

MSW Landfill Mandatory Greenhouse Gas Reporting Rule



EPA has recently issued mandatory greenhouse gas (GHG) emissions reporting rules. Under the new rules, owners or operators of many municipal solid waste (MSW) landfills must report emissions from MSW landfills. Read on for information on how your open or closed landfill may be affected by the new rules.

Is your closed or operating landfill subject to this rule?

If you have a closed landfill that did not receive waste on or after January 1, 1980, you are not subject to this rule. The majority of operating landfills will likely be required to report. The rule may also capture many closed landfills. The threshold for reporting is methane generation equivalent to 25,000 metric tons of carbon dioxide (CO₂) per year, which is quite small considering a landfill's emissions. Use the following information to quickly determine if your landfill is subject to this rule. *Please note: More detailed calculations may be required to determine reporting applicability in some cases, even if your facility does NOT appear to meet the criteria.*

- **You are NOT required to report if*:**
 - Your landfill is closed with a 30-year waste in place less than 350,000 metric tons (386,000 tons).
 - Your facility is open and has a design capacity less than 350,000 metric tons.
 - Your facility is open with a capacity greater than 350,000 metric tons and the 30-year waste in place is less than 350,000 metric tons.

* According to the USEPA provided Applicability Tool, found at www.epa.gov/climatechange/emissions/resources-tools.html



For more information, visit cornerstoneeg.com or call Kay Gilmer at (877) 633-5520.

What does this mean to you?

Every landfill that accepted waste on or after January 1, 1980 must keep records to verify applicability. If you are subject to the rule, you must start collecting data on January 1, 2010. The initial report will be due on **March 31, 2011** for calendar year 2010.

Monitoring requirements under the rule

Monitoring requirements will begin next year. Facilities subject to the rule will be required to monitor flow rate, methane content, temperature, pressure, and moisture of the landfill gas that is collected and routed to a destruction device before any treatment equipment. Monitoring can be done either through the use of continuously monitoring equipment, or by a weekly monitoring schedule, subject to the following:

- **Continuous monitoring** – Current rule language does not clearly identify the acceptability of most standard continuous monitoring equipment (for example, thermal mass dispersion flow meters). Waste industry leaders and Cornerstone personnel have engaged U.S. Environmental Protection Agency (USEPA) regarding this issue and have requested that USEPA add information on the acceptability of typical monitoring devices to bring clarity to this issue. Cornerstone is intricately involved with exploring equipment options for presentation to USEPA. Cornerstone believes that most facilities will not be equipped to meet the continuous monitoring requirements and will most likely opt to use the weekly monitoring option.
- **Weekly monitoring** – This option shows more potential, but several questions have been posed to USEPA regarding the acceptability of the current standard well field monitoring equipment (for example, Elkins Earthworks' Envision and LandTec's GEM 2000) to satisfy the rule requirements in determining CH₄ concentrations. It is important to note that a greater field monitoring level of effort should be anticipated if your facility is only conducting monthly well field monitoring, since the rule requires weekly documentation of both LFG flow and gas quality.



Other important information

- Under the GHG Reporting Rule, the MSW landfill consists of the landfill, landfill gas collection systems, and landfill gas destruction devices (including flares).
- This source category does not include industrial, hazardous waste, or construction and demolition landfills.
- Gas composition monitors must be calibrated prior to the first reporting year and recalibrated annually or at the minimum frequency specified by the manufacturer, whichever is more frequent.

- Reports are submitted electronically, once a year, directly to EPA.
- EPA will verify the data submitted and will not require third party verification. Prior to EPA verification, reporters will be required to self-certify the data they submit to EPA.
- You can stop annual GHG reporting:
 - After 5 consecutive years of emissions below 25,000 metric tons CO₂e/year.
 - After 3 consecutive years of emissions below 15,000 metric tons CO₂e/year.
 - If the GHG-emitting processes or operations are shut down.

Starting on January 1, 2010, facilities subject to this rule must have records and report the following information:

REPORTS AND RECORDS

All reporting facilities

- Annual methane (CH₄) generation, CH₄ emissions from the landfill, CH₄ generation calculations including inputs used, and annual CH₄ generation modeled and reported.
- Landfill's operating status
- First and last year the landfill accepted waste
- Anticipated closure date
- Waste capacity
- Whether leachate recirculation is used
- Waste disposal quantity for each year of landfilling and description of how it was estimated
- Waste composition data, if available, and how these data were estimated
- Surface area of the landfill containing waste, cover type, and surface
- Fraction of CH₄ in landfill gas and how this fraction was determined (measured or default values)
- Annual CO₂, CH₄, and nitrous oxide (N₂O) emissions from a facility's stationary fuel combustion devices (excluding flares) using the calculation methods specified in 40 CFR Part 98, subpart C (General Stationary Combustion Sources)

Additional data for landfills with gas collection systems (Required monitoring data starting 1/1/2010)

- Total volumetric flow of landfill gas collected for destruction
- CH₄ concentration of landfill gas collected for destruction
- Monthly average landfill gas temperature and landfill gas pressure (if not internally calculated by monitoring equipment)
- For landfill gas destruction devices:
 - Destruction efficiency or whether gas was sent off-site for destruction
 - If a back-up destruction device is available, its associated destruction efficiency
 - Annual operating hours for primary destruction and back-up destruction devices
- Annual quantity of CH₄ recovered/destroyed
- Description of the gas collection system (manufacture, capacity, number of wells, etc.), surface area, waste depth and cover type for areas within the landfill, gas collection efficiency and annual operating hours of gas collection system

