

Updated Landfill Gas Rules: What You Need to Know

Increasing rates of waste generation as a result of population growth, along with the discovery that methane is more potent of an air pollutant than originally thought, led to the recent reevaluation of the U.S. Environmental Protection Agency's (EPA's) Clean Air Act (CAA) rules for Municipal Solid Waste (MSW) Landfills.

On July 15, 2016, the EPA announced final updates to its New Source Performance Standards (NSPS) to reduce emissions of methane-rich landfill gas from new MSW landfills. In a separate action, EPA also issued guidelines for reducing emissions from existing MSW landfills. Both actions are part of the President's Climate Action Plan – *Strategy to Reduce Methane Emissions*.

As bacteria break down organics, they produce landfill gas which includes carbon dioxide, a number of trace compounds, and methane – a greenhouse gas with a global warming potential that is more than 25 times more potent than carbon dioxide. Methane is the second most prevalent greenhouse gas emitted by human activities in the United States, behind carbon dioxide, from the burning of fossil fuels for electricity and heat and transportation. Nearly 20 percent of the methane emissions come from landfills.

The updated NSPS rule, 40 CFR Part 60 Subpart XXX, applies to “new” landfills, which include those that were newly constructed, modified or reconstructed after July 17, 2014. This rule was published in the Federal Register on August 29, 2016, and becomes effective October 28, 2016. The accompanying Emission Guidelines (EGs), 40 CFR Part 60 Subpart Cf, inform states that they have delegation of the CAA from the EPA and will need to develop a state plan that is at least as stringent as this federal guideline. States have until May 30, 2017, to submit their plan to EPA for approval.

The original NSPS rules, subparts WWW and Cc, remain in effect for “existing” MSW landfills that were in place and modified on or before July 17, 2014. Sources currently subject to subparts WWW and Cc will need to continue to comply with the requirements in those rules until they become subject to more stringent requirements in the revised EGs, as implemented through a revised state plan.

Landfills are subject to NSPS if the design capacity is more than 2.5 megagrams (equal to 2.76 million U.S. tons) AND 2.5 million cubic meters (equal 3.3 million cubic yards). These are the same as the original NSPS design capacity thresholds of subpart WWW. If the design capacity is exceeded, the next step is to determine the estimated nonmethane organic compounds (NMOC) emission rate. The emission standards for NMOCs were lowered from 50 to 34 megagrams per year (Mg/yr) in the updated NSPS rules for “new” landfills. Once the state's plan is revised, the EGs lower the NMOC emissions to 34 Mg/yr for both “existing” and “new” MSW landfills.

NMOC emission rate estimates are done through a tiered approach. The first three tiers remain the same as the initial rule – Tier 1 is a desktop calculation using default parameters for methane generation and content and NMOC concentration, Tier 2 uses a site-specific NMOC concentration from a field study, and Tier 3 takes it one step further, installing test wells and utilizing the well data to determine the methane generation potential. The updated rule also adds a fourth tier, Tier 4, giving landfill owners an opportunity to perform surface emissions monitoring in order to demonstrate that methane emissions are below the regulatory threshold of 500 parts per million for methane. If NMOC emissions are greater than the threshold (50 Mg/yr under the initial rules and 34 Mg/yr under the updated rules), then a design plan must be prepared within 1 year of the exceedance and a gas collection system must be installed within 30 months.

The new rules also include requirements for quarterly surface emissions monitoring where a gas collection system has been installed, clarifications about uses of treated landfill gas, modification to wellhead monitoring, changes to startup, shutdown, and system malfunctioning and criteria for capping or removing landfill gas collection and control systems.



Our team is always available to answer questions. We can guide you to the right resource or can help determine if your landfill is regulated under NSPS. If you have questions and would like to speak with a specialist, please contact us for more information.

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