

emissions of HAP that is achievable for new and existing major sources. This level of control is commonly referred to as MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. The MACT floor ensures that all major HAP emissions sources achieve the level of control already achieved by the better-controlled and lower-emitting sources in each category. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emissions limitation achieved by the best-performing 12 percent of existing sources (or the best-performing 5 sources for categories or subcategories with fewer than 30 sources).

In developing MACT, we also must consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of cost, non-air-quality health and environmental impacts, and energy requirements.

Finally, the CAA allows NESHAP to reflect an alternative standard for area sources. The alternative standard provides for the use of generally available control technologies (GACT) or management practices to reduce emissions of HAP.

### *C. What Are the Health Effects Associated With Municipal Solid Waste Landfills?*

The final rule ensures reductions of emissions of nearly 30 HAP including, but not limited to, vinyl chloride, ethyl benzene, toluene, and benzene. Each of the HAP emitted from MSW landfills can cause adverse health effects provided sufficient exposure. For example, vinyl chloride can adversely affect the central nervous system and has been shown to increase the risk of liver cancer in humans, while benzene is known to cause leukemia in humans. Additional discussion of health effects is provided in the proposal (65 FR 66672) and Docket A-98-28. The degree of adverse effects to human health from exposure to these HAP can range from mild to severe. The extent and degree to which the human health effects may be experienced depend on the ambient concentration observed in the area (as influenced by emissions rates, meteorological conditions, and terrain); the frequency and duration of exposures; characteristics of exposed individuals (genetics, age, preexisting

health conditions, and lifestyle), which vary significantly with the population; and pollutant-specific characteristics (toxicity, half-life in the environment, bioaccumulation, and persistence). We recognize that health risks are significantly reduced at landfills that collect and control landfill gas.

## **II. Summary of the NESHAP**

The final rule contains the same requirements as the EG/NSPS (40 CFR part 60, subparts Cc and WWW), plus SSM definition and reporting of deviations for out-of-range monitoring parameters. Also, the final rule requires compliance reporting every 6 months while the EG/NSPS requires annual reporting. For bioreactors at large landfills, the NESHAP also require timely installation of controls, and allows timely removal of controls.

### *A. What Source Categories Are Affected by the Final Rule?*

The final rule applies to all MSW landfills that are major sources or are collocated with a major source, and to some landfills that are area sources. We estimate that all MSW landfills that are major sources of HAP (*i.e.*, with a potential to emit at least 10 tons per year (tpy) of any individual HAP or 25 tpy total HAP) will also meet the EG/NSPS criteria for installing collection and control systems (*i.e.*, have a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m<sup>3</sup>) and have estimated uncontrolled emissions of 50 megagrams per year (Mg/yr) nonmethane organic compound (NMOC)). All major source landfills, including those operated partially or completely as bioreactors, are covered by the final rule and, in addition to EG/NSPS control requirements, are subject to the additional SSM, deviation, and compliance reporting requirements of the NESHAP. Landfills that do not themselves emit major source levels of HAP but that are collocated with major sources of HAP are also covered by the final rule. However, if these landfills are smaller than the EG/NSPS thresholds, they have fewer requirements under the NESHAP, as previously discussed in this preamble.

In addition, as previously discussed in this preamble, landfills have been listed as an area source category pursuant to section 112(k). The final rule applies to area source landfills if they have a design capacity equal to or greater than 2.5 million Mg and 2.5 million m<sup>3</sup>, and they have estimated uncontrolled emissions of 50 Mg/yr NMOC or more, or are operated as a bioreactor. The final rule does not apply

to area source landfills (including bioreactors) with a design capacity less than 2.5 million Mg or 2.5 million m<sup>3</sup>. It also does not apply to conventional area source landfills that have estimated uncontrolled emissions of less than 50 Mg/yr NMOC. (The EG/NSPS require landfills that meet the design capacity criteria to periodically calculate uncontrolled annual NMOC emissions. If an area source landfill that currently has estimated uncontrolled emissions less than 50 Mg/yr increases to 50 Mg/yr in the future, it will become subject to the NESHAP at that time.) For a complete description of applicability, see section III.A of this preamble and sections 63.1935 through 63.1945 of the final rule.

### *B. What Is the Affected Source?*

The affected source is the entire MSW landfill in a contiguous geographical space where household waste is placed in or on the land and consists of one or more cells that are under common ownership or control. The facility may receive household waste as well as other types of Resource Conservation and Recovery Act (RCRA) Subtitle D waste. The affected source may be operated as a conventional landfill, or it may be operated completely or partially as a bioreactor. To be an affected source, the landfill must have accepted waste since November 8, 1987, or have additional capacity for waste deposition, and must be either: (1) A major source of HAP; (2) collocated with a major source of HAP; (3) an area source with a design capacity greater than or equal to 2.5 million Mg and 2.5 million m<sup>3</sup> and with estimated uncontrolled NMOC emissions equal to or greater than 50 Mg/yr; or (4) an active area source landfill with a design capacity greater than or equal to 2.5 million Mg and 2.5 million m<sup>3</sup> that operates an anaerobic bioreactor, as defined in the final rule. The bioreactor provisions do not apply to closed landfills.

### *C. What Do the Standards Require?*

Major and area source landfills with a design capacity of greater than or equal to 2.5 million Mg and 2.5 million m<sup>3</sup>, and with estimated uncontrolled NMOC emissions of at least 50 Mg/yr, would continue to be subject to the EG/NSPS as applicable, plus additional requirements imposed by the final rule. These requirements also apply to bioreactors within active landfills at both major and area sources if the landfill meets the design capacity criteria.

You are required to meet the SSM requirements that are listed in the general provisions to 40 CFR part 63.