sites) of NMOCs, and expansions of the GCCS into new areas are still based on when the waste reaches 5 years of age or 2 years of age if the area is at final grade.

### **Specific Topics Where EPA is Seeking Comment**

EPA is also seeking comments on the following topics:

**Closed Areas.** EPA is requesting comments on defining closed areas and how such areas should be regulated under the rule. Industry's comments will focus on maximizing flexibility for closed areas.

**Enhanced SEM.** EPA is considering changing SEM walking pattern to 25 feet instead of 30 meters (100 feet) and/or implementing integrated surface sampling with a limit of 25 ppmv (per California AB 32 landfill methane rule). This enhanced SEM program would be very costly to industry, potentially increasing monitoring and reporting costs by 4 to 6 times. Although industry believes it proved these enhanced SEM requirements are not cost effective, EPA has not completely given up on them.

**Wet Landfills.** EPA is seeking information on how to define "wet" landfills and how such landfills should be regulated under the rule. Since there are many types of so-called "wet" landfills and in different climates, the industry will be advocating that there be no single definition that can be applied.

**Wellhead Flow Monitoring.** EPA is seeking information on monitoring LFG flow at wellhead and uses of that data. While such monitoring can provide useful data, the industry will be suggesting that it is not something that is warranted and/or feasible for all sites. Also, it can be very difficult to interpret flow data, and changes in flow can have multiple causes.

**Third-Party Review of GCCS Design Plans.** Consideration of third-party GCCS Design Plan certifications to relieve the burden on state/local agencies and speed up plan approvals. Industry would prefer that agencies meet their obligations for review and approval of plans, rather than implementing third-party certification at an additional cost to industry. EPA's conflict of interest requirements for certifiers are also too strict such that consultants that have the expertise to provide such services would likely be conflicted, resulting in plans reviewed by companies without expertise in GCCSs and the landfill rules.

**Portable Meters.** EPA is interested in the use of portable meters for compliance with EPA Methods 3A and 3C (nitrogen and oxygen). Such meters have been in common use for oxygen monitoring and exist for other constituents as well. We are hopeful EPA provides for adequate flexibility in this regard. Real time data is much more valuable than waiting for samples to be analyzed at a laboratory.

**General.** The EPA will have the ability to add additional provisions to the final version of the rule based on the information submitted as a part of these information requests, 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 frame properly EPA's rulemaking process.

### **Industry Involvement**

Note that the landfill industry will be reviewing these rules in detail and will most certainly be commenting within the prescribed 60-day window. Comments will be developed in a collaborative effort of the Solid Waste Association of North America (SWANA) and the National Waste and Recycling Association (NW&RA) and submitted to EPA.

### **For copy of the rule and related documents:**

<http://www.epa.gov/ttn/atw/landfill/landflpg.html>

### **For more information contact:**

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