



EPA Issues Final Rules To Reduce Methane Emissions From MSW Landfills

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Section 111 of the Clean Air Act (CAA) requires EPA to issue New Source Performance Standards (NSPSs) for certain source categories of air pollutants. These NSPSs set threshold limits on emissions of certain pollutants achievable through the "best system of emission reduction" (BSER). Once EPA issues an NSPS for a source category and its pollutants, the agency is further required to review the standard at least every eight years to determine if the level of control previously established remains appropriate.

In 1996, EPA added Municipal Solid Waste (MSW) landfills to the list of source categories subject to NSPS and then issued standards and guidelines for methane emissions from new and existing sources (the "1996 NSPS/Guidelines"). In 2002 and again in 2006, EPA proposed amendments to the 1996 NSPS/Guidelines that were never finalized. In 2011, the Environmental Defense Fund sued EPA alleging that it had not met its mandatory duty under the CAA to review and, if appropriate, revise the 1996 NSPS/Guidelines. EPA settled the lawsuit in 2012, and agreed to meet certain deadlines to perform one or a combination of the following: (a) propose a rule revising the 1996 NSPS/Guidelines; (b) propose a determination not to revise the 1996 NSPS/Guidelines; or (c) determine that review is not appropriate. Since then, President Obama issued his 2013 Climate Action Plan. The plan notes methane is a greenhouse gas, and it calls for a reduction of methane emissions to reduce global warming. Thus, the President's Climate Action Plan increased the pressure on EPA not only to review the 1996 NSPS/Guidelines, but also to revise them.

On July 14, 2016, EPA took two final actions: (1) it promulgated a revised NSPS aimed at further reducing emissions of methane from MSW landfills constructed, modified or reconstructed *after* July 17, 2014; and (2) it updated its Emission Guidelines applicable through EPA-approved State Plans for MSW landfills constructed *on or before* July 17, 2014.

Who will the NSPS and Emissions Guidelines affect?

EPA estimates that 128 new, modified or reconstructed landfills will be subject to the revised NSPS, and that all but 13 will exceed the new threshold and must install controls by 2025. Regarding existing landfills, EPA estimates 1,014 active MSW landfills will be subject to the updated Emission Guidelines.

Of these, EPA believes 731 will require control equipment by 2025 -- 93 more than under the 1996 Guidelines -- and that 77 will be required only to monitor and report. The remaining 206 existing landfills are either closed or are expected to close within 13 months of publication of the revised Emission Guidelines in the Federal Register.

What Do the New NSPS and Emissions Guidelines Require?

The following are a few of the most important requirements for MSW landfills:

- They apply only to landfills with a design capacity of at least 2.5 million metric tons and 2.5 million cubic meters of waste;
- The threshold triggering use of an emission reduction control system has been lowered for new and existing landfills from 50 metric tons of non-methane organic compounds (NMOCs) per year to 34 metric tons of NMOCs per year;
- Options to reduce emissions include enclosed combustion for energy generation, a treatment system that processes the collected gas for sale or beneficial reuse, and flares;
- BSER is a landfill gas collection and control system?;
- Existing landfills that close prior to 13 months after the guidelines are published will remain subject to the limit of 50 metric tons of NMOCs per year;
- Monitoring of surface emission of methane is required quarterly;
- Landfills with modeled NMOC emissions between 34-50 tons may avoid controls if surface emissions of methane are below 500 parts per million;
- Temperature and pressure monitoring at wellheads is required on a monthly basis, and corrective action is required if results are elevated;
- Landfill gas collection-and-control systems may be capped and removed from some or part of an already closed landfill that produces only low amounts of landfill gas; and
- States have nine months after the guidelines are published in the Federal Register to submit revisions to their State Plans.

Do the Benefits Outweigh the Costs?

EPA has touted the revised NSPS and Emissions Guidelines as important steps to reduce methane and, thus, greenhouse gases. In the two final rules, it states that 20 percent of methane emissions in the United States come from landfills and that, by 2025, the combined revised NSPS and Emissions Guidelines will reduce methane emissions by an estimated 334,000 metric tons, reduce carbon dioxide emissions by 303,000 metric tons, and reduce NMOC emissions by 2,000 metric tons. In its cost/benefit analysis, the agency states that the estimated climate benefits of the reductions significantly outweigh the costs. Specifically, it estimates the economic benefits of the changes to total \$512 million in 2025, compared to estimated combined costs to comply of \$60 million. As always, a lot of assumptions are used in the cost/benefit analysis, including the assumption that many landfills will choose to use their methane gas to sell electricity, rather than simply combusting it, thereby offsetting their costs.

Conclusion

The revised NSPS and Emissions Guidelines will affect the majority of new and existing landfills, requiring them to spend millions of dollars on gas collection systems. The benefits are based on the assumption that methane and other greenhouse gases are causing significant adverse effects to the environment ? including global warming. While methane, unlike carbon dioxide, is not a listed Hazardous Air Pollutant or a criteria pollutant subject to regulation under the CAA, its potency as a greenhouse gas has been cited by both federal and state regulators as significantly contributing to climate change. Regardless of whether one agrees with that assessment, the day of reckoning for methane emissions from landfills has arrived.

The Final Rules are not yet published in the Federal Register, but may be found at <https://www3.epa.gov/ttn/atw/landfill/landflpg.html>; 40 CFR Part 60, Subpart XXX and Subpart Cc.

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