



October 26, 2015

Via Electronic Submission: www.regulations.gov

Ms. Hillary Ward
U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC), Mailcode 28221T
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dear Ms. Ward:

Re: Docket ID Nos. EPA-HQ-OAR-2014-0451& EPA-HQ-OAR-2003-0215

The National Waste & Recycling Association (NWRA) and the Solid Waste Association of North America (SWANA) are pleased to offer comments on the proposed revisions of the Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills (EG) (80 F.R. 52100, August 27, 2015) and to the supplemental proposal to the Standards of Performance for Municipal Solid Waste Landfills (80 F.R. 52162, August 27, 2015). The NWRA and SWANA represent companies, municipalities and professionals in the solid waste industry. The NWRA is a not-for-profit trade association representing private solid waste and recycling collection, processing and management companies that operate in all fifty states. SWANA is a not-for-profit professional association in the solid waste management field with more than 8,000 members from both the private and public sectors across North America.

General

When NSPS rules were first promulgated in 1996, the industry responded by investing significant capital and resources in new and improved landfill gas collection and control systems (GCCS) and landfill cover systems. These efforts have resulted in significantly reduced emissions. As highlighted in EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, between 1990 and 2013 landfills reduced methane emissions by more than 38%. The 1996 NSPS and EG (including the Federal Plan and state EG rules) were very successful in prompting the landfill sector to develop highly effective non-methane organic compound (NMOC) and methane controls.

As EPA writes amendments to the existing regulations, it is important to build on the significant successes the industry has achieved during the past 19 years. We believe EPA should streamline the

standards to eliminate the historical bureaucracy that has hampered effective implementation of NMOC/methane controls. EPA should also avoid establishing new requirements that are neither cost effective nor focused on achieving new NMOC/methane reductions. For example, we applaud EPA's proposal to maintain monthly monitoring but eliminate wellhead performance standards for temperature and oxygen (or nitrogen) as these performance standards historically have hindered the most efficient operation of a GCCS and increase emissions. Sites will continue to use the collected data to manage system operations most effectively and landfills can install GCCS components sooner, connect the GCCS to other structures (e.g., the leachate collection system), and use horizontal collectors and/or perimeter extraction wells based on site operating conditions.

EPA has also requested comments on how to identify closed areas of open landfills so that areas with diminished methane generation can "exit" the regulatory regime. We support this effort as well and have tried to provide comments that will assist EPA in developing a fair and workable methodology for these closed areas. In addition, EPA requests comments on other options to reduce emissions. Please find industry responses to these questions below.

Threshold Reduction

The proposed rule lowers the threshold for triggering the requirement for installing and operating a GCCS from 50 megagrams per year (Mg/yr) NMOC down to 34 Mg/yr for all sites except designated closed subcategory landfills. The rule also includes operational flexibilities such as the proposed Tier 4 that utilizes site specific surface emissions monitoring (SEM) for installation of a GCCS; the removal of oxygen, nitrogen and temperature limitations for wellheads; and the use of surface emissions monitoring for intermittent operations of low-producing areas. While NWRA and SWANA maintain that 34 Mg/year is lower than necessary, we support the operational flexibilities in the rule because without them, this lower limit will be impossible to achieve.

With respect to the threshold reduction, we have reservations that the proposed lower threshold will provide benefits sufficient to warrant the additional costs. EPA's own analysis shows that the revision from 40 Mg/yr to 34 Mg/yr will not provide any reductions in NMOC, the pollutants the rule is designed to address. Yet the costs for installing a GCCS at 34 Mg/yr are expected to be 15% greater than for the 40 Mg/yr threshold and 20% greater than the current 50 Mg/yr threshold. EPA's analysis of methane emissions compares the 34 Mg/yr trigger to the current 50 Mg/yr trigger, rather than the original NSPS proposal of 40 Mg/yr. By doing so, EPA claims that its supplemental proposal will result in a reduction of 51,400 Mg/yr. However, the difference between 40 Mg/yr to 34 Mg/yr is only 7,000 Mg/yr, or a 0.3% reduction from the previously proposed standard. This reduction in methane emissions does not justify the additional costs associated with implementing the lower threshold.

EPA rejected the option of "lowering the design capacity threshold below 2.0 million Mg" because that revision "would add regulatory requirements with minimal environmental benefit" (80 FR 52119). By recognizing that regulatory burdens should not be increased when they result in minimal environmental benefits, this same reasoning should be applied to the 34 Mg/yr threshold proposal. As shown above, increasing the stringency of the GCCS trigger to 34 Mg/yr provides minimal environmental benefits beyond the previously proposed 40 Mg/yr. Therefore, we request that EPA reconsider this limit.

Social cost of methane

EPA's benefit calculation for the threshold reduction focuses on the assumption that the expected methane reductions will help address climate change relying on an estimate of the social cost of methane (80 FR 52164). That new metric comes from a 2014 research paper by Marten et al. that quantifies the social cost of methane (80 FR 52165). The paper concludes that each ton of methane results in a detriment to human society of somewhere within the wide range between \$430 and \$7,200, depending on the year and interest rate employed. Therefore, EPA's assume that, for every ton of methane emissions avoided in 2025, human society will benefit by between \$700 and \$4000 per ton. EPA's calculations confirm that the climate benefits of the incremental drop from 40 Mg/yr to 34 Mg/yr would be between \$4-14 million. However, EPA's preamble cites a benefit calculation of \$36-\$210 million (80 FR 52165). That range does not disclose the fact that most of that benefit is attributable to the reduction from 50 Mg/yr to 40 Mg/yr, not the further reduction to 34 Mg/yr.

Extraction well monitoring

Removal of oxygen, nitrogen and temperature limitations

We support EPA's decision to remove wellhead limitations for oxygen, nitrogen and temperature. As acknowledged in the preamble, this will reduce the burden for landfills and will provide flexibility to allow landfills to begin earlier collection in low producing areas, better manage gas in older areas with reduced gas production, and address unique gas quality issues that arise in certain extraction wells.

Flowrate

The proposed rule considers the addition of flowrate monitoring at the wellheads. We have two concerns associated with monitoring flowrate. The first is that the flowrate measurements using either an orifice plate or a pitot tube will only provide relatively accurate results within a limited range. For example, using an orifice plate is dependent on the size of the orifice plate. Flows that fall outside the range (either above or below) or are influenced by condensate will be inaccurate and unrepresentative of the actual flowrate. Also, all wells would have to be outfitted with orifice plates, which represent a capital cost for many landfills that do not currently use them.

Technology beyond orifice plates and pitot tubes, such as installing individual flow meters on each well, is technically and economically not feasible due to the required power source which is normally electricity. Running electricity to each well is not only cost prohibitive but also poses a safety concern. Solar powered devices may be an option but are very costly and could be unreliable due to weather and landfill traffic. This would be especially problematic if a site must also collect and store the flow data. The costs associated with flow monitoring were not included as part of the regulatory impact analysis and would be a substantial burden to the industry.

The second concern is that inaccuracies associated with the flow meters will multiply over the entire landfill. Flows from all the wells are not read at the exact same time as the flow meter to the control device(s). Therefore, it is important that the flows not be aggregated and compared with the flow at the control device. This might make it appear that the flows based on wellhead readings are significantly higher or lower than at the control device.

While we agree that flowrate measurements can be taken and utilized to gauge performance of the GCCS as a whole, we request that EPA make clear that the flows should not be compared to total flows because significant difference will occur which could lead to incorrect conclusions. Ultimately, however, this information is not necessary for successful GCCS operation. Therefore, due to the potential to increase confusion, we do not recommend that wellhead flow measurement be required or presented by EPA as an optional best management practice (BMPs).

Alternative Timelines

We appreciate the clarification in the preamble that requirements for approval of corrective action timeline requests are only required for corrective actions exceeding 120 days. To address implementation concerns associated with the time allowed for corrective action, EPA requests comment on an alternative that extends the requirement for notification from the often misinterpreted 15 days, to as soon as practicable, but no later than 60 days from when an exceedance is identified. EPA is also requesting input on whether 60 days is the appropriate amount of time to allow owners or operators to make the necessary repairs. Thus, by no later than day 60, the landfill would have to either have completed the adjustments and repairs necessary to correct the exceedance, or be prepared to have the system expansion completed by day 120.

We support EPA's attempt to clarify when alternative timeline requests should be submitted for approval as state/local agency interpretations vary widely. However, up to 120 days is needed to properly diagnose and determine corrective actions in some cases. Although the proposed 60 days provides time to diagnose the problem and determine corrective action for some situations, there are many instances where 60 days is not enough time to complete diagnoses and correct the exceedance.

The Landfill NSPS was amended on June 16, 1998 to allow the following:

Section 60.755(a)(3) is being revised to allow an alternative timeline to be proposed for correcting an exceedance in collection header pressure at each well. Consistent with 60.755(c)(4)(v), a sentence is being added to 60.755(a)(3) and 60.755(a)(5) to allow an alternative timeline to be proposed to the Administrator for correcting an exceedance. This revision makes the sections consistent. *Depending on the remedy selected to correct the problem, a different timeline may be needed, but any timeline extending more than 120 days must be approved by the regulatory agency.* (emphasis added) (63 FR 32743, 32748).

In 1998, EPA also clarified that corrective action timelines exceeding 120 days require regulatory agency approval, in effect allowing that those less than 120 days did not require it.

Many delegated agencies currently follow the 1998 rule changes and do not require landfills to submit requests if the corrective action/remedy (other than expansion) is completed within 120 days. The site's paperwork is minimized and required only for instances where the site needs additional time beyond 120 days to complete the corrective action. Agencies in turn have significantly fewer requests to review and approve.

We request that the rule reflect the current practice that landfills need only make a request when corrective action requires greater than 120 days to complete. Requiring agencies to change their procedures will result in increased paperwork burdens. Further, our experience to date is that many requests are never acted upon – neither approved nor denied; therefore we request that, absent any agency approval, the request shall be granted.

For example, as previously stated in our 2014 comments, the Asbestos NESHAP rule (40 CFR 61 Subpart M) requires a 45-day notification to the regulatory authority prior to initiating any excavation activity such as well or piping repair, replacement or installation, that has potential to disturb regulated asbestos containing material (RACM). RACM disposal locations are required to be documented upon disposal; however, over time, due to routine waste settlement, RACM may shift from the initial documented location. Therefore, the potential exists for possible disturbance of RACM during excavation such as well drilling and collection system repair and, sites may not be able to determine within 60 days whether an alternative timeline request will be necessary. State final landfill cover disturbance requirements can further delay any diagnoses.

There are instances where diagnoses, repairs or expansion cannot be completed within 120 days. We recommend the rules continue to require an alternative timeline request where corrective actions and/or system expansion will require more than 120 days, consistent with the 1998 preamble and rule provisions.

Alternative remedy to system expansion for exceedances

We also recommend that EPA allow for alternative remedies to exceedance corrections. An automatic default to gas system expansion may actually be contrary to proper system operation. In fact, system expansion is the correct remedy in only a small percentage of exceedances. System expansion may not be the appropriate corrective action to address exceedances due to certain causes. For example, if pressure exceedances are due to header line flooding or freezing (or other vacuum restrictions) the appropriate remedy is to repair the line to remove the obstruction to vacuum; expanding the GCCS will not correct the problem. The rules already allow for alternative remedies to correct surface emissions monitoring exceedances. The rules should allow landfills, in lieu of expanding the GCCS, to submit a notification to the agency that identifies and describes an alternative remedy and reasons why a system expansion is not appropriate to correct the exceedance. However, we request that this only be required if the alternative remedy will require time beyond 120 days. Many jurisdictions currently allow alternative remedies between 15 and 120 days without any unnecessary paperwork. Since in the majority of cases GCCS expansion is not the correct remedy, we request that alternative remedies be allowed during the 120-day window without written approvals. Instead, these instances would be documented in semi-annual NSPS reports.

Surface Emissions Monitoring

Cover Penetrations

EPA has taken the position that the quarterly monitoring path should include the monitoring of every cover penetration, since “cover penetrations can be observed visually and are clearly a place

where gas would be escaping from the cover, so monitoring of them would be required by the regulatory language" (80 FR 52124). We disagree with this interpretation.

To assume that all cover penetrations, including gas extraction wells, are a place where gas is escaping is unwarranted. The landfill industry, as a best practice, monitors cover penetrations when visual or olfactory observations during SEM and/or cover integrity monitoring events indicate the potential for surface emissions. That is, we check for gas odors in the vicinity of a penetration and/or we visually identify where cracks have appeared in the cover around a penetration. Therefore, we are not ignoring penetrations, but simply applying a targeted approach that identifies penetrations where problems are likely to occur and monitors those locations promptly.

The assertion that all cover penetrations are required to be monitored quarterly for surface emissions is contrary to current regulatory interpretation and industry practice that has successfully been in place over the past 18 years under Subpart WWW. The industry is concerned that EPA's enforcement office and/or state or local agencies will interpret EPA's mandate to monitor all penetrations to mean that landfills have been in violation of Subpart WWW during this entire time as EPA has stated in the preamble that monitoring of penetrations is "...consistent with EPA's historical intent and interpretation." Therefore, we request that EPA clarify that monitoring of every cover penetration has not been previously required by Subpart WWW or state/local EG rules and that if it is ultimately included in Subparts Cf and WWW, it is a new requirement. In fact, in November 1998, EPA issued questions and answers on NSPS clarifying that SEM did not require the technician to travel from well to well.

The docket for the proposed rule has no data or technical documentation showing any emissions reductions from this penetration monitoring requirement, only a general suggestion that more surface leaks would be discovered and remediated. Given the significant costs associated with additional penetration monitoring and no quantified emissions reductions to justify the added expense, we recommend maintaining the existing SEM requirements from Subpart WWW whereby penetrations would be treated as other landfill areas where visual and olfactory observations indicate possible elevated levels of LFG and monitored using the procedures discussed above.

The landfill industry previously submitted a report to EPA comparing SEM requirements under the California AB-32 landfill methane rule (LMR) to those contained within Subpart WWW. As part of that report, an evaluation of penetration monitoring was conducted. We believe these data demonstrate that quarterly monitoring of every penetration during every monitoring event is not necessary and that a continuation of the program of targeted monitoring used under Subpart WWW is sufficient. At a minimum, the data demonstrate that quarterly monitoring is not necessary and that annual monitoring would be sufficient (Docket ID Number EPA-HQ-OAR-2014-0451-0140).

Penetration definition

If EPA maintains the requirement to monitor penetrations, then we request a clear definition and delineation as to what constitutes a penetration or opening. The term "opening" in the preamble is confusing and seems unnecessary. Therefore, we request that the term "opening" be removed and, the term "penetration" be used consistently. More importantly, we request that EPA define penetrations in a way that is meaningful in terms of their potential to be a source of surface

emissions. There are many temporary and/or shallow field components (e.g., fence posts, stakes, etc.) at landfills that may penetrate into the cover, but not significantly into the waste to be a source of emissions.

For example, landfills have begun installing trees as part of phytocovers. Use of these types of BMPs could be deterred if they were considered penetrations. As such, we request the following definition be adopted for “penetrations” requiring monitoring:

“A penetration is any landfill gas collection well or landfill gas collection device included in the GCCS Design Plan that completely passes through the landfill cover into waste and is located within an area of the landfill where waste has been placed and a gas collection system is required. Examples of what is not a penetration for purposes of this subpart include but are not limited to: survey stakes, fencing including litter fences, flags, signs, utility posts, trash, manholes, barriers, trees, grass, and weeds.”

Penetration monitoring frequency

If EPA maintains the requirement to monitor penetrations, then we further request that monitoring frequency be limited to annual monitoring. This will significantly reduce the additional burden associated with compliance with this requirement. In addition, industry experience, as supported by the analysis of LMR data, demonstrates that only a small percentage of penetrations show exceedance in any monitoring event. The SCS LMR study (Docket ID Number EPA-HQ-OAR-2014-0451-0140 Attachment A) shows that only 1.5% of the monitored penetrations are exceedances. As such, we believe the data do not support monitoring every penetration on a quarterly basis. Again, we continue to support penetration monitoring where visual observations indicate the area around the penetration shows signs of distressed vegetation or other physical signs of distress. But, if EPA continues to require penetration monitoring, then they should consider a reduced monitoring frequency (such as annual) as supported by the study results.

Penetration labeling

If EPA maintains the requirement to monitor penetrations, then we request the unique identification label be limited to only the GCCS components.

Tighter Traverse and Integrated Methane Concentration

EPA requests additional comments on a tighter walking pattern for SEM (25-foot spacing) and the addition of integrated monitoring of methane concentrations, which are contained within the California LMR. To summarize the industry’s comment on this issue, we are reiterating some of our previous comments that remain relevant to this issue. EPA responded to commenters on the issue of integrated methane monitoring in November 1998 in its *Municipal Solid Waste Landfill New Source Performance Standards (NSPS) and Emission Guidelines (EG) – Questions and Answers* by stating that point sampling is used to determine where the GCCS is insufficiently designed or operated. Integrated sampling could mask areas of poor performance by dilution and is also more an indicator of emission rate than system performance. We agree with EPA’s original assessment that point sampling provides a direct method of pinpointed areas that need attention and therefore,

we recommend maintaining the SEM criteria utilized in Subpart WWW and contained within the proposed Subpart Cf rule.

Further, the docket for the proposed rule has no data or technical documentation showing any emissions reductions that could be achieved through this enhanced monitoring. However, the docket does contain the previous report submitted to EPA comparing SEM under the California LMR and Subpart WWW. We continue to stand by the conclusions in this report. Given the significant costs associated with a tighter traverse/integrated monitoring and no measurable emissions reductions to justify the added expense, we recommend maintaining the existing 30-meter interval for SEM monitoring.

Also, EPA proposes to change the 30-meter surface monitoring interval to “no more than” 30-meters (§ 60.34f, 60.35f and 60.36f). We believe that this change does not address any problem brought forth by either the industry or by regulators. Instead, we believe that this change will only add confusion and lead to compliance issues. Therefore, we request that EPA remove the proposed language.

Wind Speeds

EPA requested comments on establishing a maximum wind speed for SEM. According to the SCS study on the LMR, nearly 73% of sites following the LMR required permanent variances for wind speed. This shows that the wind speed limitations are not reasonable. We have included additional comments on wind speed under the Tier 4 discussion. Those comments apply to this section as well, so the EPA should not consider wind speed requirements under the standard quarterly SEM under the rule.

Use of GPS

The current rule proposes to require all SEM exceedances to be marked using a GPS device that has an error of +/- 3 meters. We are not clear on why EPA believes that GPS measurements of SEM exceedance locations are necessary and why a landfill cannot simply mark the exceedance with a marker flag for return corrective action and monitoring. We believe both options should still be allowed in the rule.

With this requirement, we are concerned that +/- 3 meters is too much of an error range that the use of GPS alone may not allow the operator to return to the exact spot of the exceedance. Therefore, the added expense to purchase a GPS device, use that device in the field, and then plot the GPS data on a map, may provide no additional value to the operator compared to flagging exceedances, and may still necessitate the use of both methods. It is unclear from the docket materials if EPA has evaluated GPS equipment that can achieve this level of accuracy, its cost, and its size/weight in terms of requiring a technician to carry yet another field monitoring instrument.

Startup, shutdown and malfunction

EPA's approach to startup, shutdown and malfunction (SSM) periods is not appropriate for municipal solid waste landfills because it fails to adequately address the unique operating considerations that apply to landfill gas collection and control systems.

As a general matter, EPA's recent efforts to remove SSM exemptions from various rulemakings have focused on either: (1) confirming that numeric emission limitations continue to apply during SSM periods; or (2) establishing alternative work practice or compliance demonstration standards for SSM periods. The only emission limitation that applies to landfills under Subpart Cf is the standard for non-methane organic compound ("NMOC") emissions from landfill gas control devices. Accordingly, any SSM clarification should focus only on the operation of landfill gas control devices during periods when landfill gas is routed to them via the collection system. In this context, and consistent with its other recent rulemaking efforts, EPA should establish clear work practice requirements for startup and shutdown of landfill gas control devices.

By contrast, landfill gas collection systems are not subject to any emission limitation; they are subject to a design and operational standard that includes periods of downtime for necessary repairs, expansions, upgrades and other maintenance. During these periods, the GCCS is shutdown, valves to atmosphere are closed and landfill gas is not routed to control devices or treatment systems. We are concerned that the broad language of proposed 40 CFR § 36f(e), ("The provisions of this subpart shall apply at all times, including periods of startup, shutdown or malfunction.") may be misinterpreted to require operation of the GCCS at all times.

Likewise, the proposed requirement in 40 CFR §39f(c)(5) to estimate emissions of NMOC during periods when the GCCS is not operating is not appropriate and may incorrectly imply that excess emissions would occur during these periods. It would be technically infeasible to estimate NMOC emissions to atmosphere during these periods, when landfill gas is not actively collected. Likewise, no emission limit would apply to or could be exceeded by a control device that is shut down and not receiving landfill gas. EPA should revise and clarify these provisions accordingly.

NWRA and SWANA have worked closely with both Waste Management and Republic Services in evaluating SSM issues for municipal solid waste landfills, and we support their comments and recommendations with respect to EPA's Subpart Cf proposal.

GCCS operational limitations

With the removal of the 1-hour/5-day SSM exemption, landfills need an alternative allowance for downtime of all or portions of the GCCS without the SSM becoming a rule deviation. This is most critical for low-producing areas of the landfills, or closed landfills with declining gas flows. However, at a given time, any landfill or area of the landfill could need this flexibility. Many jurisdictions have interpreted the continuous operation requirement in the NSPS/EG rules as applying to the entire GCCS, as well as to individual components (e.g., wells) of it. The current SSM exemption has been used to prevent these downtime events from becoming deviations. In the absence of it, we would need other explicit allowances in the rule to allow non-SSM downtime of the entire GCCS (e.g., during maintenance, due to weather, power outages, etc.) or individual wells (e.g., to prevent or extinguish a fire, due to low production, to repair the well, etc.). See below for additional details.

Wells

The proposed rule should provide operational flexibility to shut-off wells or to temporarily lock out the vacuum to a well in order to deal with declining gas flows, operational issues, or other site activities that would require portions of the GCCS to be taken off-line. We believe that these situations can be more efficiently and effectively addressed by following the procedures set forth below. These procedures generally follow the current EPA Applicability Determination Index (ADI) control No. 0600062 with some additional details regarding SEM and a modification based on the elimination of the oxygen and temperature wellhead criteria.

- Monthly monitoring will be conducted for the collection point which has been temporarily shut down, but positive pressure will not be considered an exceedance of the wellhead operating standard.
- If monthly monitoring indicates that pressure has built up in the collection point, the well will be opened to relieve the pressure, but may be shut down again until it is monitored the following month.
- If monthly monitoring indicates that the gas quality has improved, the well will be brought back on line until the gas quality declines again. While on-line, it must meet wellhead requirements in the rule.
- The quarterly SEM will be conducted in the areas of the non-producing collection points. The well may continue to remain shut down if no SEM exceedances are found within 30-meters of the collection point which cannot be remediated without reactivating the collection point. If however, an SEM exceedance within 30-meters of the collection point cannot be remediated within the timelines and re-monitoring procedures currently outlined in the rule, then the collection point will be brought back on-line or another alternative will be requested of/approved by the Administrator.

To make the above procedure effective, some additional definitions should be added to the rule. In the industry, decommissioning a well is used to denote the taking of a well off-line temporarily to address operational or maintenance issues. As noted, decommissioned wells should continue to be monitored monthly to determine whether they can be brought back on-line; however, during this time, they should not be subject to wellhead standards. Further, decommissioning should not be considered a design change requiring a revision to the GCCS Design Plan. Decommissioning a well should not require agency approval, however, they should be included in the semi-annual NSPS/EG compliance reports. We request that EPA add a similar definition of well decommissioning to the rule.

Well abandonment is used in the industry when a well is taken off-line permanently. The well is disconnected from the vacuum but may or may not be physically removed or drilled out and capped, depending on access or site conditions. Once abandoned, the well would not be part of the NSPS/EG compliance system. Past records would be kept for the required timeframe. As long as SEM requirements can be met in the area of the abandoned well, the abandonment should not be considered a design change requiring a revision to the GCCS Design Plan. Abandoned wells will be listed in the next semi-annual NSPS/EG compliance report and then taken off of the site's GCCS map. We request that EPA add a similar definition of well abandonment to the rule.

Re-drills are existing gas wells that are replaced. The re-drilled well may not be in the exact location, and may be based on a slightly different design, but it is functionally equivalent to the well it is replacing. The re-drilling of wells should not be considered a design change requiring update of the GCCS Design Plan. Re-drilled wells will be listed in the next semi-annual NSPS/EG compliance report and then added to the site's GCCS map, replacing the former well, but usually with a slightly different demarcation. We request that EPA add a similar definition of a re-drilled well the rule.

Entire GCCS

Regardless of how well designed, constructed or operated a GCCS is, it will have periods of time when it will be off-line. These periods can be caused by utility power failures, weather conditions, or other events that can cause automatic or manual shutdown of the GCCS or a portion of it.

To address this issue, and to avoid the numerous conflicting interpretations that already exist on this issue, we request that EPA add rule language to accommodate for periods when the collection system is not operating during activities associated with construction, expansion, repair, replacement, testing, upgrades, or other maintenance of the system or its components. We refer EPA to comments submitted by Waste Management and Republic that address this need for periodic downtime to perform these activities to properly operate and maintain the GCCS which is BSER for Subpart Cf and XXX. EPA may also consider the Bay Area AQMD's current EG rule (Rule 8-34) which allows up to 240 hours of GCCS downtime per year.

Despite triggering GCCS control requirements under the NSPS/EG, there are still some landfills that do not have enough LFG to run their GCCSs continuously and cannot currently qualify for GCCS removal. To address this issue, we request that provisions be added to the rule to allow less than continuous operation under certain circumstances. The California LMR lists such a scenario as one of the alternatives that would be approvable under the rule. The Bay Area AQMD EG rule has similar language whereby less than continuous operation petitions can be submitted for approval.

Closed and Low-producing Areas

EPA's proposal includes methods for excluding or partial GCCS decommissioning for "*nonproductive physically separated (i.e., separately lined) closed areas.*" This proposal should be revised to allow for this demonstration for any closed area, not just physically separate ones. Similarly, the "equipment removal" provisions should be expanded to allow for removal from closed areas, not just closed landfills. EPA "*considers areas to be physically separated if they have separate liners and gas cannot migrate between the separate areas.*"

This concern that gas could migrate from an unclosed area (with GCCS) to a closed area (without GCCS) is unfounded. Gas travels by convection or from high pressure to areas of low pressure. Therefore, rather than migrating from an open area that is under negative pressure toward a closed area that is under zero pressure or even a positive pressure, gas would instead migrate from the closed area toward the open. Therefore, we request that the rule be expanded to areas where gas can travel between the two areas. Any closed area should be clearly delineated in the field to document the area not subject to NSPS operating standards – SEM would continue to the edges of this area, allowing for detection of any migrating gas. The landfill would then be tasked with correcting exceedances.

As landfills become larger facilities, incremental closed areas will become very common and be closed for a long time prior to facility closure. GCCS can be designed to isolate areas, so flow from closed areas that are not physically separated can be measured. EPA should allow the provisions for capping or removing the GCCS to be applied to all closed areas. In addition, EPA should allow for actual flow/NMOC measurements from all closed areas as a means to exclude those areas under the 1% criteria.

In past proposed rulemakings, EPA requested comments on approaches for removing controls in closed landfill areas, as well as applicable criteria to determine which areas warrant ongoing control. Based on this input, EPA has provided additional flexibility for these areas, including additional criteria for removing a GCCS and the removal of the numeric wellhead standards for oxygen and temperature. In addition, the proposed rule allows the use of actual data rather than estimated emissions for assessing when a landfill area meets the 1% NMOC emission criteria for removal of the GCCS, which we support. However, we believe that additional flexibility is still warranted for closed and non-productive areas.

First, we support EPA's proposal for the use of SEM to determine when the GCCS can be removed. EPA recognizes many landfills or landfill areas are closed or have inactive areas that do not produce as much LFG. The production of LFG naturally declines over time as an area stops accepting waste and the amount of degradable organic content declines.

Instead of shutting down the GCCS completely, landfills could begin to close select wells. SEM would verify that emissions are controlled. If exceedances were experienced, the wells could be reopened. However, as landfill gas generation continues to decline, more wells would be locked out and verified utilizing SEM. This slow decommissioning process is similar to the process of the slow decline of landfill gas generation. We recommend that the rule allow both options for GCCS removal, complete shutdown when warranted or a process of decommissioning, and ultimate abandonment, over time. Our comments on the Tier 4 would apply to SEM for removal.

Second, the rule continues to include the arbitrary minimum 15-year GCCS operation requirement. Mandating a uniformly applicable 15-year operational period does not account for the variable site specific conditions that exist across the country. As a result, unnecessary costs, resources, and power are being consumed as a result of the requirement to operate for 15-years. It is unclear why a closed or non-productive landfill or area could not remove its GCCS prior to year 15 if it met all relevant criteria for emissions. Fifteen years is not based on any technical or scientific information. In addition, the criteria for installing a GCCS is directly related to NMOC emissions threshold or Tier 4 results. Given that, the same criteria should apply for GCCS removal from NSPS requirements. Therefore, we request that the current 15-year requirement be removed.

Further, many closed landfills installed GCCS prior to the current NSPS/ EG requirements. The current rule language states that the minimum 15-year duration for gas system operations begins with the date of the initial performance test. For sites subject to the NSPS, initial performance tests of the control system likely occurred between December 1998 and June 1999. However, for sites subject to either state/local EG rules or the Federal Plan, the initial performance test dates occurred as late as April 2003. Closed landfills are typically subject to the state EG or Federal Plan requirements and not the NSPS requirements. Therefore, at many closed sites the useful life of the

equipment (i.e., 15 years) has already been surpassed, but they may not have 15 years of NSPS/EG operation of the GCCS. Therefore, we request that the 15-year period not restart with the issuance of Subpart Cf and XXX.

In lieu of the 15-year operational criteria, EPA has added an allowance that 15 years does not have to be met if it can be shown that the GCCS could not be operated for 15 years due to declining flow. However, no guidance or criteria are provided for how to demonstrate a GCCS could not be operated due to declining flows. Without such criteria, it is difficult for us to evaluate whether this provision would be useful or workable.

As a matter of clarity, we request that the term “non-producing” be changed to “low-producing” as these areas produce some amount of LFG. Non-producing areas are those with inert materials only, and those are already exempt from GCCS coverage.

With this rulemaking, it appears that EPA is defining closed areas as those physically separate, without shared liner, and without any communication or movement of LFG between the areas. This definition is very rigid and would limit the use of the criteria to only those closed areas that are completely separate “hills.” This represents only a small fraction of the closed areas that require flexibility for declining flows. In our view, whether an area is physically separated should make no difference as to whether an area is a candidate for removing a GCCS. The key is declining flow. This definition is actually more stringent than current interpretations under the NSPS/EG. Based on this, we request that EPA redefine closed areas as any closed area that can be adequately identified and separately tracked from other areas of the site.

Beyond the options already contained in the draft rule, EPA should consider several potential solutions to address declining gas flows and gas quality at closed landfills or closed landfill units or areas (as well as still active areas). These solutions should be clarified in the rule, as follows:

1. It should be clarified that the allowances in the NSPS/EG rules for closed landfill should apply to closed areas of active landfills. This is consistent with how controls are required by area under the 2- and 5-year waste age criteria prescribed in the NSPS rule.
2. A landfill owner/operator should be able to remove NSPS/EG control requirements based on an operational period of 15-years from the initial well installation date for the affected landfill unit or area, not the date of NSPS or EG performance test. Time with a GCCS in operation under state/local regulatory requirements, directive, permits, etc., should be counted against a 15-year minimum on a per unit or area basis.
3. The allowance for completion of annual SEM, instead of quarterly, should apply to closed areas of active landfills, not limited to landfills that are completely closed.
4. EPA, in its various determinations on the topic, has ruled that “late” (beyond 180 days of the Tier 1) Tier 2 analyses could be conducted, but not beyond the final compliance date under the NSPS (30 months from first exceeding the emissions threshold). The proposed rule is silent on this topic, and since Tier 2 is voluntary, we believe that Tier 2’s (or Tier 3’s and Tier 4’s as envisioned in Cf/XXX) should be allowed at any time to determine the appropriate timing of NSPS criteria, as long as NSPS final compliance

dates are met. Therefore, whenever it is discovered that a landfill's emissions are less than the emissions threshold, the GCCS requirement of the NSPS/EG should not apply regardless of when the Tier 2 (or Tier 3 or 4) is done.

5. For a closed MSW landfill, not co-located with other landfill units (active or closed), the closed MSW landfill should be able to remove NSPS control requirements once the site demonstrates that it emits less than the NMOC emissions threshold based on actual LFG flow and site-specific NMOC concentration in accordance with §60.764(b) regardless of the age of the GCCS or how long it has operated.
6. It appears that EPA did not consider a change to the 1% criteria, which was discussed with EPA and industry in the past. It is very difficult to meet a 1% threshold, even when using actual flow and NMOC data. We are hopeful that EPA will reconsider this threshold and establish one that can more reasonably be met. Past discussions with EPA revolved around utilizing a 5% NMOC criteria, which we believe is more reasonable, especially if the NMOC threshold is reduced from 50 Mg/yr. We recommend that EPA consider utilizing a 5% NMOC criteria in conjunction with SEM.
7. The entire discussion about non-producing areas is based on the premise that they are closed and on the downward side of the gas generation curve. However, there are active areas with low gas production that should be able to avail themselves of some of the above allowances, especially if the NMOC threshold is reduced from 50 Mg/yr. These could include active areas of landfills in dry climates that recently reached the 5-year waste age criteria but where gas production is limited, or active areas with mixed MSW and inert waste where the gas production is much less than typical MSW areas. Since the keys are gas production and emissions, low gas production and emissions in these low producing active areas should be recognized with certain allowances available for closed areas.

Closed area definitions

We applaud the EPA's acknowledgement that closed landfills should be categorized separately. We support the concept of this proposed subcategory for closed landfills. In addition, we support the concept of expanding the subcategory to include landfills that close within 13 months of the publication of the NSPS and EG. It is critical that landfills which are planning to close have the necessary time to meet all of the criteria and file the required documentation to achieve closed status. For clarity, we are recommending changes to EPA's proposed definition as follows:

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid waste will be placed without first filing a notification to the agency.

Closed landfill area means an area of a landfill in which solid waste is no longer being placed, and in which no additional solid waste will be placed without first filing a notification to the agency.

Closed landfill subcategory means a closed landfill that stopped accepting waste on or before 13 months after the publications of the final rule.

A key component of these definitions is that they not be linked to closure requirements under solid waste permitting rules such as Resource Conservation and Recovery Act (RCRA) Subtitle D or state-equivalent rules. These requirements are complex, and it can take many years to obtain official closed status. The primary issue under the NSPS/EG is whether the landfill or landfill area will accept more waste, and thus generate more landfill gas. It is not important whether the landfill or area has a final cover or has received a final approval of closure from the solid waste agency.

Design Plan Approvals

In 2006, EPA proposed addressing an on-going issue related to design plan approvals. It proposed a “de facto” approval if a state agency did not review the design plan in a timely manner. At the time, the industry supported this proposal. This is consistent with the California LMR whereby design plans are approved if no response from the agency in 120 days. In addition, based on written comments received from state agencies, it appears that there were no objections. The industry appreciated that EPA acknowledged and recognized a long-standing problem associated with design plans. At that time, the industry referenced EPA’s February, 1999 document “*Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills*” which states the following (page 2-38):

“The implementing agency must approve the design of a gas collection and control system prior to installation. The review and comment interval for approving a design plan is expected to take approximately 6 months from the date the plan is submitted, leaving approximately 12 months for installing the alternative gas collection and control system.”

However, the proposed rule not only does not include de facto approvals, it actually requires more design plans approvals. EPA now proposes requiring design plans for situations that had previously not required design plans, such as prior to implementing an HOV. As discussed above, only 15% to less than 40% of design plans have been approved. One consultant surveyed thirty landfills and found that only five received approval. Of those, approval times sometimes exceeded ten years, and in many cases, approvals were only granted after long-standing pressure from the landfill owner. Given the difficulty of obtaining initial design plan approvals, it is unduly burdensome and unreasonable to require additional design plan approvals for intermittent issues.

Landfill owners do not have the luxury to wait for their design plans to be approved since they are still subject to the 30-month timeline requirement for GCCS installation as well as 120-day windows for addressing SEM and wellhead exceedances. Without approval, landfills are at risk of being subject to subsequent costly changes to the GCCS.

We recommend that initial design plans have a 6-month window for de facto approvals. Amended design plans should receive de facto approvals within a shorter timeframe, such as 60 days. Finally, rather than mandating an updated design plan for HOVs that requires an approval, EPA instead should simply require HOVs to be documented in the semi-annual report.

An alternative approach would be to use the procedures for flare management plans found in the refinery NSPS 40 CFR 60 Subpart Ja. This subpart requires submittal of a flare management plan identifying elements that the plan needs to address. The state agency is not required to approve the

plan but can find the plan “not adequate.” Unlike the plan required under Subpart Ja, the GCCS plans require certification by a professional engineer so any changes the Administrator later requests need to be limited to the completeness of the plan and not the material content. This approach is appropriate because not all delegated authorities have the internal expertise or resources to effectively implement the GCCS design plan approval process. This is also consistent with EPA’s longstanding policy of allowing sources to comply with permit applications that have been submitted, even while those applications remain pending, to ensure administrative delays by states or EPA do not result in unintended consequences on the regulated community. *See, e.g.*, 40 C.F.R. § 70.7(b) (“[I]f a part 70 source submits a timely and complete application for permit issuance (including for renewal), the source’s failure to have a part 70 permit is not a violation of this part until the permitting authority takes final action on the permit application ...”); 40 C.F.R. § 70.5(a)(2) (“The source’s ability to operate without a permit, as set forth in § 70.7(b) of this part, shall be in effect from the date the application is determined or deemed to be complete until the final permit is issued, provided that the applicant submits any requested additional information by the deadline specified by the permitting authority.”).

Enforceability

Regardless of whether design plans require approval, regulators retain the authority to regulate the system and enforce compliance requirements. The rule already requires the facility to keep an up-to-date as-built drawing of the GCCS on site. As-built drawings reflect current GCCS built conditions. The facility is also required to report GCCS updates in its annual compliance report. Most importantly, the rule includes operational and performance standards to verify that the GCCS is operating properly. The agencies can rely on the monthly wellhead pressure readings and quarterly surface emissions monitoring results and associated corrective actions to demonstrate that the design is sufficient. Ultimately, regulators retain tremendous authority to regulate the landfill GCCS should our recommendations be accepted.

SEM for Tier 4 & Low-producing areas

We applaud the EPA for proposing the use of Tier 4 as an alternative site-specific emission threshold determination for when a landfill must install and operate a GCCS. As proposed, Tier 4 would be based on SEM, which demonstrates that surface emissions are below 500 parts per million (ppm). Tier 4 would allow landfills to demonstrate that site-specific surface methane emissions are low, despite modeled emissions from Tier 1, 2 or 3 exceeding the NMOC threshold. Tier 4 would require landfills to demonstrate that surface emissions are below 500 ppm for 4 consecutive quarters. If the landfill successfully demonstrated that, it would not need to install a GCCS and could continue to avoid the GCCS requirement by continuing to conduct successful SEM on a semi-annual basis.

The draft rule appears to include two instances when a Tier 4 could be used, including to determine an initial GCCS must be installed at a landfill which just exceeded the NMOC threshold, and to determine when a GCCS can be taken off-line in a closed non-producing area of the landfill. It would also seem like Tier 4 would be a reasonable procedure to determine when a GCCS must be installed in an area of the landfill that meets the 2- or 5-year waste age criteria. If these areas could meet SEM criteria in the absence of a GCCS, a GCCS is not yet required simply because the waste meets an arbitrary waste age. Such an allowance would be very helpful for dry climate landfills where many

areas with 5-year old waste are still not generating significant enough quantities of gas to warrant collection. Therefore, we request the allowance to use Tier 4 for this purpose.

Proposed changes to Tier 4 and SEM for low-producing areas

In order for Tier 4 to be utilized, we recommend a few changes to the proposed methodology. As EPA acknowledges, the use of Tier 4 would incentivize best practices such as the use of oxidative landfill covers, interim gas control measures, and/or organic waste diversion, so its use should be encouraged. The criteria for implementing Tier 4 SEM are too strict. Given that, Tier 4 may experience very limited use. Therefore, we recommend the following modifications:

1. Background concentration – The current proposed Tier 4 has a 500 ppm threshold but does not specify that this concentration is above the background concentration. As such, to be consistent with other SEM requirements, we request that when describing the 500 ppm threshold that EPA reference the background concentration.
2. Wind – We recommend eliminating the limitation regarding conducting SEM based on wind criteria. Instead, the criteria should be the same as SEM monitoring on a landfill with a GCCS. That is, monitoring should be performed during “typical meteorological conditions.” This eliminates concerns about performing SEM during extreme weather events. In order to evaluate the data, EPA wind data could be included with the SEM results.

As we previously commented, it is difficult to schedule and reschedule sampling crews for acceptable wind conditions and some sites may never meet such criteria due to local wind conditions. If notification to the regulators is required to allow for their participation, scheduling complications are even further exacerbated. Many similar comments were expressed last year and this year from both regulators and the regulated community, including: Colorado, North Carolina, Oklahoma, Wisconsin and Palm Beach Solid Waste Authority. They too, express the impracticalities of this requirement.

According to SCS Engineers report “A Comparison of Monitoring Results for California Landfills under the New Source Performance Standards and the California Landfill Methane Rule,” the CA LMR includes specific wind and precipitation limits for conducting SEM monitoring. However, review of the data set indicates that these requirements have been difficult to meet. Of the sites evaluated, nearly three out of four (72.6%) required a permanent alternative for wind speed due to specific site conditions. When more than half the facilities are unable to comply with the rule as written, it seems that changes to the rule are not warranted. As such, the wind speed criteria seem misplaced if nearly three-fourths of the sites need alternatives from it. And without an allowance for an alternative, the proposed rule is much more restrictive than the CA LMR.

Further, the inlet to the instrument is required to be held at 0.04-0.10 meters above ground where wind speed is typically low. In the paper, “Modeling the Variation of Wind Speed with Height for Agricultural Source Pollution Control,” wind speed data was acquired at elevations varying from 0.1 meters to 10 meters on six separate occasions. The results showed that wind speed increases with height. Winds at the lowest height, 0.1 meters were lowest, ranging from 11% to 32% of the wind speed at 10 meters. Weather station

anemometers are generally located 10 meters above the ground; therefore, they are not actually representative of wind conditions where SEM is occurring.

Last, it is unclear from the docket information if EPA evaluated the cost to install and maintain a meteorological station, the accuracy of data from one as being representative of ground level conditions (i.e., 5 to 10 centimeters from the landfill surface), and whether winds at these levels actually affect SEM results and if so, by how much. In the absence of real data on these issues and in light of the additional cost, we request that the wind speed requirement be excluded from the rule. Tier 4 SEM should be conducted under the same typical meteorological conditions as other SEM under the rule. If it is included, then we request that EPA include an explicit allowance for exemption or alternatives from the requirement.

3. Corrective action – We recommend that the Tier 4 SEM be modified to allow some level of corrective action. When conducting SEM over a large area collecting thousands of data points, a single exceedance does not mean that sufficient quantities of landfill gas is present to necessitate installation of a GCCS. The exceedance could represent a small crack that recently formed in the cover due to rain, vehicle traffic across the cover, or settlement, and could very easily be corrected once discovered. However, this would not be allowed under the rule as written. A small leak at a single point could be easily correctable with simple cover repair, which, in many cases, can be completed within minutes of detecting the exceedance.

EPA selected a 500 ppm threshold for Tier 4 because it has been demonstrated that a well-designed and well operated GCCS should be able to operate the landfill within this threshold. In other words, when conducted properly, SEM is a good indicator of how well a landfill with a GCCS is operating overall. The current and proposed rules provide operational flexibility with established timelines for corrective action, recognizing that even a well-designed and well-operated GCCS will experience exceedances occasionally. In doing so, EPA has acknowledged that as long as such exceedances are corrected successfully, the GCCS is operating well and improvements are not needed. If landfills without a GCCS were subject to the same criteria, the 500 ppm would demonstrate that any methane emissions would be as low as those allowed at a landfill with a well-operated and well-designed GCCS in place.

By eliminating the corrective action opportunity, Tier 4 may become the tier of last resort rather than implemented early. Rather than prohibiting corrective action, we recommend providing an opportunity to correct any exceedance in a timely manner, similar to the existing SEM allowances in the current rule and the existing California LMR rule, which allows a specified corrective action period that, if successful, allows the site to maintain exemptions granted after four quarters without exceedances. The rule should specify that all readings above 500 ppm be recorded with documentation of corrective action mechanisms implemented and the results of re-monitoring. Tier 4 SEM should be conducted quarterly until such time as a GCCS is installed, another tier is utilized, or the estimated emissions drop below the threshold.

Similar to the SEM for landfills with active GCCSs, if an exceedance is detected, the landfill should undertake corrective action and the location should be re-monitored within 10 days. If re-monitoring shows an exceedance, additional corrective action should be taken and the location should again be re-monitored within 10 days. If re-monitoring shows a third exceedance, the landfill should prepare a GCCS design plan within one year of the initial exceedance and install a GCCS within 30-months of the initial exceedance.

In light of this fact, we request that EPA consider one 10-day corrective action/remonitoring cycle as part of the Tier 4 criteria. This seems like a much more reasonable approach, which would allow minor exceedances that can be remediated easily and quickly to not cause an immediate failure of the Tier 4 criteria. We are concerned that without this allowance, Tier 4 would have limited value to landfills and would not be successful in preventing the unnecessary operation of GCCS at landfills or in landfill areas that simply do not have enough gas generation to warrant collection.

Wind for SEM

We do not recommend utilizing wind criteria for SEM. In response to EPA's request for comments on prohibiting SEM when wind speeds exceed 5 mph, and instantaneous wind speeds exceed 10 mph, we refer EPA to the comments included under Tier 4 for installation. In addition, we would like to clarify that 5 mph average wind speed would not be considered "windy" – according to the Beaufort wind scale, it is considered a light breeze. Further, EPA has provided no evidence whether such a light breeze would affect SEM results and by how much.

Recordkeeping

EPA appears to be requiring that during Tier 4 monitoring, all data must be recorded. It is unclear why EPA would need all of this data recorded and kept as records when it is only relevant if an exceedance occurs. We do not currently, nor is it proposed, to collect and keep all SEM data from regular SEM events, and EPA has provided no justification why it should be required under Tier 4. SEM devices take readings every few seconds, resulting in thousands of readings per event. This is a significant amount of data, and without a reason to record and keep all of this data, we request that this requirement be removed from the rule. We will certainly record and collect the data related to all exceedances, but to record and collect all of the data collected literally each several seconds is onerous and unnecessary.

Tier 4 – 2 year/5 year

The current proposal does not state that the Tier 4 or similar SEM method could be used to delay the requirement to expand the GCCS at an already regulated landfill for areas that meet the two- or five-year waste age criteria. We request that EPA consider applying the Tier 4 criteria to these areas where GCCS expansion is not warranted because the areas are capable of meeting the SEM threshold without a GCCS. This would delay GCCS installation until such time as the actual surface emissions warrant a GCCS.

200 – 500 ppm

The EPA requested comments on whether a value between 200 ppm and 500 ppm should be considered. We do not believe that reducing the 500 ppm limit is necessary. Given that methane is generally 50% of the makeup of landfill gas, 500 ppm represents only 0.1% of the levels found in landfill gas. If landfill gas is present, 500 ppm is sufficient to capture it.

Agency notification

The EPA requested comments on whether landfill owners or operators should provide notification to regulators prior to conducting the quarterly Tier 4 SEM. This notification affords regulators the opportunity to observe the testing and provides greater transparency and trust. As such, this is a reasonable requirement and is acceptable to us, although we note that while conducting SEM after the GCCS is installed under the rule, landfills are not required to notify regulators prior to conducting monitoring. In addition, with the existing wind requirements, coordination with regulators becomes even more challenging.

CCS Design Plan preparation

The proposed rule considers two times when design plans should be updated and submitted for approval: within 90 days of expanding operations to a new area, and prior to installing or expanding CCS in an area not covered by the design plan. We agree that the design plan should be updated, but we do not agree that they (or even the original design plan) should require approval. These proposed changes will only increase administrative burdens for the reviewing agencies and continue the existing backlog of unapproved plans.

Third party certification using independent, registered professional engineers

Based on the low frequency with which design plans are approved by states, it is clearly a burden on them. In our comments last year, we reported that only 40% of landfills were able to receive an approval to their design plan. Therefore, we suggest that EPA allow a self-implementing process for design plans. This process would require landfills to obtain independent, professional engineer certifications to the design plans. The plan would be submitted to the regulators for their records and maintained onsite for inspection.

Use of state-licensed professional engineers would greatly simplify the process. Every state regulates the practice of engineering to ensure public safety by granting only Professional Engineers (PEs) the authority to sign and seal engineering plans, and to offer their services to the public. To use the PE seal, engineers must complete several steps to ensure their competency. Engineers seeking a state license must complete a four-year college degree, work under another Professional Engineer for at least four years, pass two intensive competency exams and earn a license from their state's licensure board. Then, to retain their licenses, PEs must continually maintain and improve their skills throughout their careers. Use of state-licensed PEs would assure EPA and state agencies that only competent, licensed professionals would certify the design plans and subsequent revisions.

There is ample precedent for use of licensed PEs to prepare and certify documents. For example, under the Federal Spill Prevention Control and Countermeasures (SPCC) program, preparation of the SPCC Plan is the responsibility of the facility owner or operator, or an engineer or consultant may prepare the plan. In either case, an independent, registered PE must certify the plan. Facilities that store less than 10,000 gallons of oil, may qualify to self-certify their SPCC Plan. By certifying a facility's SPCC Plan, the Professional Engineer, having examined the facility, attests that:

1. (s)he is familiar with the requirements of Part 112;
2. the engineer or their agent has visited and examined the facility;
3. the Plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of Part 112;
4. procedures for required inspections and testing have been established; and
5. the Plan is adequate for the facility.

Also, the NESHAP for Brick and Structural Clay Products Manufacturing Subpart JJJJJ finalized in September 2015 requires affected sources to prepare, implement, and revise as necessary an operation, maintenance and monitoring plan (OM&M Plan). While it must be available for inspection, the OM&M plan does not require prior Agency approval. The final NESHAP for Clay Ceramics Manufacturing Subpart KKKKK, also finalized in September 2015, requires the preparation, revision and implementation of OM&M plans, but again does not require Agency approval.

A third example is EPA's Renewable Fuel Standard program. Before a facility may earn program credits (renewable identification numbers – RINs) for producing a renewable transportation fuel, a facility must be registered, with its fuel production process, feedstocks and the fuel itself reviewed and certified by a licensed PE in a document submitted to EPA. In addition, when fuel producers seek fuel pathway certifications for new renewable fuels, various documents that are included in the process must be prepared and certified by a licensed PE for submission to EPA.

EPA also implements regulatory programs that allow facility owners to self-certify regulatory documents. For example, the federal Underground Storage Tank (UST) program allows facility owners to self-certify and notify the Agency that an underground storage tank has been properly installed by using a qualified installer who follows prescribed industry codes. Furthermore, several state voluntary cleanup programs in Illinois, Ohio and Pennsylvania allow site owners to self-certify corrective action projects by submitting Site Investigation, Remedial Objectives, Remedial Action and Remedial Action Completion Reports all certified by a licensed PE.

As can be seen, many federal rules allow certification using PEs. We recommend that EPA adopt a similar approach for these rules.

Third Party Verification Approach

The proposed rule also solicits comments on the possibility of developing a third-party design plan certification program which would supplement or replace the current approach of requiring review and approval of site-specific design plans and plan revisions to reduce administrative burdens. While we support the use of independent, registered professional engineers to develop and certify design plans as described above, this is not what is described. Instead, EPA describes a complex

process for both conducting the third-party site audits and approving, qualifying and overseeing third-party auditors. We do not believe that the program described will reduce administrative burdens. Rather, we believe it will increase them.

In Lesley McAllister report, "Third-Party Programs to Address Regulatory Compliance,"¹ Ms. McAllister recommends,

"Agencies that are considering third-party compliance assessment programs to achieve regulatory goals should compare a third-party approach with direct governmental compliance assessment and with requiring regulated entities to make a self-declaration of compliance."²

The McAllister report highlighted evaluation of third-party certification made by EPA's GHG Reporting Program. After reviewing several options with respect to the GHGRP, EPA decided not to use third-party verification due to the significant costs associated with "developing the program; approving third parties and training them; ensuring that conflicts of interest were not present; and performing ongoing oversight. In EPA's decision not to require third-party verification, EPA also emphasized that the activities necessary to set up a third-party program would "slow down implementation of the [greenhouse gas reporting] rule."³

Based on our review, we do not believe that the Agency has demonstrated that the design plans are amenable to a third-party verification approach. In addition, implementation of a third-party verification system would likely take significant time, and affected landfills could be in compliance jeopardy until the system was in place and working well. Last, verification costs could be significant adding costs to landfills and making them very reluctant to make any changes to the plans once they are in place.

For these reasons, we recommend relying on the third party certification using independent registered professional engineers as discussed above for design plans.

Landfill Gas Treatment

We support EPA's proposed definition of treatment system. As we stated in our previous comments (Docket ID Number EPA-HQ-OAR-2014-0451-0062 and EPA-HQ-OAR-2003-0215-0108), and EPA recognizes in this rulemaking, gas treatment is dictated by the intended use of the treated gas. There are many types of beneficial use that require varying degrees of landfill gas treatment. The broad definition will underpin the success of current and future beneficial use projects.

We support EPA's proposed requirement to prepare a treatment system monitoring plan in place of the previously proposed numeric values and continuous monitoring and recordkeeping requirements (80 FR 52157). This flexibility will minimize costs and retain existing and promote future beneficial use projects. The beneficial use projects that produce renewable energy will be

¹ USEPA ANPRM, footnote 94, p. 100

² Report, p. 59-60

³ Report, p. 59-60

critical to the success of state Clean Power Plans. State Clean Power Plans may rely on renewable energy as part of Building Block three and 29 states currently recognize landfill gas as renewable in Renewable Portfolio Standards (RPS).

Treatment system monitoring plan

However, we do not agree that agency approval of the monitoring plan is warranted or justified. As we stated in our previous comments (Docket ID Number EPA-HQ-OAR-2014-0451-0062 and EPA-HQ-OAR-2003-0215-0108), treatment systems are closed loop systems that process LFG for subsequent beneficial use; an LFG treatment system is not a control device and emission limits do not apply. The treated landfill gas would still be required to be routed to a control device that may fall under another subpart of the CAA.

Proposed agency approval of the treatment system monitoring plan is inconsistent with recent agency action. For example, EPA finalized revisions to the NESHAP rules for Brick and Structural Clay Manufacturing and Clay Ceramics Manufacturing September 24, 2015. Both rules require sources to “prepare, implement and revise as necessary” an operation, maintenance and monitoring (OM&M) plan. The OM&M plans “must be available for inspection by the delegated authority upon request” (emphasis added, see § 63.8420 (c) and § 63.8425 (a); § 63.8570 (c) and § 63.8575 (a)). Both NESHAPs (40 CFR 63 Subparts JJJJJ and KKKKK) do not require agency approval of the OM&M Plan, yet these sources are subject to specific emission limits and continuous emissions monitoring. The LFG treatment systems are not subject to emission limits or continuous emissions monitoring, yet EPA proposes to require agency approval which is more stringent than what EPA has promulgated for sources with HAP emission limits and continuous emissions monitoring requirements.

As another example, the Part 98 GHG Reporting Rules require a facility to prepare, follow and maintain a GHG Monitoring Plan for agency inspection if requested; the rule does not require agency approval. Part 63 Subpart AAAA requires an SSM Plan be prepared and maintained for agency inspection if requested.

The requirement to submit the treatment system monitoring plan for agency approval – as part of the GCCS Design Plan - is unwarranted and creates new burdens for the agencies, especially since the treatment systems are not control devices, are enclosed systems with no emissions and do not have prescribed emission limits. Based on the past poor record of agency approvals under the NSPS/EG, adding an additional document that requires regulatory approval would not appear to be a viable strategy. The requirement to prepare a plan and maintain a copy for agency inspection is sufficient.

Bypass

We request EPA clarify “bypass” with respect to the LFG control device or treatment system. Typical industrial operations may include a bypass that diverts contaminants from the air pollution control device to the atmosphere (§63.8420 (d) and Table 2 of the final Brick NESHAP Rule, 40 CFR 63 Subpart JJJJJ):

“(d) If you own or operate an affected kiln that is subject to the emission limits specified in Table 1 to this subpart and must perform routine maintenance on the control device for that kiln, you may bypass the kiln control device and continue operating the kiln subject to the alternative standard established in this paragraph upon approval by the Administrator and provided you satisfy the conditions listed in paragraphs (d)(1) through (5) of this section...”

Only bypasses that emit to the atmosphere should require monitoring and inspection provisions. However, a GCCS does not have a bypass of the air pollution control device. Any bypass of a control device exists simply to route landfill gas to another control device or to a treatment system, but this is part of an enclosed loop system with no bypass to atmosphere. Since there is no design or operation of bypass to atmosphere of landfill gas, any requirement to monitor bypass flow is unnecessary. We recommend EPA revise Cf and XXX language for open flares, enclosed combustors and treatment systems to be consistent with the current language in Subpart WWW, as follows:

“A device that records flow to or bypass of the control device. The owner or operator shall either:

(1) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; ~~and or~~”

Flaring treated landfill gas

EPA states that combustion of treated gas in a flare is not allowed, but then states if flares are used they must meet the flare requirements (§ 60.33f(c)(3)). In some cases, the treatment system may be installed prior to the delivery piping to the flare and intended beneficial end use. We do not believe EPA’s intent is to prohibit treated gas from being burned in a flare or to exempt flares from operational requirements. We therefore recommend EPA revise the rule text to read as follows.

“(3) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air or combustion in a flare is not allowed under this option. ~~(If flares are used, they must meet the requirements in paragraphs (c)(1) or (c)(2) of this section.)~~”

Miscellaneous

Household waste definition

NWRA and SWANA support the proposed changes to the definition of household waste. The clarification language that construction and demolition (C&D) waste is excluded from the definition of household waste is very important to avoid inadvertently requiring C&D landfills to comply with these proposed rules.

Organics diversion and source separations

We support EPA's conclusion that organics diversion and source separation are not BSER and agree that beneficial use of organics is desirable. Our members have been active in organics management in many different ways including yard waste, food waste segregation and collection for both commercial and residential customers diverting millions of tons of yard and food waste for beneficial use as compost, soil amendments and energy. However, landfills provide a critical function to protect the environment by safely managing and disposing of the material it receives. Landfills do not provide collection services for source separated organics nor do they develop policies associated with such practices. These are the responsibilities of state or local governments. The policies fall outside of a landfill's responsibilities and, as such, should not be considered in this rulemaking.

Test method 3A

EPA has requested comments on the use of a portable gas composition analyzer according to Method 3A. Representatives from industry have reached out to one of the manufacturers of portable analyzers to respond. They have submitted comments directly to EPA addressing each of the criteria for Method 3A and verifying that their portable analyzers comply with Method 3A (Landtec letter dated October 2, 2015 pending Docket ID).

Control device capable of reducing NMOC by 98% by weight

We reiterate our comments from last year on the efficacy of open flare to control NMOC emissions. Open flares provide the greatest flexibility of operation due to their higher turndown ratios. This provides flexibility at the beginning of operation when LFG generation is ramping up, provides flexibility during beneficial use when it can serve as a back-up device with wide operating range, and provides flexibility after closure when LFG production is declining. In 1995, EPA published the background information document for Air Emissions from Municipal Solid Waste Landfills (EPA-453/R-94-021). This document explains EPA's reason for listing open flares as the best demonstrated technology (BDT) at that time, and the reasoning still stands today. Specifically, EPA states:

The BDT for landfills is a collection system and a combustion device. The combustion control device must be capable of reducing NMOC emissions by 98 percent or to an outlet concentration of 20 ppmv, dry basis, as hexane, at 3 percent oxygen. Both open flares and enclosed combustion devices that achieve this performance level are BDT and can be used to meet the standards. Although performance testing is the norm under section 111, it is impractical to require testing of percent reduction from open flares, because outlet concentration is infeasible to measure. EPA developed 40 CFR 60.18 to address this problem. The provisions for open flares in § 60.18 resulted from extensive testing by EPA demonstrating that properly operated open flares achieve 98 percent destruction efficiency. This testing would, however, be too expensive for an individual owner or operator.

Because of the benefits open/non-enclosed flares provide, and the proven ability of those flares to achieve EPA's established BSER, EPA should remain consistent with its previous findings that

open/non-enclosed flares represent an appropriate method for demonstrating compliance with the landfill NSPS.

Conclusion

The NWRA and SWANA appreciate your consideration of these comments and our requested revisions to the EPA's proposal. Should you have any questions about these comments, please call Anne Germain, Director of Waste & Recycling Technology for NWRA, at 202-364-3724 or e-mail her at agermain@wasterecycling.org. You may also call Jesse Maxwell, Advocacy & eLearning Program Manager for SWANA, at 240-494-2237 or e-mail him at jmaxwell@swana.org.

Very truly yours,



Sharon H. Kneiss
President & CEO
National Waste & Recycling Association



David Biderman
Executive Director & CEO
Solid Waste Association of North America