

MUNICIPAL SOLID WASTE LANDFILL NEW SOURCE
PERFORMANCE STANDARDS (NSPS) AND EMISSION
GUIDELINES (EG) -- ISSUES AND ANSWERS

The following list of issues and answers are provided as a guide for those subject to the NSPS or EG, as well as those implementing the NSPS or EG. It is the intent of EPA to update this list regularly as new questions and issues are raised. If you have a concern you feel should be addressed here, please fax or email your question to:

<u>Questions Concerning</u>	<u>Name</u>	<u>Fax</u>	<u>E-mail</u>
Technical/Rule	Martha Smith	(919)541-3470	smith.martha@epamail.epa.gov
Implementation	Mary Ann Warner	(919)541-2664	warner.maryann@epamail.epa.gov

Additional information regarding the Municipal Solid Waste Landfill New Source Performance Standards and Emission Guidelines can be obtained from the following documents:

- Municipal Solid Waste Landfills Proposed Rule and Guideline, May 30, 1991 (56 FR 24468).
- Municipal Solid Waste Landfills Final Rule and Guideline, March 12, 1996 (61 FR 9905).
- "Air Emissions from Municipal Solid Waste Landfills - Background Information for Proposed Standards and Emission Guidelines," March 1991, EPA-450/3-90-011(a).
- "Air Emissions from Municipal Solid Waste Landfills - Background Information for Final Standards and Guidelines," December 1995, EPA-453/R-94-021. This document summarizes all public comments on the

proposed NSPS and Emission Guideline and the EPA responses.

- "Enabling Document for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills," March 1996 draft. Available on the EPA's Technology Transfer Network (TTN).

I. OVERVIEW/APPLICABILITY

1. Question: What is required of landfills to which the NSPS or the EG applies?

Answer: All sources to which the NSPS or EG applies must submit a design capacity report -- regardless of their size or capacity. Those sources with a design capacity greater than or equal to 2.5 million Mg or 2.5 million cubic meters must also submit periodic emissions reports. If those sources emit more than 50 Mg/yr of non-methane organic compounds (NMOC), they are required to comply with the emission control requirements of the NSPS (new landfills) or the EG (existing landfills).

2. Question: What written guidance is available to assist landfill owners/operators subject to the NSPS or the EG?

Answer: A draft enabling document and accompanying appendix are both available on EPA's Technology Transfer Network (TTN) electronic bulletin board (under CAAA, Title III, Policy Guidance). The final enabling document will be completed shortly, and will also be available on the TTN. The TTN can be accessed in one of three ways:

1. by dialing (919) 541-5742 -- for modems up to 14,400 bit per second (bps); or
2. through TELNET (TELNET ttnbbs.rtpnc.epa.gov); or
3. through FTP and the World Wide Web (ftp://ttnftp.rtpnc.epa.gov). You may reach the TTN Help Desk at (919) 541-5384, 11:00 a.m.-5:00 p.m. Eastern Time.

3. Question: Who can I contact for additional information?

Answer: Because some State agencies are further along in implementing the NSPS and EG than others, we suggest you first contact the appropriate EPA Regional Office contacts listed below:

Name	Region	Phone	Fax
Jeanne Cosgrove	1	617-565-9451	617-565-4940
Christine DeRosa	2	212-637-4022	212-637-3998
Jim Topsale	3	215-566-2190	215-566-2124
Scott Davis	4	404-347-5014, x 4144	404-347-3059
Charles Hatten	5	312-886-6031	312-886-5824
Mick Cote	6	214-665-7219	214-665-2164
Ward Burns	7	913-551-7960	913-551-7065
John Dale	8	303-312-6934	303-312-6064
Patricia Bowlin	9	415-744-1188	415-744-1076
John Keenan	10	206-553-1817	206-553-0110

4. Question: A county landfill, built in the early 1970s, is in the process of closing, however, it is still accepting waste. As an expansion to the existing landfill, another cell obtained a permit in February 1993, but is still under construction. These two landfill sites are separated by an access road. In order to calculate its emissions, is this

considered one landfill or two? Also, is the addition of these cells a modification, or would it be considered a new source? Another county landfill has two cells separated by a **county** road. Is this considered one landfill or two? A third landfill has cells or sites separated by a golf course.

Answer: A landfill is considered a single landfill if the cells are contiguous and under common ownership or control, even if a road or golf course separates the cells. This is the historical interpretation for source definition that was adopted for landfills. The additional cell(s) for these landfills would be considered modifications, not the opening of a new landfill.

5. Question: In speaking with some of the states, it seems that there is the impression that this rule only applies to the landfills with a design capacity equal to or greater than 2.5 million Mg and that those with design capacities less than 2.5 million Mg do not have to do anything.

Answer: All sources to which the NSPS or EG applies must submit a design capacity report -- regardless of their design capacity size.

6. Question: What is the significance of the November 8, 1987 date that is specified in the EG? Landfills that accepted waste after this date are subject to the EG or the NSPS.

Answer: The Hazardous and Solid Waste Amendments to RCRA of 1984 required States to establish a permit program or other system of prior approval to ensure that facilities that receive household hazardous waste or small quantity generator hazardous waste are in compliance with 40 CFR part 257,

"Criteria for Classification of Solid Waste Disposal Facilities and Practices." This permit program was to be established by November 8, 1987. This date was selected as the regulatory cutoff in the emission guidelines for landfills that are no longer receiving wastes because EPA judged States would be able to identify active facilities as of this date. [See pages 24475 and 24476 of the proposal preamble (in the May 30, 1991, Federal Register), Section IV Rationale, Selection of Affected and Designated Facilities]

7. Question: What are the requirements for landfills that close after 1987?

a) Upon reading the rule it appears that these landfills must submit an initial maximum design capacity and initial NMOC report. Are they required to submit annual reports documenting the NMOC emissions? Since their NMOC emissions are only going to go down it does not seem to make sense to require a closed landfill with NMOC emissions < 50 Mg/yr to submit annual NMOC reports.

b) If a closed landfill has NMOC emissions > 50 Mg/yr, what are the retrofit collection/control requirements including design parameters? Are these requirements different than for an active landfill that can design these systems as they grow? Retrofitting is a lot more expensive.

c) Are closed landfills required to have controls on for 15 yrs from the date of installation?

Answer: All landfills whether closed or open are required to submit a design capacity report -- regardless of their size or capacity. Only those sources (closed or open) with a design capacity greater than or equal to 2.5 million Mg

or 2.5 million m³ are required to submit periodic emissions reports.

If the landfill owner/operator can document in the emission report that the estimated NMOC emission rate is < 50 Mg/yr in each of the next 5 consecutive years, the emission report may be submitted every 5 years in lieu of annually [§ 60.757(b)(1)(ii)]. This provision could be used by closed landfills to reduce the reporting burden. If any changes occur, such as reopening the landfill, that would increase emissions above 50 Mg/yr the owner/operator must resume the annual reporting schedule.

Closed and active landfills have the same control requirements. These control systems are appropriate for installation in existing landfills, such as closed landfills or existing landfills with waste in place. During development of the rule cost analyses were conducted that showed that these control systems are a cost effective means for controlling landfill NMOC emissions.

Yes, closed landfills must have controls on for 15 yrs from the date of installation.

8. Question: Is the following table correct for both existing landfill sources and new landfill sources as defined under Subparts Cc (Emission Guidelines) and WWW (New Source Performance Standards)?

Applicability Table based on §§ 60.33c(a) and 60.752

<u>Size</u>	<u>Emissions</u>	<u>Design Capacity Report Required</u>	<u>Annual NMOC Emission Required</u>	<u>Controls Required</u>	<u>Title V Permit Required</u>
<2.5 EE6 MG	< 50 Mg/yr	Yes	No	No	*
< 2.5 EE6 Mg	≥ 50 Mg/yr	Yes	No	No	*
≥ 2.5 EE6 Mg	< 50 Mg/yr	Yes	Yes	No	Yes
≥ 2.5 EE6 Mg	≥ 50 Mg/yr	Yes	Yes	Yes	Yes

* The landfills rule does not require a part 70 operating permit unless the landfill is a major source as defined in part 70 or is subject to part 70 for some other reason (e.g., subject to another NSPS or NESHAP). A landfill is a major source and requires a Title V permit if the air emissions are > 100 tons/yr or the HAP emissions are >10 tons/yr for one HAP or 25 tons/yr for a combination of HAP's or if it emits major source levels of criteria pollutants such as VOC (major source thresholds are different for attainment and nonattainment areas--see the definition in 40 CFR section 70.3(a)).

Answer: Yes, the information in the table appears to be accurate. We assumed that the "Annual NMOC Emission Requirement" column refers to the requirement to calculate the NMOC. An annual report documenting the NMOC is required, but if the NMOC emission rate is less than 50 Mg per year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5 year period in lieu of the annual report.

II. CONTROL REQUIREMENTS

A. **Methane**

1. Question: One commenter stated that the maximum 500 ppm methane surface concentration would result in reduced Btu value of the gas. This commenter supplies gas that is 55 percent methane to their client. The commenter stated that remaining below the 500 ppm methane surface concentration, would increase the chance of air intrusion. This may result in the methane concentration being reduced to 40% methane, which their client is not able to handle. They base their conclusions on California, which has less rain and apparently has more sand in the cover than in Minnesota (In Minnesota it is mostly clay). The commenter would like to know if the EPA has any information on this issue.

Answer: A landfill with a clay cover should be able to meet the 500 ppm methane surface concentration requirement easily.

B. **General**

2. Question: What emission controls are required for the NSPS or the EG?

Answer: Both the NSPS and EG require the use of best demonstrated technology (BDT) for reduction of NMOC landfill emissions. BDT for MSW landfills includes: (1) a well designed and well operated gas collection system, and (2) a control device capable of reducing NMOC in the collected gas by 98 percent by weight.

3. Question: If existing MSW landfills have a flare system, but do not meet the exact specifications in 40 CFR 60, Subparts Cc and WWW, are they required to "upgrade" and/or

replace their system? Or can the State "control" through permitting requirements?

Answer: In general, State plans must be at least as stringent as Subpart Cc and WWW. This includes compliance with the flare specifications. However, in a few situations the State standards for a specific existing landfill may be less stringent than the emission guidelines or the NSPS. In such cases, the State must demonstrate that less stringent requirements are warranted based on specific criteria contained in § 60.24(f) of subpart B. These criteria include unreasonable costs, physical impossibility, or other factors specific to the landfill that make application of a less stringent standard significantly more reasonable. If the State believes that an upgrade of the flare would meet one of these criteria and wants to prescribe less stringent specifications, it could make such a demonstration. These demonstrations must be reviewed by EPA as part of the State Plan approval process.

4. Question: The language for collection systems is inconsistent with the requirement of a negative pressure gradient at wellheads. The regulation allows the use of either passive or active collection systems, but then goes on to require a negative pressure gradient at each wellhead. A negative pressure gradient can only be accomplished with an active system.

Answer: The rule allows flexibility for the owner or operator to propose the use of alternative collection systems and alternative monitoring in their collection and control system design plan. Specifically, § 60.752(b)(2)(i)(B) allows the owner or operator to "include

(in the collection and control system design plan) any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§ 60.753 through 60.758 proposed by the owner or operator."

III. DESIGN CAPACITY DETERMINATIONS

1. Question: The maximum design capacity of a landfill is specified in its solid waste permit. If a landfill was never permitted but has a closure/post-closure plan which specifies the projected volume of waste in place upon closure, can those estimations be used instead of design calculations?

Answer: The regulatory agency will need to make a determination on what approach to use. A closure plan could be a good source of information, but the regulatory agency would likely want to verify it with calculations to be sure it is a reasonable estimate.

2. Question: Does EPA consider the use of alternative daily cover as an increase in waste disposal capacity?

Answer: If the alternative daily cover is applied in thinner layers and at the same frequency as the previously used daily cover, it could result in an increase in the landfill's design capacity. If this were the case, the owner or operator would be required to obtain a permit or permit modification to allow an increase in landfill design capacity above previously-permitted design capacity.

IV. ESTIMATING EMISSIONS/EMISSIONS INVENTORY

1. Question: If an existing landfill greater than 2.5 million Mg or 2.5 million cubic meters already has a collection system in place that is controlled, how should it be determined if it emits NMOC greater than/less than 50 tons/year? Under Tier 1 calculations they would probably show landfill gas emissions >50 tons/year. Under Tier 2, they probably would not since they are already collecting emissions. If they are collecting gas, but not controlling, would Tier 2 overlook this?

Answer: The standards and guidelines provide formulas and procedures for calculating NMOC emissions using samples and gas flow data obtained from an existing collection system. The EPA has determined that the most accurate estimation of the NMOC emission rate would be obtained by such direct sampling, provided correct procedures are used. Additionally, determining the NMOC emission rate after controls are in place is easier, because it is simpler to obtain the samples and gas flow data. A landfill owner or operator may continue to use the existing gas collection system as long as the system is effectively collecting LFG from all gas producing areas of the landfill, and negative pressure can be maintained at each wellhead without excess air infiltration. Quarterly monitoring must also show surface methane concentrations below 500 ppm. The adequacy of the system must be demonstrated to the State regulatory agency.

2. Question: Should the equations in the NSPS and EG for estimating NMOC emissions be used for Title V and emission inventory purposes?

Answer: The Tier 1 default values of k , L_0 , and C_{NMOC} tend to overstate NMOC emission rates for most landfills, and are intended to be used to indicate the need to install a collection and control system or perform a more detailed Tier 2 analysis. It is recommended that these default values not be used for estimating landfill emissions for purposes other than the NSPS and EG. The EPA document "Compilation of Air Pollution Emission Factors" (AP-42) provides emission estimation procedures and default values that can be used for emissions inventories and other purposes.

3. Question: Is an emission inventory required even if the landfill is not a major source?

Answer: Yes. The requirement for an emission inventory as part of the section 111(d) State Plan is specified in Subpart B [40 CFR § 60.25].

4. Question: Does the landfill air emissions model handle the situation where leachate is recycled through the landfill?

Answer: The landfill air emissions model does not contain specific factors that would address the recycling of leachate through the landfill. However, under tier 3 of the NMOC calculation procedure [§ 60.754(a)(4)] the owner/operator can substitute a site-specific methane generation rate in lieu of the methane generation rate constant (k). The site-specific methane generation rate is determined by the owner/operator by using gas flow testing (Method 2E). This site-specific methane generation rate could incorporate the effects of leachate recycling on the methane generation rate for that specific landfill.

5. Question: In the rule § 60.754(a)(1) requires sources to use assumed values of K , L_o , and C_{NMOC} when calculating emissions for the purpose of applicability. Many sources in Region 9, particularly in Southern California and Arizona, argue that these assumed values shouldn't apply to them because of the arid environment in which they're located. How do you think we should respond to such arguments? In addition, should we take this part of the regulations to mean that sources must use these same assumed values for determination of applicability under nonattainment NSR as well? My experience has been that there is a wide variation in the emission predictions -- up to an order of magnitude -- depending on what values you use for these variables in emissions models. This could have a profound impact on calculating the VOC offset requirements for some of the larger landfills being built in Southern California.

Answer: The 3-tier emission estimation procedure in § 60.754(a)(4) allows the owner/operator to use site-specific values for k , L_o , and C_{NMOC} , based on testing, in lieu of the default constants if a landfill uses tier 2 or 3 emission estimation procedures. The site-specific values would reflect any unique characteristics that would affect the emission rate of NMOC for that particular landfill.

As mentioned previously, it is recommended that the default values for the NSPS and the EG not be used for estimating landfill emissions for purposes other than the NSPS and EG. The EPA document "Compilation of Air Pollution Emission Factors" (AP-42) provides emission estimation procedures and default values that can be used for emissions inventories and other purposes.

6. Question: Are there any air monitoring standards for landfills in terms of parts per million of NMOCs or methane?

Answer: In § 60.753(d) of the rule owners and operators are required to operate collection systems so that the methane concentration is less than 500 ppm above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator is required to conduct surface testing around the perimeter of the collection area and along a path traversing the landfill at 30 meter intervals.

7. Question: When there is insufficient information to use the emissions calculation formulas, can landfill owners/operators use AP-42 emissions calculations?

Answer: No, to determine applicability consistently, the owner/operator must use the equations and Tier 1 default values provided in the NSPS and EG to determine NMOC emissions or develop site-specific values using the Tier 2 or 3 procedures in § 60.754 of the NSPS or EG. Landfills generally have the information needed to use the procedures in the NSPS and EG.

8. Question: Have any statistical comparisons been conducted on the results provided by the two currently approved test methods for NMOC determination (Method 25 and Method 18).

Answer: No.

9. Question: Has EPA recognized any alternative models, other than the Landfills Air Emissions Estimation

Model. If one is proposed at the state level, what would be the mechanism for getting this model approved?

Answer: Currently the EPA has not approved any models that can be used as alternatives to the Landfills Air Emissions Estimation Model. Alternative models should be sent to Susan Thornloe of EPA/ORD for evaluation. In order for an alternative model to be approved, it must use the emissions estimation equations in the rule (which are the same as those used in the Landfills Air Emissions Estimation Model).

V. ELEMENTS OF A STATE PLAN

1. Question: What should be included in a State plan for implementing the EG?

Answer: A state plan should include the following components:

(1) Acceptable enforceable conditions/authority to implement the plan at the time of submittal. This could include certification by the State Attorney General;

(2) Emission standards, compliance schedules, increments of progress -- in short, requirements that are at least as protective as those set forth in the EG;

(3) Documentation of the public hearing held regarding the draft State plan;

(4) An inventory of the landfills in the State that would be subject to the EG and their emissions; and

(5) Provisions for source surveillance, compliance monitoring, and forwarding of enforcement progress reports to EPA.

2. Question: If states adopt by reference the NSPS for the EG, will states still have to go through rulemaking, if not, is EPA implying that the States can simply include the requirements in a Title V permit? If the latter scenario is true will the EPA have to receive a copy of the Title V permits on or before December 12, 1996, as satisfying section 111(d), and the public hearing requirements as well? In addition, do States have to submit a 111(d) plan if they are adopting the landfill NSPS by reference for both existing and new sources. If the State's rulemaking procedure includes public participation, would this fulfill the required element?

Answer: The state will have to provide the underlying authority through a mechanism that is enforceable by the State such as rulemaking, state operating permit, or regulatory compliance, or administrative orders. Title V permits may not have that underlying authority. If a State uses a mechanism other than rulemaking, an Attorney General's opinion is encouraged.

Under 40 CFR § 60.23(a), States are required to adopt and submit to the Administrator a plan implementing requirements of the EG within 9 months after promulgation of the EG. This plan is required regardless of the enforceable mechanism that is chosen. Even if the State adopts the landfill NSPS by reference for both existing and new sources, a State Plan is still required to be submitted that has all of the required elements as specified in 40 CFR Subpart B. The rule is only one part of this plan and typically does not contain all of the required elements for a State Plan. In addition, even though there was public participation in the development of the rule, a separate public hearing is required on the State Plan, of which the rule is only one part.

3. Question: If individual air districts (as in California) have public hearings for the district state plans, does the state also have to have a public hearing for the overall plan?

Answer: No, the individual public hearings will suffice.

4. Question: Can the NSPS be adopted as the EG with the provision for the submittal and compliance dates that are specified in the EG?

Answer: Yes, if a State has the legal authority to do this.

5. Question: How can I get a copy of a FR notice that has already been published for a State Plan?

Answer: 40 CFR Part 62, Approval and Promulgation of State Plans for Designated Facilities and Pollutants, lists state plans that have been approved by EPA. Each state plan is referenced to a Federal Register citation by location and date.

6. Question: Since the landfill rule also deals with criteria pollutants (i.e., VOCs), will the State/EPA also have to do a SIP revision?

Answer: The section 111(d) designated pollutant is landfill gas, which includes both toxics and VOC and other elements. The State must prepare a section 111(d) State plan to implement the landfills EG for landfill gas. The NSPS and EG regulate NMOC emissions as a surrogate for landfill gas. This rule in no way adds to or deletes from any obligation for VOC control or toxics control. If a VOC or toxics threshold is met, that may trigger other requirements, such as PSD review or a MACT standard or Title V permit, independent of the NSPS and the EG. A SIP revision would not be required because of this rule.

VI. REPORTING REQUIREMENTS

1. Question: What format should be used for the reports?

Answer: Appendix H of the draft Enabling document provides an example format for these reports. The format is not expected to change when the draft document is finalized, however, States and landfills have discretion to use another format as long as all the information specified by the NSPS or EG is included.

2. Question: To whom should the reports be submitted?

Answer: Reports should be submitted to the appropriate State air agency contacts. The EPA also strongly recommends that a copy be sent to the appropriate EPA Regional Office contact listed above.

3. Question: In developing their section 111(d) plan, do the states need to require all landfills to submit design capacity reports? Also, if a state is addressing the emission guidelines by regulating large landfills with Compliance Orders instead of a rulemaking, will they also need to require the small landfills to do design capacity reports? How will they do this if they choose not to do a rulemaking?

For states that do a negative declaration stating that they do not have any large landfills: - Will we require that all of the small landfills submit design capacity reports?

Answer: The State must require that all landfills submit the initial design capacity report. Submittal and review of these reports helps ensure that the landfill have

correctly calculated their landfill capacity and that small landfills that become large landfills do not avoid regulation.

4. Question: Section 60.757(a)(2) lays out the requirements of the design capacity report (map, maximum design capacity from permit or calculations, etc.). If the DEP already has this information in its records from when the landfill was initially constructed (maybe even 30 years ago), and the information is still accurate, must the landfill owner/operator submit this information himself to satisfy the RO?

Answer: At the very least the owner/operator should submit a letter indicating that the information has been submitted previously, the date it was submitted, why it was submitted, and a signed statement that the previously submitted information is still current.

VII. MONITORING

1. Question: One commenter stated that it is infeasible to conduct surface methane sampling in the winter due to icy slopes and the sensitivity of the monitoring equipment in freezing temperatures. Is it acceptable to exempt landfills from surface methane sampling in the winter? Minnesota plans to do this in their rule, requiring monitoring at least three times per year. The timing of the sampling will coincide with other sampling at landfills in Minnesota.

Answer: Section 60.755(c) of the NSPS requires that each owner and operator monitor the surface concentrations of methane on a quarterly basis. However, the NSPS allows some flexibility in this requirement. Section 60.753(d) states that "areas with steep slopes or other dangerous areas may be excluded from the surface testing." Although it would not exempt a landfill from all winter testing, this clause would allow the owner or operator to exclude monitoring of dangerous icy slopes. In addition, § 60.756(f) allows "any closed landfill that has no monitored exceedances of the operational standard (methane concentration greater than 500 ppm above background at the surface of the landfill) in three consecutive quarterly monitoring periods to skip annual monitoring." This clause would not apply to open landfills.

Under the authority of § 60.13(i) of the NSPS General Provisions, owners and operators of landfills subject to the Landfill NSPS can submit written requests to the Administrator for alternative monitoring procedures or requirements.

For existing landfills subject to the EG, § 60.24(f) of Subpart B gives States some flexibility to allow owners or operators of landfills to apply for "less stringent emission

standards or longer compliance schedules" if the landfill can demonstrate that it would incur unreasonable costs, installing controls is a physical impossibility, or other factors that make application of a less stringent standard or final compliance time significantly more reasonable.

2. Question: For monitoring, the enabling document allows the owner/operator to establish an alternative traversing pattern that ensures equivalent coverage. Would a well to well monitoring method be equivalent to the method of monitoring at a 30-meter spacing and where visual observations indicate elevated concentrations of landfill gas (e.g. cracks) as required in the rule?

According to the commenter the monitoring method in the rule would require the landfill to:

1. Mow and resurvey each quarter. The well to well path is already mowed as it is used to periodically balance the well field.
2. Walk 9 miles to cover the landfill, whereas, sampling from well to well would only be 2.5 miles.

The commenter believes that one is most likely to see high concentrations between wells.

A proposed alternative method would be to have them do the full 9 miles once per year, then well to well the other 2 times. A commenter noted that cracks may not be an issue with a synthetic liner, so they should only be required to do it well to well.

Answer: Section 60.753(d) of the NSPS allows the owner and operator to establish alternative traversing patterns that ensure equivalent coverage as the 30 meter

interval pattern. Therefore, in order for the commenter to implement their alternative sampling pattern, the commenter must apply to the regulatory authority for an equivalency determination.

3. Question: Why didn't the EPA require well to well surface sampling in the rule?

Answer: The 30-meter interval sampling pattern provides a systematic method that ensures adequate landfill coverage. The well to well sampling pattern would differ from landfill to landfill depending on the spatial configuration of the wells, may be more difficult to define, and may not always ensure adequate coverage.

4. Question: A commenter suggested two options to surface monitoring based on a California model.

The first is "integrated sampling", which allows composite sampling over an area. Why did the EPA use a point basis rather than a composite basis?

The second option suggested was to obtain a range of extraction rates that would meet 500 ppm and then maintain gas extraction within that range, updating the effective range every two years.

Answer: Under the authority of § 60.13(i) of the NSPS General Provisions, owners and operators of landfills subject to the Landfill NSPS can submit written requests to the Administrator for alternative monitoring procedures or requirements. Regarding the second suggested option, a consistent extraction rate would not work because landfill gas production is a dynamic process that is not consistent in all areas.

5. Question: The rule requires a gas flow rate measuring device that records the flow to the control device every 15 minutes or a lock and key to prevent bypass. The commenter stated that their systems are designed to shut everything off (e.g. the blower) if there is a problem, for example, with the flare. Can they disregard the gas flow/lock & key requirements as long as their system is designed with no means to bypass the control device?

Answer: Yes, if their system is determined to be equivalent by the regulatory authority.

6. Question: Can test data obtained using To-14 be used in lieu of data obtained using Method 25C? The enabling document provides only one reason for not allowing To-14; the cost. Is there another reason, or are the methods otherwise equivalent?

A landfill already has test data using this method and shows that one of Minnesota's larger landfills would not be subject to the standard because of too low of an NMOC concentration. This landfill has a gas extraction system already.

Answer: The rule requires that landfills measure NMOC, which includes numerous organic components. To-14 (toxic organic test #14) measures specific toxic compounds which may not total to NMOC. Therefore, Test Method 25C must be used.

7. Question: Would EPA accept the site-specific testing conducted in compliance with Chapter 115 rule in nonattainment areas?

Answer: Testing needs to meet the requirements in the rule, in terms of test methods procedures. A landfill owner or operator or State could apply to use a different method if they can demonstrate that it is equivalent.

VIII. MISCELLANEOUS

1. Question: The information requested in 40 CFR Part 60 Subpart Cc and WWW (§ 60.757) requires that depth of refuse be specified. The depth of refuse will vary in different cells and will even vary within a single cell when base grades of the cell are sloped to facilitate leachate collection. What is EPA looking for as an acceptable response? A range? Why is this information needed if the permitted volume is specified? Regarding compaction practices, what kind of response is desired? A description of the compaction equipment used? A gate-to-bank compaction ratio with gate density specified? An in-place waste density? As regards to the annual refuse acceptance rate, is this a projected maximum for the life of the landfill or the project waste receipts for the current year or is it the average waste receipts since the landfill began receiving waste?

Answer: Section 60.757(a)(2)(ii) specifies that the maximum design capacity that is reported in the State or local construction or RCRA permit be submitted in the initial design capacity report. Only if this permitted value is not available, or if the permit is by volume and the owner/operator wishes to convert it to a mass basis is the owner or operator required to submit engineering calculations supported with data showing the depth of solid waste, solid waste acceptance rate, and compaction practices. The owner/operator must provide sufficient data to support the calculations. If depth varies or waste acceptance rate used in the calculation varies, the calculations and supporting documentation should show what values were used in the calculations and explain why these values were used and how

the variation was accounted for. If the design capacity is being converted from volume to mass, a site-specific density must be used in the calculations. Supporting documentation must document and justify the density value used in the calculation.

2. Question: What density should be used to convert volume waste to weight of waste?

Answer: If a landfill chooses to convert design capacity from a volume basis to a mass basis for comparison with the 2.5 million Mg exemption level (instead of the 2.5 million m³ exemption level), the owner or operator must document the calculations. An appropriate site-specific density should be used and documented since density will depend on the type of waste and compaction practices at the landfill.

3. Question: The criteria under which an MSWLF may apply for a longer compliance schedule or a less stringent emission standard is not well defined. Texas requests that EPA provide guidance on specific conditions which may allow for such exemptions to apply.

Answer: Section 60.24(f) of subpart B states that: "On a case-by-case basis for particular designated facilities, or classes of facilities, States may provide for the application of less stringent emission standards or longer compliance schedules than those otherwise required by paragraph (c) of this section, provided that the State demonstrates with respect to each facility (or class of facilities):

(1) Unreasonable cost of control resulting from plant age, location, or basic process design;

(2) Physical impossibility of installing necessary control equipment; or

(3) Other factors specific to the facility (or class of facilities) that make application of a less stringent standard of final compliance time significantly more reasonable."

More specific conditions cannot be provided at this time because the decisions must be made on a case-by-case basis considering the specific situations.