

# EPA Revamps Clean Air Act Regulations for New and Existing Municipal Solid Waste Landfills

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A FREEBORN & PETERS CLIENT ALERT

## ABOUT THIS CLIENT ALERT:

This client alert details the newly published final rules under Section 111 of the Clean Air Act, aimed at reducing methane emissions from new & existing municipal solid waste (MSW) landfills.

The U.S. EPA has published final rules under Section 111 of the Clean Air Act that will affect new and existing municipal solid waste (MSW) landfills. The Agency acted through two separate rulemakings. One rulemaking creates updated New Source Performance Standards (NSPS) for MSW landfills that are constructed, reconstructed or modified after July 17, 2014, see 40 C.F.R. part 60, subpart XXX and 81 FR 59331. The other rulemaking updates applicable Emission Guidelines for existing MSW landfills, which apply to other landfills that have accepted waste after November 8, 1987. See 81 FR 59275. The rules have the effect of imposing substantially similar regulatory obligations on all active MSW landfills that meet the design capacity threshold of 2.5 million megagrams (Mg) and 2.5 million cubic meters. Among the objectives of the new rules is reducing methane emissions, consistent with [President Obama's Climate Action Plan](#).



The NSPS will become effective on October 28, 2016. The revised Emission Guidelines must be implemented through revised state or federal implementation plans. As a result, regulated entities will see enforceable requirements earlier for new and modified landfills and must track revisions to applicable implementation plans to determine when their existing landfills will be affected. The Agency estimates that there will be 14 new and 123 modified MSW landfills in the U.S. subject to subpart XXX in the 5 years beginning with July 17, 2014. The revised Emission Guidelines will apply to an estimated 1,851 facilities.

## Key Takeaways:



- **Reduction of the landfill gas (LFG) emissions threshold at which a gas collection and control system (GCCS) must be installed**
- **New “Tier 4” methodology for measuring landfill methane emissions**

### **New Requirements Concerning Installation of Gas Collection and Control Systems**

The centerpiece of the new regulations is a reduction of the landfill gas (LFG) emissions threshold at which the requirement to install a gas collection and control system (GCCS) is triggered. It is being lowered from 50 Mg/yr of nonmethane organic compounds (NMOC) to 34 Mg/yr. The owner or operator of a landfill may be required to install and start up a GCCS within 30 months once LFG emissions reach 34 Mg/yr of NMOC. As under existing regulations, gas can be routed to a flare, an enclosed combustion device, or be treated for sale or beneficial use.

Significantly, however, the regulations allow a new, site-specific methodology for determining the emissions threshold at which a GCCS must be installed, the effect of which will be to permit some landfills to delay installation of a GCCS even after reaching calculated NMOC emissions of 34 Mg/yr. Tier 4 allows a landfill, using surface emission monitoring (SEM), to avoid triggering the GCCS installation requirement if it can demonstrate that actual surface emissions of methane are below 500 parts per million (ppm) for four straight quarters (as long as Tier 1, 2 or 3 modeling calculations show NMOC below 50 Mg/yr). A Tier 4 surface emission report must be submitted annually.

The rules establish the required process for conducting surface emission monitoring, including identifying locations and intervals for taking readings, restrictions and procedures related to wind speed, and the obligation to take and retain time and date-stamped photographs to document compliance. The delegated authority must also be notified 30 days prior to Tier 4 testing. The EPA expects it will provide additional guidance in this area in the future.

### **No Switching Between Methods of Compliance**

The rules do not allow regulated entities to switch between methods for demonstrating emissions below the threshold to install a GCCS. Once a facility begins relying on Tier 4, any surface emission reading of greater than 500 ppm triggers the requirement to design and install a GCCS, even if emission rates drop in subsequent quarters or if it can demonstrate emissions below 34 Mg/yr NMOC using Tier 1 or Tier 2. Owners or operators of landfills using Tier 4 must, however, continue to do Tier 1 and 2 modeling to ensure that they remain eligible to use Tier 4. It nevertheless appears there is little reason not to take advantage of Tier 4 because of surface emission monitoring that is required independently of Tier 4. After a GCCS must be installed at a landfill, the owners or operators are required to conduct quarterly surface emission monitoring, including at all cover penetrations and openings in the areas of the landfill where waste has been placed. Beginning this monitoring prior to reaching the 34 Mg/yr NMOC trigger under Tier 1 or Tier 2 modeling, rather than after, has the potential to significantly delay and perhaps reduce total GCCS installation and operation costs.

The rules also affect when portions of a GCCS can be retired. If (1) the landfill is closed, (2) the GCCS has operated for 15 years or more (or there is a demonstration that the GCCS cannot operate for 15 years because of declining gas flows), and (3) calculated NMOC emissions are less than 34 Mg/yr for three consecutive test dates, all or a portion of the GCCS can be capped, removed or decommissioned.

## Key Takeaways:



- **Alternative standard for startup, shutdown and malfunction**
- **Mandatory electronic submission for select reporting requirements**

### **Alternative Standard, Treatment and Monitoring**

Standards of performance under the rules apply at all times, including during startup, shutdown and malfunction (SSM). There is, however, an alternative standard for SSM. If the gas collection or control system is not operating, owners or operators of a gas mover system must shut it down and close all valves contributing to potential venting of gas into the atmosphere within one hour.

The rules also clarify that treated LFG can be used for beneficial purposes other than fuel for a stationary combustion device, including use as a vehicle fuel, production of high-British thermal unit (Btu) gas for pipeline injection, or use as a raw material in a chemical manufacturing process. The definitions of treated LFG and treatment system are also changed, allowing the system to be tailored to the beneficial use. System owners or operators must develop a site specific treatment system monitoring plan that addresses all three elements of treatment: filtration, de-watering and compression.

With respect to wellhead monitoring, the rules remove operational standards for nitrogen and oxygen levels. The corresponding corrective action requirements, therefore, also no longer apply. The requirement that owners and operators monitor nitrogen and oxygen levels at wellheads on a monthly basis and maintain records remains, however, as do corrective action requirements for temperature and pressure.

### **Electronic Submissions and Design Plans**

The rules specify that some submissions to EPA must be electronic, through the Agency's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). The electronic reporting requirement is limited to tests conducted with methods supported by the Electronic Reporting Tool (ERT), but new methods may be added in the future. It is therefore important that landfills periodically check to see if there are any changes to electronic reporting requirements.

The rules also clarify when landfills must update their design plans. A revised design plan must be submitted within 90 days of expanding operations to an area not covered by an approved design plan and prior to installing or expanding a GCCS in a manner not described in a previous design plan.

### **Strategic Considerations for Landfill Owners and Operators**

With the addition of the Tier 4 option, owners and operators of landfills, and particularly new landfills, should think strategically and identify as early as possible the most efficient plan for complying with the new regulations. Owners and operators should consider whether an early investment in landfill gas control will pay off in the long term. One option is to preemptively install a non-regulatory GCCS in order to control methane surface emissions and thereby delay the obligation to install a more expensive regulatory GCCS. There may also be a role for increased organics diversion to achieve a similar result.

**To learn more about how these rules may impact your business, contact Phil Comella and Ryan Rudich.**

## ABOUT THE AUTHORS



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