

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA-HQ-OAR-2002-0047; FRL-10006-05-OAR]

RIN 2060-AU18

National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills Residual Risk and Technology Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review (RTR) conducted for the Municipal Solid Waste (MSW) Landfills source category regulated under national emission standards for hazardous air pollutants (NESHAP). In addition, we are taking final action to correct and clarify regulatory provisions related to emissions during periods of startup, shutdown, and malfunction (SSM); revise wellhead operational standards and corrective action to improve effectiveness and provide compliance flexibility; reorganize rule text to incorporate provisions from the new source performance standards (NSPS) within this subpart; and add requirements for electronic reporting of performance test results. The EPA is also finalizing minor changes to the MSW Landfills NSPS and Emission Guidelines (EG) and Compliance Times for MSW Landfills. Specifically, the EPA is finalizing provisions to the most recent MSW Landfills NSPS and EG that would allow affected sources to demonstrate compliance with landfill gas control, operating, monitoring, recordkeeping, and reporting requirements by following the corresponding requirements in the MSW Landfills NESHAP. These final amendments will result in improved compliance and implementation of the rule.

DATES: This final rule is effective on March 26, 2020. The incorporation by reference (IBR) of certain publications listed in the rule is approved by the Director of the Federal Register as of March 26, 2020.

ADDRESSES: The U.S. Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA-HQ-OAR-2002-0047. All documents in the docket are listed on the <https://www.regulations.gov/> website. Although listed, some information is not publicly available, e.g., Confidential Business Information

(CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through <https://www.regulations.gov/>, or in hard copy at the EPA Docket Center, WJC West Building, Room Number 3334, 1301 Constitution Ave. NW, Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Andrew Sheppard, Natural Resources Group, Sector Policies and Programs Division (E143-03), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-4161; fax number: (919) 541-0516; and email address: Sheppard.Andrew@epa.gov. For specific information regarding the risk modeling methodology, contact James Hirtz, Health and Environmental Impacts Division (C539-02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-0881; fax number: (919) 541-0840; and email address: Hirtz.James@epa.gov. For information about the applicability of the NESHAP to a particular entity, contact Maria Malave, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, WJC South Building (Mail Code 2227A), 1200 Pennsylvania Ave. NW, Washington DC 20460; telephone number: (202) 564-7027; and email address: Malave.Maria@epa.gov.

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

CAA Clean Air Act
 CBI Confidential Business Information
 CDX Central Data Exchange
 CEDRI Compliance and Emissions Data Reporting Interface
 CFR Code of Federal Regulations
 CO carbon monoxide
 EG emission guidelines
 ERT Electronic Reporting Tool

FEMA Federal Emergency Management Agency
 GCCS gas collection and control system
 HAP hazardous air pollutant(s)
 HOV higher operating value
 HQ hazard quotient
 IBR incorporation by reference km kilometer
 LFG landfill gas
 MACT maximum achievable control technology
 Mg/yr megagrams per year
 MSW municipal solid waste
 NAICS North American Industry Classification System
 NARA National Archives and Records Administration
 NESHAP national emission standards for hazardous air pollutants
 NMOC non-methane organic compounds
 NSPS new source performance standards
 NTTAA National Technology Transfer and Advancement Act
 OMB Office of Management and Budget
 ppmv parts per million by volume
 PRA Paperwork Reduction Act
 REL reference exposure level
 RFA Regulatory Flexibility Act
 RTR residual risk and technology review
 SOE subsurface oxidation event
 SSM startup, shutdown, and malfunction
 TOSHI target organ-specific hazard index
 tpy tons per year
 UMRA Unfunded Mandates Reform Act

Background information. On July 29, 2019, the EPA proposed revisions to the MSW Landfills NESHAP based on our RTR. In this action, we are finalizing decisions and revisions for the rule. We summarize some of the more significant comments we timely received regarding the proposed rule and provide our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in the *Summary of Public Comments and the EPA's Responses for the Proposed Risk and Technology Review and Amendments for the Municipal Solid Waste Landfills NESHAP*, available in Docket ID No. EPA-HQ-OAR-2002-0047. A "track changes" version of the regulatory language that incorporates the changes in this action is available in the docket.

Organization of this document. The information in this preamble is organized as follows:

- I. General Information
 - A. Does this action apply to me?
 - B. Where can I get a copy of this document and other related information?
 - C. Judicial Review and Administrative Reconsideration
- II. Background
 - A. What is the statutory authority for this action?
 - B. What is the MSW Landfills source category and how does the NESHAP regulate HAP emissions from the source category?

- C. What changes did we propose for the MSW Landfills source category in our July 29, 2019, RTR proposal?
- III. What is included in this final rule?
 - A. What are the final rule amendments based on the risk review for the MSW Landfills source category?
 - B. What are the final rule amendments based on the technology review for the MSW Landfills source category?
 - C. What are the final rule amendments addressing emissions during periods of SSM?
 - D. What other changes have been made to the MSW Landfills NESHAP?
 - E. What are the effective and compliance dates of the standards?
- IV. What is the rationale for our final decisions and amendments for the MSW Landfills source category?
 - A. Residual Risk Review for the MSW Landfills Source Category
 - B. Technology Review for the MSW Landfills Source Category
 - C. SSM for the MSW Landfills Source Category
 - D. Summary of Changes Since Proposal
- V. Summary of Cost, Environmental, and Economic Impacts and Additional Analyses Conducted
 - A. What are the affected facilities?
 - B. What are the air quality impacts?
 - C. What are the cost impacts?
 - D. What are the economic impacts?
 - E. What are the benefits?
 - F. What analysis of environmental justice did we conduct?
 - G. What analysis of children's environmental health did we conduct?
- VI. Incorporation by Reference
- VII. Statutory and Executive Order Reviews
 - A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review
 - B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs
 - C. Paperwork Reduction Act (PRA)
 - D. Regulatory Flexibility Act (RFA)
 - E. Unfunded Mandates Reform Act (UMRA)
 - F. Executive Order 13132: Federalism
 - G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments
 - H. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks
 - I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use
 - J. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51
 - K. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
 - L. Congressional Review Act (CRA)

I. General Information

A. Does this action apply to me?

Regulated entities. Categories and entities potentially regulated by this

action are shown in Table 1 of this preamble.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS ¹ code
Municipal Solid Waste Landfills	562212
Air and Water Resource and Solid Waste Management	924110
State, Local, and Tribal Government Agencies	924110

¹North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source category listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will also be available on the internet. Following signature by the EPA Administrator, the EPA will post a copy of this final action at <https://www.epa.gov/stationary-sources-air-pollution/municipal-solid-waste-landfills-national-emission-standards>. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same website.

Additional information is available on the RTR website at <https://www.epa.gov/stationary-sources-air-pollution/risk-and-technology-review-national-emissions-standards-hazardous>. This information includes an overview of the RTR program and links to project websites for the RTR source categories.

C. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit (the court) by May 25, 2020. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in

any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. This section also provides a mechanism for the EPA to reconsider the rule if the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within the period for public comment or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule. Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, WJC South Building, 1200 Pennsylvania Ave. NW, Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW, Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. "Major sources" are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology (MACT) standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems, or techniques, including, but not limited to, those that reduce the volume of or eliminate HAP emissions through process changes, substitution of

materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them "as necessary (taking into account developments in practices, processes, and control technologies)" no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant

to CAA section 112(f).¹ For more information on the statutory authority for this rule, see 84 FR 36670 (July 29, 2019).

B. What is the MSW Landfills source category and how does the NESHAP regulate HAP emissions from the source category?

The EPA promulgated the MSW Landfills NESHAP on January 16, 2003 (68 FR 2227). The standards are codified at 40 CFR part 63, subpart AAAA. As promulgated in 2003 and further amended on April 20, 2006 (71 FR 20462), the NESHAP regulates HAP emissions from MSW landfills that are either major or area sources.

The NESHAP applies to MSW landfills that have accepted waste since November 8, 1987, or have additional capacity for waste deposition and are major sources, are collocated with major sources, or are area source landfills with a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and have estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) of non-methane organic compounds (NMOC). The NESHAP also applies to MSW landfills that have accepted waste since November 8, 1987, or have additional capacity for waste deposition and include a bioreactor and are major sources, are collocated with major sources, or are area source landfills with a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ that were not permanently closed as of January 16, 2003.

The majority of HAP emissions at MSW landfills come from the continuous biodegradation of the MSW in the landfill and the formation of landfill gas (LFG) emissions. LFG emissions contain methane, carbon dioxide, and more than 100 different NMOC. The HAP emitted by MSW landfills include, but are not limited to, vinyl chloride, ethyl benzene, toluene, and benzene (61 FR 9906, March 12, 1996). The owner or operator of a landfill may control the gas by routing it to a non-enclosed flare, an enclosed combustion device, or a treatment system that processes the collected gas for subsequent sale or beneficial use.

The NESHAP regulates HAP emissions by requiring MSW landfills that exceed the size and emission thresholds to install and operate a

landfill gas collection and control system (GCCS). The NESHAP achieves emission reductions through a well-designed and well-operated landfill GCCS with a control device (*i.e.*, non-enclosed flare, enclosed combustion device, or treatment system) capable of reducing NMOC by 98 percent by weight. NMOC is a surrogate for LFG. The GCCS must be installed within 30 months after an MSW landfill that equals or exceeds the design capacity threshold (2.5 million Mg and 2.5 million m³) reaches or exceeds an NMOC emissions level of 50 Mg/yr. The landfill must expand the system to collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for 5 years or more if active; or 2 years or more if closed or at final grade. The collection and control system may be capped or removed when the landfill is closed, the system has operated 15 years, and NMOC emissions are below 50 Mg/yr.

In addition, the NESHAP requires timely control of bioreactors. A bioreactor is an MSW landfill or portion of the landfill where any liquid other than leachate is added to the waste mass to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the biodegradation of the waste. New bioreactors must install the GCCS in the bioreactor prior to initiating liquids addition, regardless of whether the landfill emissions rate equals or exceeds the estimated uncontrolled emissions rate; existing bioreactors must install the GCCS before initiating liquids addition and must begin operating the GCCS within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later.

Based on modeled emission estimates in the 2016 NSPS/EG datasets, and supplementary searching of the Greenhouse Gas Reporting Program data (located in 40 CFR part 98, subpart HH), the EPA Landfill Methane Outreach Program, Landfill and LFG Energy Project Database, and selected permits, as of 2014, there were between 664 and 709 MSW landfills subject to the LFG collection and control requirements of the NESHAP. The exact list of facilities subject to the NESHAP is unknown because many landfills collect site-specific data for NMOC concentrations using the Tier 2 provisions allowed under the regulation to compute the NMOC annual emission rates. A list of facilities expected to be subject to the NESHAP based on modeled emissions and a default NMOC concentration of 595 parts per million by volume (ppmv)

¹ The court has affirmed this approach of implementing CAA section 112(f)(2)(A): *NRDC v. EPA*, 529 F.3d 1077, 1083 (D.C. Cir. 2008) ("If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.")

is available in the RTR dataset.² It is estimated that these landfills emit between 2,242 and 4,586 Mg/yr of HAP, after considering current control requirements. Most of these emissions are fugitive emissions.

C. What changes did we propose for the MSW Landfills source category in our July 29, 2019, RTR proposal?

On July 29, 2019, the EPA published a proposed rule in the **Federal Register** for the MSW Landfills NESHAP (40 CFR part 63, subpart AAAAA), that took into consideration the RTR analyses (84 FR 36670). Based on the risk analysis, we proposed to find that the risks from the MSW Landfills source category are acceptable. The risk analysis estimated that the cancer risk to the individual most exposed is below 10-in-1 million from both actual and allowable emissions (estimated cancer incidence is 0.04 excess cancer cases per year, or 1 case every 20 years). The risk analysis also estimated a maximum chronic noncancer target organ-specific hazard index (TOSHI) value below 1.

Our risk analysis indicated the risks from this source category are low for both cancer and noncancer health effects, and, therefore, we proposed that any risk reductions to further control fugitive landfill emissions would result in minimal health benefits (84 FR 36686, July 29, 2019). We also proposed that the current NESHAP provides an ample margin of safety to protect public health (84 FR 36686, July 29, 2019). In addition, pursuant to the technology review for the MSW Landfills source category, we proposed that no revisions to the current standards are necessary because, after analyzing the available options, we determined that each is either not technically feasible or the cost is not justified for the level of emission reduction achievable (84 FR 36689, July 29, 2019).

In addition to the proposed decisions resulting from the RTR described above, we proposed revisions to the NESHAP to promote consistency between MSW landfills regulations under CAA sections 111 and 112. We also proposed changes to the wellhead temperature operating standards and associated monitoring, corrective action, and reporting and recordkeeping requirements for temperature. We proposed to adjust provisions for GCCS removal to provide additional flexibility for landfill owners and operators. In

addition, we proposed updates to SSM and electronic reporting requirements.

III. What is included in this final rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the MSW Landfills source category. This action also finalizes other changes to the MSW Landfills NESHAP (40 CFR part 63, subpart AAAAA), including changes to promote consistency between MSW landfills regulations under CAA sections 111 and 112 and changes to the wellhead temperature operating standards, including associated monitoring, corrective action, and reporting and recordkeeping requirements for temperature. This final rule also provides additional flexibility for landfill owners and operators by adjusting the provisions for GCCS removal. In addition, SSM and electronic reporting requirements have been updated. This action also reflects several changes to the July 2019 RTR proposal in consideration of comments received during the public comment period described in section IV of this preamble.

A. What are the final rule amendments based on the risk review for the MSW Landfills source category?

This section introduces the final amendments to the NESHAP being promulgated pursuant to CAA section 112(f). The risks from this source category are low for both cancer and noncancer health effects and we proposed that the risks are acceptable. We received only comments in support of the proposed determination. We are finalizing our determination that risks from this source category are acceptable and that the standards provide an ample margin of safety to protect public health and prevent an adverse environmental effect. Therefore, we are not finalizing any revisions to the NESHAP based on our analyses conducted under CAA section 112(f). Section IV.A.3 of this preamble provides a summary of key comments we received regarding risk review and our responses.

B. What are the final rule amendments based on the technology review for the MSW Landfills source category?

The technology review identified three types of developments that could lead to additional control of HAP from MSW landfills. The three potential developments are practices to reduce HAP formation within a landfill, to collect more LFG for control or treatment, and to achieve a greater level of HAP destruction in the collected LFG. As stated in the proposal preamble

(84 FR 36686–36689, July 29, 2019) none of these developments were deemed to be cost effective. We are finalizing our determination, as proposed, that there are no developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category. Therefore, we are not finalizing revisions to the MACT standards under CAA section 112(d)(6).

C. What are the final rule amendments addressing emissions during periods of SSM?

We are finalizing the proposed amendments to the MSW landfills standards to remove and revise provisions related to SSM. Within its 2008 decision in *Sierra Club v. EPA* 551 F.3d 1019 (D.C. Cir. 2008), the court vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously. As detailed in section IV.D.8 of the proposal preamble (84 FR 36693–36697, July 29, 2019), we proposed that the NESHAP standards apply at all times (see 40 CFR 63.1930(b)), consistent with the court's decision in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008). The EPA is finalizing the SSM provisions as proposed with minimal changes.

We are finalizing a work practice requirement that applies whenever the GCCS is not operating. The work practice requirement appears at 40 CFR 63.1958(e) and is explained in the proposal preamble (84 FR 36695, July 29, 2019).

Further, the EPA is not setting separate standards for malfunction events. As discussed in the proposal preamble (84 FR 36694, July 29, 2019), the EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards, although the EPA has the discretion to set standards for malfunctions where feasible. Although we are not setting separate standards for malfunction events, we are setting a work practice standard for when the GCCS is not operating, which could include periods of malfunction. Whenever a landfill operator is complying with the work practice for periods when the GCCS is not operating,

² MSW Landfills NESHAP RTR Draft Emissions Modeling File, May 2018. Available at: <https://www.epa.gov/stationary-sources-air-pollution/municipal-solid-waste-landfills-national-emission-standards>.

it is unlikely that a malfunction would result in a violation of the standards, and no comments were submitted that would suggest otherwise. Refer to 84 FR 36694 of the proposal preamble for further discussion of the EPA's rationale for the decision not to set separate standards for malfunctions, as well as a discussion of the actions a source could take in the unlikely event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event. The administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations, including malfunction events.

We are also finalizing revisions to Table 1 of subpart AAAA, part 63, titled *Applicability of NESHAP General Provisions to Subpart AAAA*, as explained in more detail in the SSM section of the proposal preamble (84 FR 36693, July 29, 2019), to eliminate requirements that include rule language providing an exemption for periods of SSM. Additionally, we are finalizing our proposal to eliminate language related to SSM that treats periods of startup and shutdown the same as periods of malfunction.

The legal rationale and detailed changes for SSM periods that we are finalizing are set forth in the proposed rule (84 FR 36693, July 29, 2019). As discussed in section IV.C of this preamble, the EPA is making it clear that the semi-annual report must describe the date, time, and duration of periods during which an operating standard was exceeded, as well as when the GCCS was not operating. For more information, see the response to comments document, titled *Summary of Public Comments and the EPA's Responses for the Proposed Risk and Technology Review and Amendments for the Municipal Solid Waste Landfills NESHAP*, which is available in the docket for this action.

D. What other changes have been made to the MSW Landfills NESHAP?

This rule finalizes, as proposed, revisions to several NESHAP requirements that promote consistency among MSW landfills regulations developed under CAA sections 111 and 112. This rule also finalizes revisions to the 2016 NSPS (40 CFR part 60, subpart XXX) and EG (40 CFR part 60, subpart Cf) to promote consistency among MSW landfills regulations under the CAA. Most of these changes are the same as those proposed at 84 FR 36670 on July 29, 2019.

This rule also finalizes minor changes to other provisions of the NESHAP since proposal. Specific changes made since proposal are discussed in section IV.C of this preamble. Revisions to the NESHAP, NSPS, and EG include:

1. Reorganization of the NESHAP

We are finalizing the reorganization of the NESHAP to incorporate the major compliance provisions from the MSW Landfills NSPS program directly into the NESHAP, thus, minimizing cross-referencing to other subparts and consolidating requirements between the NSPS program and the NESHAP. With the incorporation of the major compliance provisions from the 2016 NSPS (subpart XXX), we, thus, incorporated revisions to subpart XXX that were finalized in 2016. In addition, we clarified which of the reorganized provisions apply no later than 18 months after publication of the final rule.

2. Revisions to the 1996 NSPS (40 CFR Part 60, Subparts WWW) and the 2016 NSPS and EG (40 CFR Part 60, Subparts XXX and Cf)

The EPA is clarifying that subpart Cf (once implemented via a state or federal plan) supersedes subparts WWW and Cc. The final rule revises the title and applicability of subpart WWW (at 40 CFR 60.750(a)) to distinguish the applicability dates from other landfills subparts. We clarify that after the effective date of an EPA-approved state or tribal plan implementing subpart Cf, or after the effective date of a federal plan implementing subpart Cf, owners and operators of MSW landfills must comply with the approved and effective state, tribal, or federal plan implementing subpart Cf instead of subpart WWW or the state or federal plan implementing subpart Cc.

3. NSPS and EG (Subparts XXX and Cf) Opt-In Provisions for NESHAP

We are finalizing minor edits to the 2016 NSPS and EG regulations allowing MSW landfills affected by the NSPS and EG to demonstrate compliance with the "major compliance provisions" of the NESHAP in lieu of complying with the analogous provisions in the NSPS and EG. This change allows landfills to follow one set of operational, compliance, monitoring, and reporting provisions for pressure and temperature. The differences between the landfills subparts are identified in the memorandum titled *Comparison of Municipal Solid Waste (MSW) Landfills Regulations*, which is available in the docket for this action.

4. Operational Standards for Wellheads a. Nitrogen and Oxygen Concentrations

The EPA is finalizing the elimination of the operational standards and the corresponding corrective action for nitrogen and oxygen concentrations in the NESHAP for consistency with the 2016 NSPS and EG (subparts XXX and Cf). The EPA concluded that nitrogen and oxygen concentrations are not, by themselves, effective indicators of proper operation of the LFG collection system (see 81 FR 59346, August 29, 2016).

b. Increased Wellhead Temperature Operating Standard

The EPA is finalizing an increase of temperature standard to 145 degrees Fahrenheit (°F). The EPA is finalizing the increased wellhead temperature operating standard in the NESHAP to reduce the burden on regulated entities and delegated state, local, and tribal agencies. This change is expected to reduce the number of requests and burden associated with submitting and reviewing the requests for higher operating values (HOVs) for temperature, as well as reduce the frequency of corrective actions for exceeding the temperature limit. This change provides landfill owners and operators greater flexibility and autonomy with regards to wellhead monitoring and operations.

5. Corrective Action for Wellhead Operating Standards

The EPA is finalizing the elimination of the requirements for corrective action for nitrogen and oxygen concentrations in the NESHAP to maintain consistency with the requirements in the 2016 NSPS and EG (subparts XXX and Cf). The operating standard for nitrogen and oxygen has already been eliminated in those rules. In the NESHAP, the EPA is finalizing changes to the corrective action procedures to address positive pressure and elevated temperature to provide flexibility to owners or operators in determining the appropriate remedy, as well as the timeline for implementing the remedy. The changes to the timeline and the process for correcting for positive pressure and elevated temperature make the NESHAP requirements consistent with the current requirements of the NSPS and EG, except that the requirements for corrective action procedures being proposed in the NESHAP are tied to the exceedance of the 145 °F standard, instead of the 131 °F standard that still applies in the NSPS and EG.

6. Enhanced Monitoring, Recordkeeping, and Reporting for High Wellhead Temperatures

The EPA is finalizing the addition of enhanced wellhead monitoring and visual inspection requirements for any landfill with wellhead temperature exceeding 145 °F. Enhanced monitoring in the final rule involves weekly observations for subsurface oxidation events (SOE), as well as weekly monitoring of wellhead temperature, carbon monoxide (CO), oxygen, and methane using an analyzer that meets all quality assurance and quality control requirements for EPA Methods 10, 3C, or 18. Enhanced monitoring begins 7 days after the first reading exceeding 145 °F is recorded and continues until the measured wellhead operating temperature is 145 °F or less, or an HOV is approved. The proposed rule required a landfill to continue weekly enhanced monitoring until an HOV was approved or until the LFG temperature at the wellhead reached less than or equal to 62.8 degrees Celsius (°C) (145 °F). In the final rule, the EPA is allowing monthly CO monitoring if the wellhead has CO readings below 100 ppmv for four consecutive weeks. If the CO level exceeds 100 ppmv again, the landfill must return to weekly monitoring (see section IV.D of this preamble). Consistent with our proposal, the final rule requires enhanced monitoring data to be submitted in the semi-annual report and maintained as records. The EPA is finalizing the enhanced monitoring requirements as proposed except for the following changes:

- The EPA is removing the proposed requirement for an independent laboratory analysis of each CO measurement (see section IV.D of this preamble).
- The EPA is finalizing the proposed 24-hour electronic report for any well with highly elevated temperature (76.7 °C or 170 °F) and CO readings (40 CFR 63.1981(k)). In the final rule, the EPA reduced the CO threshold for the 24-hour electronic report from 1,500 ppmv to 1,000 ppmv (see section IV.D of this preamble). The EPA adjusted the corresponding corrective action for wells that have any wellhead temperature reading of 170 °F or above and CO reading of 1,000 ppmv. The report is not required for landfills that have an HOV approved by the Administrator.
- The EPA is finalizing the proposed downwell monitoring. However, in the final rule, downwell monitoring is conducted annually, instead of weekly. Additionally, the annual downwell monitoring is only required for

wellheads that have any temperature reading of 165 °F or above (see section IV.D of this preamble).

7. Criteria for Removing GCCS

The EPA is finalizing as proposed the added flexibility to the NESHAP for determining when it is appropriate to cap, remove, or decommission a portion of the GCCS (40 CFR 63.1957(b)). The NESHAP requires three criteria to be met to remove controls: (1) The landfill is closed, (2) the calculated NMOC emission rate at the landfill is less than 50 Mg/yr on three successive test dates, and (3) the GCCS has operated for at least 15 years. In this final rule, we updated the third criterion to allow the landfill owner or operator to choose between the 15 years of GCCS operation or demonstrate that the GCCS will be unable to operate for 15 years due to declining gas flows.

8. Definition of Cover Penetration

To clarify the implementation concerns, the EPA is finalizing as proposed the phrase, “. . . at all cover penetrations” to the regulatory text of the NESHAP (40 CFR 63.1958(d)), consistent with this phrase in the 2016 NSPS and EG (subparts XXX and Cf). We are also adding a definition of cover penetration as proposed. At 40 CFR 63.1958(d), we are clarifying the surface monitoring provisions by requiring monitoring at any “cover penetrations” rather than at “any openings.” And we are clarifying that the landfill owner or operator must determine the latitude and longitude coordinates “of each exceedance.”

9. Electronic Reporting

The EPA is requiring owners and operators of new or modified MSW landfills to electronically submit required performance test reports, NMOC Emission Rate Reports, Bioreactor 40-percent moisture reports, and semi-annual reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI) (40 CFR 63.1981(l)). The final rule requires that performance test results be submitted using the Electronic Reporting Tool (ERT). Alternatively, MSW landfills may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. For more details, see the Electronic Reporting section of the proposal preamble (84 FR 36693, July 29, 2019). For NMOC Emission Rate Reports, Bioreactor 40-percent moisture reports, and semi-annual reports, the final rule requires that owners and operators use the

appropriate spreadsheet template/forms to submit information to CEDRI when it becomes available on the CEDRI website (<https://www.epa.gov/electronic-reporting-air-emissions/cedri>). The electronic submittal of the reports addressed in this rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability and transparency, will further assist in the protection of public health and the environment, will improve compliance by facilitating the ability of regulated facilities to demonstrate compliance with requirements and by facilitating the ability of delegated state, local, tribal, and territorial air agencies and the EPA to assess and determine compliance, and will ultimately reduce burden on regulated facilities, delegated air agencies, and the EPA. Electronic reporting also eliminates paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors, and providing data quickly and accurately to the affected facilities, air agencies, the EPA, and the public. For a more thorough discussion of electronic reporting, see the memorandum, *Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules*, available in Docket ID No. EPA-HQ-OAR-2002-0047.

10. Other Clarifications and Changes To Conform With the NSPS

In 2016, the EPA finalized its review of the 1996 NSPS (40 CFR part 60, subpart WWW) and made revisions (40 CFR part 60, subpart XXX) to simplify and streamline implementation of the rule. Note that some of the revisions were proposed as early as 2002 and 2006. With the incorporation of compliance provisions from the NSPS into the NESHAP as part of this rulemaking, we are likewise finalizing the following provisions from the NSPS:

- Allowing the use of portable gas composition analyzers to monitor the oxygen level at a wellhead (40 CFR 63.1961(a)).
- Requiring owners and operators to report more precise locational data for each surface emissions exceedance to provide a more robust and long-term record of GCCS performance and more easily locate and correct breaches in the landfill cover (40 CFR 63.1961(f)).
- Refining the criteria for updating a design plan by requiring landfill owners or operators to submit an updated design plan for approval based on the following criteria: (1) Within 90 days of

expanding operations to an area not covered by the previously approved design plan; and (2) before installing or expanding the gas collection system in a way that is not consistent to the previous design plan (40 CFR 63.1981(e)).

- Clarifying that in addition to use as a fuel for stationary combustion devices, use of treated LFG also includes other uses such as the production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process (40 CFR 63.1959(b)).

- Standardizing the terms “control system” and “collection and control system” in the NESHAP in order to use consistent terminology throughout the regulatory text.

- Exempting owners/operators of boilers and process heaters with design capacities of 44 megawatts or greater from the requirement to conduct an initial performance test since large boilers and process heaters consistently achieve the required level of control (67 FR 36478, May 23, 2002).

- Removing the term “combustion” from the requirement to monitor temperature of enclosed combustors to clarify that temperature could be monitored at another location, as long as the monitored temperature relates to proper operation of the enclosed combustor (71 FR 53276, September 8, 2006).

- Refining definitions to ensure consistent use across federal landfills regulations (40 CFR 63.1990) of the terms: Treated landfill gas, Treatment system, Modification, Household waste, and Segregated yard waste.

11. Closed Areas

The EPA is maintaining the current approach to closed areas so that landfills subject to both the 2016 NSPS

and EG and the NESHAP have a streamlined set of requirements to follow. The 2016 NSPS and EG allow landfill owners or operators to model NMOC emissions or take actual measurements of NMOC emissions at physically separated, closed areas of open landfills. The EPA has not expanded the term “closed area” to include areas that are not physically separated (e.g., separately lined).

12. Changes to Definitions

The EPA expanded the list of definitions in the NESHAP to create a list that improves consistency between the 2016 NSPS, 1996 NSPS, and the NESHAP. The changes fall into the following categories:

- The 2003 MSW Landfills NESHAP included eight definitions. Five of these definitions remain the same. The EPA made changes to two of the original defined phrases. One of these phrases also has had a definition change. The original definition for “deviation” has been refined to reflect the updated SSM requirements.

- The EPA added a new definition for “cover penetration” based on public comments.

- To address public comments about definition consistency, the EPA included an additional 32 definitions that correspond to definitions in NSPS subparts XXX, WWW, or both. The EPA made minor updates to reflect current regulation references.

E. What are the effective and compliance dates of the standards?

The revisions to the MACT standards being promulgated in this action are effective on March 26, 2020.

The compliance date for existing sources is January 16, 2004.

New sources must comply by January 16, 2003, or upon startup, whichever is later.

The compliance dates remain the same as proposed. The EPA is allowing facilities up to 18 months after March 26, 2020, to begin complying with the final rule. Affected MSW landfills must continue to comply with the existing requirements until they meet the new requirements.

IV. What is the rationale for our final decisions and amendments for the MSW Landfills source category?

For each issue, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA’s rationale for the final decisions and amendments, and a summary of key comments and responses. For all comments not discussed in this preamble, please see the comment summaries and the EPA’s Response to Comments document, which are available in the docket.

A. Residual Risk Review for the MSW Landfills Source Category

1. What did we propose pursuant to CAA section 112(f) for the MSW Landfills source category?

Pursuant to CAA section 112(f), the EPA conducted a residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the July 29, 2019, proposed rule for 40 CFR part 63, subpart AAAA (84 FR 36670). The results of the risk assessment are presented briefly in Table 2 of this preamble. More detail is in the residual risk technical support document, *Residual Risk Assessment for the MSW Landfills Source Category in Support of the 2020 Risk and Technology Review Final Rule*, which is available in the docket for this rulemaking.

TABLE 2—MSW LANDFILLS INHALATION RISK ASSESSMENT RESULTS

Number of facilities ¹	Maximum individual lifetime cancer risk (in 1 million) ²		Based on actual emissions				
	Based on actual emissions ³	Based on allowable emissions	Estimated population at increased risk of cancer ≥1-in-1 million	Estimated population at increased risk of cancer ≥10-in-1 million	Estimated annual cancer incidence (cases per year)	Maximum chronic noncancer TOSHI ⁴	Maximum screening acute noncancer hazard quotient (HQ)
706	10 (p-dichlorobenzene, ethyl benzene, benzene).	10 (p-dichlorobenzene, ethyl benzene, benzene).	18,300	11	0.04	0.1 (neuro-logical)	HQ _{REL} ⁵ = 0.07 (chloroform).

¹ Number of facilities evaluated in the risk analysis.
² Maximum individual excess lifetime cancer risk due to HAP emissions from the source category.
³ Whole facility emissions are equal to actual emissions and have the same risk.
⁴ Maximum TOSHI. The target organ systems with the highest TOSHI for the source category are neurological, with risk driven by emissions of trichloroethylene, m-xylene, xylenes (mixed), and tetrachloroethene from fugitive emissions.
⁵ Reference Exposure Level (REL).

The results of the chronic baseline inhalation cancer risk assessment indicate that, based on estimates of

current actual, allowable, and whole facility emissions under the NESHAP, the maximum individual risk posed by

the source category is 10-in-1 million. The total estimated cancer incidence based on actual emission levels is 0.04

excess cancer cases per year, or 1 case every 25 years. The total estimated cancer incidence based on allowable emission levels is 0.05 excess cancer cases per year, or 1 case every 20 years. Fugitive air emissions of benzene-based pollutants contributed approximately 50 percent to the cancer incidence. The population exposed to cancer risks greater than or equal to 1-in-1 million based upon actual emissions is 18,300. The population exposed to cancer risks greater than or equal to 10-in-1 million based upon actual emissions is 11. No individuals or groups are exposed to a chronic noncancer TOSHI greater than 1. The screening analysis for worst-case acute impacts indicates that no pollutants exceed an acute HQ value of 1 based upon the REL. Because none of the screening HQs were greater than 1, further refinement of the estimates was not warranted. A separate assessment of inhalation risk from facility-wide emissions was unnecessary because facility-wide emissions were the same as source category emissions. The multipathway risk screening assessment resulted in a maximum Tier 2 noncancer screening value of less than 1 for mercury. Mercury was the only persistent and bioaccumulative HAP emitted by the source category. Based on these results, we are confident that the human-health noncancer risks are below a level of concern. Mercury was the only environmental HAP identified from the category and the ecological risk screening assessment indicated that all modeled points were below the Tier 1 screening threshold. Therefore, we do not expect an adverse environmental effect as a result of HAP emissions from this source category.

We weighed all human health risk factors in our risk acceptability determination, and we proposed that the residual risks from the MSW Landfills source category are acceptable. We then considered whether the NESHAP provides an ample margin of safety to protect public health, and whether more stringent standards were necessary to prevent an adverse environmental effect, by taking into consideration costs, energy, safety, and other relevant factors. In determining whether the standards provide an ample margin of safety to protect public health, we examined the same risk factors that we investigated for our acceptability determination and also considered the costs, technological feasibility, and other relevant factors related to emissions control options that might reduce risk (or potential risks) associated with emissions from the source category. Our risk analysis

indicated the risks from this source category are low for both cancer and noncancer health effects, and, therefore, any additional emissions reductions would result in minimal health benefits or reductions in risk. We note that fugitive landfill emissions result in 84 percent of the cancer incidence for this source category. Based upon results of the risk analysis and our evaluation of the technical feasibility and cost of the option(s) to reduce landfill fugitive emissions, we proposed that the current NESHAP provides an ample margin of safety to protect the public health. We also proposed, based on the results of our environmental screening assessment, that more stringent standards are not necessary to prevent an adverse environmental effect.

2. How did the risk review change for the MSW Landfills source category?

Since proposal, neither the risk assessment nor our determinations regarding risk acceptability, ample margin of safety, or adverse environmental effects have changed.

3. What key comments did we receive on the risk review, and what are our responses?

We received comments that were generally supportive of the proposed residual risk review and our determination that no revisions were warranted under CAA section 112(f)(2) for the MSW Landfills source category. Commenters stated that the EPA's residual risk review approach was sufficiently conservative in its assumptions relating to facility emission profiles and supported the EPA's conclusion that the residual risk is acceptable and provides an ample margin of safety. One commenter stated that the modeling includes conservative features that is consistent with the National Ambient Air Quality Standards and conforms to many state programs and that EPA appropriately considered maximum exposed individuals, multipathway assessments, as well as specific populations by census blocks near actual facilities. The commenter also stated the EPA's emission factor data used for the proposed NESHAP is comprehensive considering the number of facilities referenced and the number of analytes assessed. However, another commenter expressed concern regarding the EPA's use of emission factors calculated using 2008 AP-42,³ Chapter 2.4. The commenter stated that the

³ U.S. EPA, AP-42, Fifth Edition, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, 1995. <http://www.epa.gov/ttnchie1/ap42/>.

modeling inputs were based on use of draft emission factors from an AP-42 section that was proposed in 2008 and remains a draft. The commenter stated that the use of a draft section creates confusion regarding the information it contains and sets an unclear precedent.

We disagree with the comment that the use of draft AP-42 emission factors introduces confusion or sets precedent for using these factors in other regulations. In the development of the risk analysis, we documented the rationale for using the emission factors from 2008 AP-42 Chapter 2.4 in the docketed memorandum, *Residual Risk Modeling File Documentation for the Municipal Solid Waste Landfill Source Category*.⁴ Specifically, the 2008 AP-42 draft emission factor data, with subsequent adjustments made to reflect comments received on the draft for the risk analysis, represent the best available data for HAP emissions from landfills. The 1998 Final AP-42 chapter had factors for only 23 HAP, whereas the updated factors used in the risk analysis cover 49 HAP derived from a significantly larger dataset. By including a larger number of HAP in the factors used in the risk analysis, the analysis was conservative. The EPA is not suggesting in this preamble or in background documentation that the factors used are appropriate for other permitting or regulatory uses.

After review of these comments, we determined that no changes needed to be made to the underlying risk assessment methodology. The comments and our specific responses can be found in the response to comments document titled *Summary of Public Comments and the EPA's Responses for the Proposed Risk and Technology Review and Amendments for the Municipal Solid Waste Landfills NESHAP*, which is available in the docket for this action.

4. What is the rationale for our final approach and final decisions for the risk review?

We evaluated all of the comments on the EPA's risk review and determined that no changes to the review are needed. For the reasons explained in the proposed rule, we proposed that the risks from the MSW Landfills source category are acceptable, and the current standards provide an ample margin of safety to protect public health and prevent an adverse environmental

⁴ See Appendix 1, Section 7 to docket item, *Residual Risk Assessment for the Municipal Solid Waste Landfill Source Category in Support of the 2019 Risk and Technology Review Proposed Rule*, May 2019. Docket ID Item No. EPA-HQ-OAR-2002-0047-0091.

effect. Therefore, pursuant to CAA section 112(f)(2), we are finalizing the risk review as proposed.

B. Technology Review for the MSW Landfills Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the MSW Landfills source category?

Pursuant to CAA section 112(d)(6), we proposed to conclude that no revisions to the current NESHAP are necessary (section IV.C of the proposal preamble 84 FR 36686). In conducting the review, we identified developments in work practices and technologies to reduce HAP formation, collect additional HAP, and destroy additional HAP from MSW landfills. We ruled out developments in waste diversion programs, which can reduce HAP formation, as technically infeasible, because programs to ban or recycle wastes instead of placing the wastes in the landfill are not typically under the control of landfill owners or operators. We analyzed the costs and emission reductions associated with earlier gas collection strategies, including a lower NMOC threshold and shortening the time in which a GCCS is required to expand into new areas of the landfill. Based on these analyses, we concluded that these options are not cost effective for HAP. We also analyzed the cost and emission reductions associated with destroying additional HAP in higher efficiency flares, and based on these analyses, we concluded that these options are not cost effective for HAP.

2. How did the technology review change for the MSW Landfills source category?

We have not changed any aspect of the technology review since the July 29, 2019, proposal for the MSW Landfills source category.

3. What key comments did we receive on the technology review, and what are our responses?

The comments received by the EPA on the technology review were generally supportive, with only one commenter challenging the EPA's findings regarding GCCS installation lag times. One commenter agreed that the EPA's findings regarding mandated source separation, earlier LFG collection, criteria, and timeframe for removing GCCS, early installation of landfill cover systems, enclosed flares, thermal oxidizers, energy recovery projects, and use of biocovers were infeasible, not cost-effective, or did not result in emissions reductions. Another commenter noted the limited innovation

in HAP-reducing technologies and requested increased government funding for research in this area. One commenter challenged the EPA's determination that earlier gas collection, via shorter expansion lag times, is not economically feasible and asked the EPA to reevaluate its determination.

The EPA has not revised the technology review for the NESHAP to analyze the costs of shorter expansion lag times for certain landfills. The EPA agrees with the commenter that shorter lag times are commercially available. However, the installation of well components to achieve these shorter lag times requires site-specific analysis. For example, the timing of well installation is affected by waste placement patterns and annual acceptance rates. The EPA explored shorter lag times as part of the review for the 2016 NSPS and EG and received several comments related to site-specific costs and safety concerns associated with reduced lag times, urging the EPA to retain flexibility in any lag-time adjustments. See 79 FR 41807 (July 17, 2014) and 80 FR 52121 (August 27, 2015) for more details. The EPA has not received any comments suggesting that the cost and safety concerns brought forth as part of the 2016 rulemaking have changed, and as a result, no changes to the lag times are being finalized.

4. What is the rationale for our final approach for the technology review?

As explained in the proposal preamble (84 FR 36686, July 29, 2019), we conducted a technology review to identify developments in practices, processes, and control technologies that may warrant revisions to the current NESHAP. We identified three types of developments that could lead to additional control of HAP from MSW landfills, but we determined that there are no cost-effective developments in practices, processes, or control technologies to warrant revisions to the standards. We also evaluated the public comments on the EPA's technology review and determined that no changes to the review are needed. More information concerning our technology review is in the memorandum titled *CAA section 112(d)(6) Technology Review for the MSW Landfills Source Category*, in the docket for this action, and in the preamble to the proposed rule (84 FR 36686–36689, July 29, 2019). Therefore, pursuant to CAA section 112(d)(6), we are finalizing the results of the technology review as proposed.

C. SSM for the MSW Landfills Source Category

1. What did we propose for the MSW Landfills source category?

We proposed amendments to the NESHAP to remove and revise provisions related to SSM that are not consistent with the requirement that the standards apply at all times. More information concerning the elimination of SSM provisions is in the preamble to the proposed rule (84 FR 36693).

2. How did the SSM provisions change for the MSW Landfills source category?

We are finalizing the SSM provisions as proposed (84 FR 36693, July 29, 2019) with the minor changes described in section IV.C.3 of this preamble.

3. What key comments did we receive on the SSM provisions and what are our responses?

We received two comments related to our proposed revisions to the SSM provisions. The first commenter agreed that the NESHAP must apply at all times and with the approach of applying a work practice standard under CAA section 112(h) during periods of SSM. The second commenter requested that the EPA clarify that SSM events be reported as stated in the proposal preamble (84 FR 36696, July 29, 2019). A summary of the SSM comments on the proposal and the EPA's responses to those comments is available in the response to comments document titled *Summary of Public Comments and the EPA's Responses for the Proposed Risk and Technology Review and Amendments for the Municipal Solid Waste Landfills NESHAP*, which is available in Docket ID No. EPA-HQ-OAR-2002-0047.

The first commenter agreed that the work practice requirements of proposed 40 CFR 63.1958(e) are appropriate and consistent with a well-designed and operated LFG collection system. However, the commenter objected to the EPA's proposed preamble statements and rule revisions that specify that compliance with these provisions during SSM does not necessarily constitute compliance with the NESHAP. The commenter stated that these provisions are inconsistent with prior EPA decisions about appropriate landfill operation and are not compelled by the *Sierra Club v. EPA* decision.

Landfill emissions are produced by a continuous biological process that cannot be stopped or restarted. Therefore, the primary concern related to SSM is with malfunction of the landfill GCCS and associated monitoring equipment, not with the

startup or shutdown of the entire source. The SSM periods that are covered by the proposed additional work practice standard of 40 CFR 63.1958(e) are those periods when the landfill GCCS and associated monitoring equipment are not operating for any reason. During such periods, excess emissions to the atmosphere will occur. This additional work practice requires the owner or operator to shut down all valves in the collection and control system contributing to venting of the gas to the atmosphere within 1 hour and to minimize the downtime for making repairs to the collection and control system. Although this additional practice is necessary to reduce emissions associated with a GCCS outage, to minimize emissions also requires actions to prevent the shutdown of the GCCS. Although we agree with the commenter that some unavoidable circumstances may require that the GCCS system be shut down for short periods of time (e.g., for tying in a system expansion, repair, and preventative maintenance), the frequency of shutdowns also can be affected by carelessness, ineffective operation and maintenance procedures, failure to properly train landfill operations staff, and other site-specific factors. Actions to prevent the shutdown of a GCCS may include a preventative maintenance program, expeditious repair or replacement of equipment that frequently fails, the use of valves and bypass systems to segregate portions of the GCCS that are undergoing expansion, maintenance, or repairs from those portions that are unaffected by the work, and the use of redundant equipment and controls so that the system can remain online even if one component fails to operate properly. Additional reasonable steps include the controls of vehicular equipment on the landfill to avoid damage to the GCCS or crushed pipes. This may include speed limits and traffic routes that avoid passing over buried ductwork or other equipment.

Another commenter requested the EPA clarify that SSM events be reported as stated in the proposal preamble (84 FR 36696, July 29, 2019) in order to evaluate whether the general duty to minimize emissions is being met. The commenter stated that while the preamble stated that reporting will be required (84 FR 36696, July 29, 2019), the rule only requires records of SSM events.

The EPA proposed to add recordkeeping requirements for startup and shutdown to 40 CFR 63.1983(c) (84 FR 36696, July 29, 2019). Because 40 CFR 63.1958(e) specifies a different

standard for periods when the GCCS is not operating under normal conditions (which would include periods of startup, shutdown, and maintenance or repair), we noted that it will be important to know when such startup and shutdown periods begin and end in order to determine compliance with the appropriate standard. Thus, we proposed language in 40 CFR 63.1983(c)(6) to require that a landfill owner or operator report the date, time, and duration of each startup and shutdown period. However, the paragraphs we cited in the preamble and revised in the rule require only the records of such events.

The EPA agrees with the commenter that recordkeeping and reporting for SSM events needs to be clarified in the final rule. Thus, the EPA revised 40 CFR 63.1981(h)(1) to make it clear that the semi-annual report must describe the date, time, and duration of periods during which an operating standard was exceeded, as well as when the GCCS was not operating. The semi-annual report in 40 CFR 63.1981(h) does not require separate reporting of SSM events, but every exceedance, including when operating standards are exceeded and when the GCCS is not operating, must be reported including during SSM.

4. What is the rationale for our final approach for the SSM provisions?

We evaluated the comments on the EPA's proposed amendments to the SSM provisions. For the reasons explained in the proposed rule, we determined that the proposed amendments appropriately remove and revise provisions related to SSM not consistent with the requirement that the standards apply at all times. More information concerning the amendments we are finalizing for SSM is in the preamble to the proposed rule (84 FR 36693, July 29, 2019). Therefore, we are finalizing our approach for the SSM provisions as proposed with the clarifications described in section IV.C.3 of this preamble.

D. Summary of Changes Since Proposal

1. Enhanced Monitoring, Recordkeeping, and Reporting for Elevated Wellhead Temperature

Given concerns with fire risks from elevated temperatures, and the fact that parameters other than temperature can be indicators of a SOE, we proposed enhanced wellhead monitoring and visual inspections for subsurface oxidation events (40 CFR 63.1961(a)), and in some cases more frequent reporting (40 CFR 63.1981(k)), for any landfill with wellhead temperature

exceeding 145 °F. The proposed enhanced monitoring included weekly monitoring of CO, oxygen, and methane. For each CO measurement, the EPA proposed to require an independent laboratory analysis (84 FR 36691, July 29, 2019). As part of enhanced monitoring, the EPA proposed weekly temperature monitoring every 10 vertical feet down the well (downwell monitoring).

Several commenters expressed concerns with the requirement for independent laboratory CO testing. One commenter observed that laboratory testing is expensive, and three commenters stated that requiring laboratory testing would extend the response time and not provide timely information that can help the landfill owner or operator improve compliance. One commenter also noted several concerns with the logistics of independent laboratory analysis, including concerns with the proposed test methods and sample transportation.

The EPA agrees with commenters that independent laboratory analysis could present logistical challenges and potentially increase costs. Shipping passivated canisters or multi-layer foil gas sampling bags could require specialized shipping and could delay results that could improve operation of the GCCS. Therefore, based on public comments, the EPA is removing the requirement for an independent laboratory to analyze each CO measurement. In the final rule, landfill owners or operators have the option to collect the sample and conduct analysis on-site, using purchased or rented equipment that meets the requirements of EPA Method 10. This could generate results quicker, enabling the owner or operator to adjust the GCCS in a more timely manner. Conducting the analysis on-site would also prevent the need to package and ship the canisters or bags, thus, saving shipping costs and eliminating the logistical concerns of shipping the samples.

One commenter expressed concerns with the indefinite term of the enhanced monitoring. The commenter advised that if CO readings are less than 1,500 ppmv, monitoring should not be required indefinitely, but instead cease after 3 consecutive months. The commenter observed that this approach is consistent with the requirements of the consent decrees in the docket and with historical HOV demonstrations.

Regarding when to stop enhanced CO monitoring, the EPA agrees with commenters because the weekly enhanced monitoring is not intended to continue indefinitely. In the proposal, there were two means to stop enhanced

weekly CO monitoring. Enhanced monitoring could be stopped once an HOV is approved, at which time the monitoring provisions issued with the HOV should be followed (40 CFR 63.1961(a)(5)(viii)). Alternatively, the enhanced monitoring could stop once the measurement of LFG temperature at the wellhead is below 145 °F (40 CFR 63.1961(a)(5)(viii)). In the final rule, the EPA is retaining these two means to stop enhanced CO monitoring. The EPA is also providing an opportunity to reduce the frequency of monitoring in the final rule while still maintaining sufficient data availability of wellhead parameters for those wells that consistently operate at higher temperatures. Specifically, the EPA is extending the frequency of enhanced monitoring. Enhanced monitoring must be conducted on a weekly basis. However, if four consecutive weekly CO readings are below 100 ppmv, then monitoring may be decreased to a monthly basis. If the CO level exceeds 100 ppmv again, the landfill must return to weekly monitoring. Additionally, the EPA is specifically clarifying in the final rule that HOVs that have been previously approved under another MSW Landfill NSPS or EG regulation will not have to seek pre-approval for that HOV under the provisions in the NESHAP (40 CFR 63.1961(a)(5)).

One commenter expressed concern with the proposed 1,500 ppmv threshold for CO, asserting that 1,000 ppmv would be a more reasonable upper limit for detecting or preventing landfill fires. The EPA agrees with the commenter. The EPA reexamined the MSW Landfills consent decrees cited in the proposed rule; documents from CalRecycle, the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers, and the Solid Waste Association of North America. These documents (see Docket ID No. EPA-HQ-OAR-2002-0047) all cite a 1,000 ppmv CO concentration as an indication of an underground landfill fire, in combination with other factors. Additionally, a guidance document from the Ohio EPA for subsurface heating events refers to the CO concentration cited in the FEMA and CalRecycle documents. Two of the consent decrees, Forward and Central Maui, require 24-hour electronic notification to the delegated authority for any CO reading of 1,000 ppmv or above. For these reasons, the EPA is reducing the reporting threshold for CO from 1,500 ppmv to 1,000 ppmv in the final rule.

One commenter expressed support for the downwell temperature reading requirement. However, another

commenter warned that the downwell monitoring may not be achievable or yield meaningful data, noting that installation of thermocouples to measure well temperature may not be possible on a well that is already constructed due to shifting in the well as settlement occurs. The commenter also noted that if wells have been raised with solid pipe, or the boring log does not provide accurate as-built information, the data may not be meaningful. Another commenter requested that the EPA eliminate the downwell temperature monitoring requirement. The commenter observed that the EPA claims that the proposed enhanced monitoring for well temperature is intended to facilitate the detection of a subsurface fire, yet the solid waste industry has long recognized that subsurface fires occur near the surface, require oxygen, are visually recognizable, and are addressed with known remedies. The commenter asserted that weekly downwell measurements could be counter-productive and inconsistent with the GCCS best management practices or challenging to implement.

The EPA reexamined the consent decrees and supporting documents and agrees with the commenters that weekly downwell monitoring could be potentially burdensome to implement. Requirements for conducting downwell temperature monitoring is in only the referenced consent decrees and not prescribed in the other supporting documents. Although the 2009 Ohio EPA best management practices document⁵ suggests that inter-well and intra-well temperature data may be useful, it does not require those data in all cases. For these reasons, the EPA is reducing the frequency of downwell monitoring from weekly to annually. Annual downwell temperature monitoring will provide more robust data on waste temperatures throughout the radius of influence of the well. In addition, the EPA is increasing the wellhead temperature threshold that triggers downwell monitoring. In the final rule, downwell monitoring is required for wellhead temperatures of 165 °F or greater rather than 145 °F. The EPA believes the downwell monitoring data to be critical for assessing the operations of wells with these higher temperatures in order to minimize fire risks. The EPA expects that these changes will reduce the burden and

implementation challenges associated with downwell monitoring.

Because the EPA has changed the frequency of CO monitoring and downwell temperature monitoring, the EPA has modified the requirement to include a well-specific summary trend analysis in the semi-annual report (40 CFR 63.1981(h)(8)(ii)) to remove the downwell temperature and recognizes that CO monitoring may occur on a monthly or weekly basis depending on the level at the well. Additionally, the EPA has removed the requirement to submit a 24-hour high temperature report if the well is subject to an approved HOV for temperature (40 CFR 63.1981(k)).

The EPA has also adjusted the enhanced monitoring provisions at 40 CFR 63.1961(a)(5) to remove the upper bound limitation of 170 °F. Enhanced monitoring should continue until both this temperature level and a CO level of 1,000 ppmv have been reached, at which point the provisions 40 CFR 63.1960(a)(4)(i)(D) and 63.1981(k) apply. Consistent with the proposed preamble (80 FR 36692, July 29, 2019), high temperatures in combination with high levels of CO are considered a positive indication of an active underground fire. The EPA has adjusted the requirements for the records and reports associated with these enhanced monitoring data to remove the upper bound limitation.

2. Delegation of Authority

Commenters expressed concerns with the EPA's proposed delegation of authority language (40 CFR 63.1985(c)). The EPA proposed at 40 CFR 63.1985(c) that the EPA will not delegate "approval of alternatives to the standards" in 40 CFR 63.1955–63.1962, which the commenters interpreted to include authority to approve alternatives to monitoring (*i.e.*, HOVs). Thus, the commenters contend that the language restricts delegated state or local agencies from approving or disapproving HOVs and other alternatives that are needed to reflect a source's site-specific conditions. The commenters claim that the proposed provision will lead to confusion in the compliance and enforcement work of the delegated states or create conflicts wherein a state agency and the EPA disagree. One commenter contended that the proposal allows the EPA to approve an HOV by incorporating additional monitoring requirements. The commenter questioned whether incorporation of applicable NSPS-required limits and corrective actions in the title V permits would preclude the applicability of flexibility outside these terms. Another commenter was concerned that the

⁵ Ohio EPA. *Guidance Document for Higher Operating Value Demonstrations*. <http://web.epa.state.oh.us/eBusinessCenter/Agency/DAPC/HOV%20Demonstration.doc>.

NESHAP was much more restrictive in the items that could be delegated than the NSPS and that this would create conflict between the EPA and delegated authorities.

The EPA disagrees that proposed 40 CFR 63.1985(c) includes authority to approve HOVs. The EPA did not intend to preclude state or local agencies from approving or disapproving HOVs and other alternatives that are needed to reflect a source's site-specific conditions. The final NESHAP directly incorporates the major compliance provisions of the NSPS rules (subparts WWW and XXX). Consistent with the NSPS rules, the final NESHAP allows owners or operators to establish an HOV for temperature at a particular well (40 CFR 63.1958(c)(1)). The owner or operator must submit a request for an HOV, along with supporting data, to the Administrator for approval. Also consistent with the NSPS rules, the collection and control system design plan may include for Administrator approval collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions. The Administrator or delegated authority would review and approve the HOV or design plan.

The EPA recognizes that proposed 40 CFR 63.1985(c) does not reflect its intent and may have caused confusion. In 40 CFR 63.1985(c), the EPA retains authority to approve "alternatives to the standards" in 40 CFR 63.1955–63.1962. Commenters incorrectly interpreted that the term "alternative emission standards" includes authority to approve HOVs. The term "emission standards" is defined in 40 CFR 60.21(f) as "a legally enforceable regulation setting forth an allowable rate of emissions into the atmosphere, establishing an allowance system, or prescribing equipment specifications for control of air pollution emissions." The EPA intends the use of the phrase "alternative emission standards" to refer to the "Standards" for MSW landfill emissions in 40 CFR 63.1955–63.1962. The EPA does not intend "alternative emission standards" to include alternatives for wellhead monitoring in 40 CFR 63.1958. The EPA also does not intend to retain authority to review and approve gas collection and control design plans.

Thus, based on public comments, the EPA is revising 40 CFR 63.1985(c) to reflect the EPA's intent, which is not to preclude states or other delegated authorities from approving HOVs and design plans. The EPA will delegate authority to approve HOVs and design

plans. However, consistent with the NSPS, the final rule retains the EPA's authority to approve alternative methods for determining the NMOC concentration in 40 CFR 63.1959(a)(3) and a site-specific methane generation rate constant in 40 CFR 63.1959(a)(4).

3. Technical Corrections

Based on public comments, the EPA made several technical corrections and clarifications to make clear the requirements of the regulation.

- 40 CFR 60.38f(k) and 60.767(j). Clarified that if an MSW landfill owner or operator is complying with the major compliance provisions of the NESHAP, then the owner or operator must follow the corrective action and the corresponding timeline reporting requirements in the NESHAP (40 CFR 63.1981(j)) in lieu of the corresponding timeline reporting requirements of the EG or NSPS, respectively.

- 40 CFR 60.39f(e)(6). Corrected a typographical error. Removed the word "you" and retained "owner or operator."

- 40 CFR 60.750. Clarified that an affected MSW landfill continues to comply with 40 CFR part 60, subpart WWW until it becomes subject to the more stringent requirements in an approved and effective state or federal plan that implements 40 CFR part 60, subpart Cf of this part, or until it modifies or reconstructs after July 17, 2014, and, thus, becomes subject to subpart XXX.

- 40 CFR 60.768(e)(6). Corrected a typographical error. Removed the word "you" and retained "owner or operator."

- 40 CFR 63.1947(a)(2). Corrected typographical error. Refer to 40 CFR 63.1982(c) and (d) instead of 40 CFR 63.1980(g) and (h) for moisture calculations.

- 40 CFR 63.1955(a). Clarified that alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions that have already been approved under 40 CFR part 60, subpart XXX can be used to comply with the NESHAP.

- 40 CFR 63.1960(a)(4)(i). Corrected typographical error. Removed the phrase, "for the purpose of identifying whether excess air infiltration exists" because the phrase does not apply to temperature.

- 40 CFR 63.1960(a)(4)(i)(D). Clarified that if the LFG temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 °C (170 °F) and the CO concentration measured is greater than or equal to 1,000 ppmv, the owner or operator must

complete the corrective action(s) for the wellhead temperature standard (62.8 °C or 145 °F) within 15 days.

- 40 CFR 63.1960(e). Corrected reference from 40 CFR 63.1958(c) to 40 CFR 63.1958(e) to refer to SSM requirements.

- 40 CFR 63.1961(a)(5). Clarified that landfills with previously approved HOVs for temperature under various landfills subparts are not required to conduct enhanced monitoring.

- 40 CFR 63.1961(a)(5)(vii). Corrected reference from paragraph (a)(4) to (a)(5) to reference enhanced monitoring requirements.

- 40 CFR 63.1981(h)(1), (h)(1)(i), and (h)(1)(ii). Clarified that the semi-annual report must include the date, time, and duration of "each exceedance" of the applicable monitoring parameters, not "each failure."

- 40 CFR 63.1983(e)(2)(i). Corrected paragraph numbering to be (i), (ii), and (iii) instead of (i), (i), and (ii) and corrected cross-reference to the enhanced monitoring provisions in 40 CFR 63.1961(a)(5).

- 40 CFR 63.1990. Definition of controlled landfill. Clarified that the landfill is a controlled landfill when a collection and control system design plan is submitted in compliance with 40 CFR 60.752(b)(2)(i) or in compliance with 40 CFR 63.1959(b)(2)(i), regardless of whether that submittal is within 18 months after date of publication of the final rule in the **Federal Register**.

- Table 1 to subpart AAAA of part 63. Expanded to indicate which initial notifications apply before and which notifications apply after the date 18 months after publication of the final rule in the **Federal Register**. Added "Yes" entries for 40 CFR 63.6(i) and (j), and 40 CFR 63.10(a) to show applicability after the initial 18-month timeframe. Added a "No" entry for 40 CFR 63.10(c).

V. Summary of Cost, Environmental, and Economic Impacts and Additional Analyses Conducted

A. What are the affected facilities?

We anticipate that approximately 738 active or closed MSW landfills in the United States and territories will be affected by these final amendments in the year 2023. This number is based on all landfills that accepted waste after November 8, 1987, that have a design capacity of at least 2.5 million Mg and 2.5 million m³. In addition, this number reflects the subset of landfills meeting these two criteria with modeled emission estimates of 50 Mg/yr NMOC or greater that have installed controls on or before 2023. While the EPA

recognizes some uncertainty regarding which landfills have actually exceeded the emission threshold, given the allowance of sites to estimate emissions using Tiers 1, 2, or 3, and the site-specific nature of NMOC concentrations, the number of MSW landfills that are collocated with major sources and, therefore, also subject to control requirements under this rule is also unknown. Therefore, 738 is the best estimate of the affected sources.

B. What are the air quality impacts?

The final amendments are expected to have a minimal impact on air quality. While these amendments do not require stricter control requirements or work practice standards on landfills to comply with the proposed amendments, some landfills may find that the adjustments made to the oxygen, nitrogen, and temperature wellhead standards finalized herein provide enough operational flexibility to install, expand, and operate additional voluntary GCCS, which could reduce emissions. The other proposed revisions that affect testing, monitoring, recordkeeping, and reporting will ensure that the GCCS equipment continues to perform as expected and provide reliable data from each facility to be reported for compliance.

C. What are the cost impacts?

The EPA has estimated \$0 compliance costs for all new and existing sources affected by this final rule, beyond what is already required under the existing NESHAP and what is already included in the previously approved information collection activities contained in the existing NESHAP (Office of Management and Budget (OMB) control number 2060-0505), as described in section VI.C of this preamble. Furthermore, landfills accepting waste after November 8, 1987, must comply with the similar, yet, more stringent requirements of the 2016 NSPS or a plan implementing 40 CFR part 60, subpart Cf. Many of the changes in these amendments better align the NESHAP with the requirements of the NSPS and plans implementing subpart Cf. These changes simplify compliance, which in turn could reduce costs. For example, elimination of the wellhead operating standards for oxygen and nitrogen to match requirements in the NSPS will reduce the number of requests for HOVs, which in turn could decrease compliance costs.

The EPA maintains that final changes to enhanced monitoring for wellhead temperature are not estimated to incur a cost. The EPA is finalizing a temperature standard that is 14 °F

higher than the standard that currently exists in the baseline regulations in order to provide additional flexibility to controlled landfills. However, ultimately, the requirement in the final NESHAP remains to install and operate a well-designed and well-operated GCCS. The EPA is not requiring enhanced monitoring from all controlled landfills, but this option is being made available as a compliance flexibility to the population of wells that do not already have an approved HOV and for which temperature cannot be adjusted downward through routine GCCS adjustments. Based on feedback provided in public comments, over 6,000 HOV requests have been submitted and reviewed by regulatory agencies, and the enhanced monitoring requirements would not apply to any of the HOV requests that have received approval. Furthermore, the concern that the enhanced monitoring requirements would continue in perpetuity is unsubstantiated. First, landfills have up to 7 days to adjust the well to achieve a lower temperature before the enhanced monitoring requirements are triggered (40 CFR 63.1961(a)(5)(vii)). Second, the enhanced monitoring can stop once the well temperature drops back to 145 °F or less. The EPA did not receive any comments on the number of wells that are operating above 145 °F without an approved HOV, which would have helped the EPA quantify how many wells would be affected and the corresponding costs. Additionally, the EPA did not receive any data on how long the wells without an approved HOV typically exceed 145 °F. Given insufficient data on the number and length of each temperature exceedance to make an estimate, the EPA has not quantified any cost impacts for the enhanced monitoring.

The EPA also contends that many of the parameters required in the enhanced monitoring are also parameters that are required to obtain an approval of an HOV request under the baseline regulations and so these costs are not an incremental cost that is not otherwise happening outside of the NESHAP amendments. For example, the Ohio EPA already requires 6 months of historical data, narrative discussion of the visual evidence of fire, and CO measurements using appropriate laboratory techniques.⁶ Under the final amendments, the EPA anticipates that landfill operators will immediately implement corrective actions to lower

well temperatures, as well as immediately file appeals for HOVs for their wells, if appropriate. The EPA anticipates that processing requests for HOVs will be quicker because fewer requests are expected to be submitted due to the higher temperature standard and elimination of the oxygen and nitrogen standard.

The EPA also maintains that removal of the requirement to prepare an SSM plan and removal of the associated recordkeeping and reporting requirements will not result in additional costs for new or modified facilities, but instead result in a cost savings. Owners or operators will not incur the cost of preparing an SSM plan. To meet their obligation under 40 CFR 63.1955(c) to minimize emissions during collection or control system downtime, owners or operators are expected to rely on existing standard operating procedures and safety practices. The EPA expects that some landfills may incorporate automated controls that would shut down the gas mover system and valves in the event of detection of a collection or control system malfunction. Such systems are expected to have existing corresponding written or automated standard operating procedures and safety practices.

The recordkeeping and reporting requirements will not result in additional costs for new or modified facilities. The final work practice requirements mandate a shutdown of the gas mover system and all valves within the collection and control system within 1 hour of the collection or control system not operating and then require repair efforts to proceed in a way that keeps downtime to a minimum (40 CFR 63.1958(e)(1)(i)-(ii)). A landfill demonstrates compliance with these requirements via recordkeeping as specified in 40 CFR 63.1983(c)(6)-(7). The work practice requirement to record and report all instances of downtime will not result in an increased recordkeeping and reporting burden as compared to the 2003 NESHAP. Via cross-reference to the 1996 NSPS (40 CFR part 60, subpart WWW) to (40 CFR 63.1955(a)(1)), the 2003 NESHAP already required landfill owners to keep continuous records of the indication of flow to the control device, report periods when the control device was not operating for a period exceeding 1 hour. The records required by existing regulations serve as the records of system downtime.

Note that this work practice itself does not add incremental cost to new or modified landfills subject to the proposed regulation because this requirement already appears in the

⁶ Ohio EPA. *Guidance Document for Higher Operating Value Demonstrations*. <http://web.epa.state.oh.us/eBusinessCenter/Agency/DAPC/HOV%20Demonstration.doc>.

NESHAP as promulgated in 2003 at 40 CFR 63.1955(a)(1), which says affected landfills must comply with the requirements of the 1996 NSPS. 40 CFR 60.753(e) already requires owners or operators to shut down the gas mover system and close all valves in the collection and control system contributing to venting of the gas to the atmosphere within 1 hour.

Given that the costs for these enhanced monitoring requirements cannot be quantified, in addition to the fact that there are some cost savings previously documented to offset these costs,⁷ the EPA concludes that the final rule is best characterized as a no-cost action.

D. What are the economic impacts?

The economic impact analysis is designed to inform decision makers about the potential economic

consequences of a regulatory action. Because there are no costs associated with the final rule, no economic impacts are anticipated.

E. What are the benefits?

As stated in section V.B of this preamble, we were unable to quantify the specific emissions reductions associated with adjustments made to the oxygen and nitrogen wellhead operating standards, although this change has the potential to reduce emissions. Any reduction in HAP emissions would be expected to provide health benefits in the form of improved air quality and less exposure to potentially harmful chemicals.

F. What analysis of environmental justice did we conduct?

To examine the potential for any environmental justice issues that might

be associated with the MSW Landfills source category, we performed a demographic analysis, which is an assessment of risk to individual demographic groups of the populations living within 5 kilometers (km) and within 50 km of the facilities. In the analysis, we evaluated the distribution of HAP-related cancer and noncancer risk from the source category across different demographic groups within the populations living near facilities.⁸

The results of the demographic analysis are summarized in Table 3 of this preamble. These results, for various demographic groups, are based on the estimated risk from actual emissions levels for the population living within 50 km of the facilities.

TABLE 3—MSW LANDFILLS SOURCE CATEGORY DEMOGRAPHIC RISK ANALYSIS RESULTS

		Population with cancer risk greater than or equal to 1 in 1 million	Population with hazard index greater than 1
	Nationwide	Source category	
Total Population	317,746,049	18,217	0
	Race by Percent		
White	62	58	0
All Other Races	38	42	0
	Race by Percent		
African American	12	13	0
Native American	0.8	0.1	0
Hispanic or Latino (includes white and nonwhite)	18	20	0
Other and Multiracial	7	8	0
	Income by Percent		
Below Poverty Level	14	15	0
Above Poverty Level	86	85	0
	Education by Percent		
Over 25 and without a High School Diploma	14	17	0
Over 25 and with a High School Diploma	86	83	0
	Linguistically Isolated by Percent		
Linguistically Isolated	6	8	0

G. What analysis of children's environmental health did we conduct?

This action is not subject to Executive Order 13045 because it is not economically significant as defined in

Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk

assessments are summarized in section IV.A of this preamble and are further documented in the report, *Risk and Technology Review-Analysis of Demographic Factors for Populations*

⁷ U.S. EPA, *Cost Impacts of National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste (MSW) Landfills Risk and Technology Review*, May 20, 2019, Docket ID Item No. EPA-HQ-OAR-2002-0047-0081.

⁸ Demographic groups included in the analysis are: White, African American, Native American, other races and multiracial, Hispanic or Latino, children 17 years of age and under, adults 18 to 64 years of age, adults 65 years of age and over, adults

without a high school diploma, people living below the poverty level, people living two times above the poverty level, and linguistically isolated people.

Living Near Municipal Solid Waste Landfill Source Category Operations, available in the docket for this action.

VI. Incorporation by Reference

In accordance with the requirements of 1 CFR 51.5, we are finalizing regulatory text in 40 CFR 63.1961(a)(2)(ii) and (2)(iii)(B) that includes the IBR of ASTM D6522–11—Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers (Approved December 1, 2011), as an alternative for determining oxygen for wellhead standards in 40 CFR 63.1961(a)(2). For this test method, a gas sample is continuously extracted from a duct and conveyed to a portable analyzer for determination of nitrogen oxides, CO, and oxygen gas concentrations using electrochemical cells. Analyzer design specifications, performance specifications, and test procedures are provided to ensure reliable data. This method is an alternative to EPA methods and is consistent with the methods already allowed under the 2016 NSPS and EG (subparts XXX and Cf). The ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959. See <http://www.astm.org>. You may inspect a copy at the EPA Docket Center, WJC West Building, Room Number 3334, 1301 Constitution Ave. NW, Washington, DC; phone number: (202) 566–1744; Docket ID No. EPA–HQ–OAR–2019–0338. This IBR has been approved by the Office of the Federal Register and the method is federally enforceable under the CAA as of the effective date of this final rulemaking.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at <https://www.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the OMB for review.

B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

This action is considered an Executive Order 13771 deregulatory action. This final rule provides meaningful burden reduction by removing the requirements for SSM plans and periodic SSM reports, removing the oxygen and nitrogen wellhead operating standards, increasing the temperature wellhead standard, revising the corrective action timeline and procedures, providing flexibility for landfills to remove controls, and adding electronic reporting.

C. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2060–0505. The only burden associated with the final rule is limited to affected sources becoming familiar with the changes in the final rule. The burden for respondents to review rule requirements each year is already accounted for in the previously approved information collection activities contained in the existing regulations (40 CFR part 63, subpart AAAA), which were assigned OMB control number 2060–0505. Additionally, changes to 40 CFR part 60, subpart WWW, subpart XXX, and subpart Cf only add clarifying language for affected sources and provide alternatives for any deviations from the respective standards. These changes would not increase any burden for affected sources.

D. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden, or otherwise has a positive economic effect on the small entities subject to the rule. This action is projected to affect 738 MSW landfills, and approximately 60 of these facilities are owned by a small entity. The small entities subject to the requirements of this final rule may include private small business and small governmental jurisdictions that own or operate landfills, but the cost for complying

with the final amendments is expected to be \$0. We have, therefore, concluded that this action will have no net regulatory burden for all directly regulated small entities.

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. While state, local, or tribal governments own and operate landfills subject to these final amendments, the impacts resulting from this regulatory action are far below the applicable threshold.

F. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action has tribal implications. However, it will neither impose substantial direct compliance costs on federally recognized tribal governments, nor preempt tribal law. The database used to estimate impacts of these final amendments identified one tribe, the Salt River Pima-Maricopa Indian Community, that owns three landfills potentially subject to the NESHAP. Two of these landfills are already controlling emissions—the Salt River Landfill and the Tri Cities Landfill. Although the permits for these landfills indicate they are subject to this subpart, these final changes are not expected to increase the costs. The other landfill, North Center Street Landfill, is not estimated to install controls under the NESHAP. The EPA offered to consult with tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes in the process of developing this regulation to permit them to have meaningful and timely input into its development. A copy of the letter offering consultation is in the docket for this action.

H. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental

health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in sections III.A and IV.A of this preamble.

I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

J. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR part 51

This action involves technical standards. The EPA has decided to use voluntary consensus standards ASTM D6522-11, "Standard Test Method for the Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers," as an acceptable alternative to EPA Method 3A when used at the wellhead before combustion. It is advisable to know the flammability and check the lower explosive limit of the flue gas constituents prior to sampling, in order to avoid undesired ignition of the gas. The results of ASTM D6522-11 may be used to determine nitrogen oxides and CO emission concentrations from natural gas combustion at stationary sources. This test method may also be used to monitor emissions during short-term emission tests or periodically in order to optimize process operation for nitrogen oxides and CO control. The EPA's review is documented in the memorandum, *Voluntary Consensus Standard Results for National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills Residual Risk and Technology Review*, in the docket for this rulemaking (Docket ID No. EPA-HQ-OAR-2002-0047).

In this rule, the EPA is finalizing regulatory text for 40 CFR part 63, subpart AAAA that includes IBR in accordance with requirements of 1 CFR 51.5. Specifically, the EPA is incorporating by reference ASTM D6522-11. See section VI of this preamble for information on the availability of this material.

K. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action does not have disproportionately high and

adverse human health or environmental effects on minority populations, low-income populations, and/or indigenous peoples, as specified in Executive Order 12898 (58 FR 7629, February 16, 1994).

Our analysis of the demographics of the population with estimated risks greater than 1-in-1 million indicates potential disparities in risks between demographic groups, including the African American, Hispanic or Latino, Over 25 Without a High School Diploma, and Below the Poverty Level groups. In addition, the population living within 50 km of MSW landfills has a higher percentage of minority, lower income, and lower education people when compared to the nationwide percentages of those groups. However, acknowledging these potential disparities, the risks for the source category were determined to be acceptable, and any emissions reductions from the final revisions will benefit these groups the most.

The documentation for this decision is contained in section IV.B and C of this preamble, and the technical report, *Risk and Technology Review—Analysis of Demographic Factors for Populations Living Near Municipal Solid Waste Landfill Source Category Operations*, which is available in the docket for this action.

L. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: February 25, 2020.

Andrew R. Wheeler,
Administrator.

For the reasons set forth in the preamble, the EPA amends 40 CFR parts 60 and 63 as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart Cf—Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

■ 2. Section 60.34f is amended by revising the introductory text to read as follows:

§ 60.34f Operational standards for collection and control systems.

For approval, a state plan must include provisions for the operational standards in this section (as well as the provisions in §§ 60.36f and 60.37f), or the operational standards in § 63.1958 of this chapter (as well as the provisions in §§ 63.1960 of this chapter and 63.1961 of this chapter), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c). Once the owner or operator begins to comply with the provisions of § 63.1958 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this section. Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c) must:

* * * * *

■ 3. Section 60.36f is amended by revising the introductory text and paragraph (a)(3)(ii) to read as follows:

§ 60.36f Compliance provisions.

For approval, a state plan must include the compliance provisions in this section (as well as the provisions in §§ 60.34f and 60.37f), or the compliance provisions in § 63.1960 of this chapter (as well as the provisions in §§ 63.1958 of this chapter and 63.1961 of this chapter), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c). Once the owner or operator begins to comply with the provisions of § 63.1960 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this section.

(a) * * *
(3) * * *

(ii) If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) or positive pressure. The owner or operator must submit the items listed in § 60.38f(h)(7) as part of the next annual report. The owner or operator must keep records according to § 60.39f(c)(4).

* * * * *

■ 4. Section 60.37f is amended by revising the introductory text to read as follows:

§ 60.37f Monitoring of operations.

For approval, a state plan must include the monitoring provisions in this section, (as well as the provisions in §§ 60.34f and 60.36f) except as provided in § 60.38f(d)(2), or the monitoring provisions in § 63.1961 of this chapter (as well as the provisions in §§ 63.1958 of this chapter and 63.1960 of this chapter), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c). Once the owner or operator begins to comply with the provisions of § 63.1961 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this section.

* * * * *

■ 5. Section 60.38f is amended by revising paragraphs (h) introductory, (h)(7), and (k) introductory text and adding paragraph (n) to read as follows:

§ 60.38f Reporting guidelines.

* * * * *

(h) *Annual report.* The owner or operator of a landfill seeking to comply with § 60.33f(e)(2) using an active collection system designed in accordance with § 60.33f(b) must submit to the Administrator, following the procedures specified in paragraph (j)(2) of this section, an annual report of the recorded information in paragraphs (h)(1) through (7) of this section. The initial annual report must be submitted within 180 days of installation and startup of the collection and control system. The initial annual report must include the initial performance test

report required under § 60.8, as applicable, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX. In the initial annual report, the process unit(s) tested, the pollutant(s) tested and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. The initial performance test report must be submitted, following the procedure specified in paragraph (j)(1) of this section, no later than the date that the initial annual report is submitted. For enclosed combustion devices and flares, reportable exceedances are defined under § 60.39f(c)(1). If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at §§ 60.34f, 60.36f, and 60.37f, the owner or operator must follow the semi-annual reporting requirements in § 63.1981(h) of this chapter in lieu of this paragraph.

* * * * *

(7) For any corrective action analysis for which corrective actions are required in § 60.36f(a)(3) or (5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

* * * * *

(k) *Corrective action and the corresponding timeline.* The owner or operator must submit according to paragraphs (k)(1) and (2) of this section. If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at §§ 60.34f, 60.36f, and 60.37f, the owner or operator must follow the corrective action and the corresponding timeline reporting requirements in § 63.1981(j) of this chapter in lieu of paragraphs (k)(1) and (2) of this section.

* * * * *

(n) Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must submit the 24-hour high temperature report according to § 63.1981(k) of this chapter.

■ 6. Section 60.39f is amended by revising paragraph (e) introductory text and adding paragraph (e)(6) to read as follows:

§ 60.39f Recordkeeping guidelines.

* * * * *

(e) Except as provided in § 60.38f(d)(2), each owner or operator subject to the provisions of this subpart must keep for at least 5 years up-to-date, readily accessible records of the items in paragraphs (e)(1) through (5) of this section. Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must keep the records in paragraph (e)(6) of this section and must keep records according to § 63.1983(e)(1) through (5) of this chapter in lieu of paragraphs (e)(1) through (5) of this section.

* * * * *

(6) Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must keep records of the date upon which the owner or operator started complying with the provisions in §§ 63.1958, 63.1960, and 63.1961.

* * * * *

Subpart WWW—Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or after May 30, 1991, but Before July 18, 2014

■ 7. Section 60.750 is amended by revising paragraph (a) and adding paragraph (d) to read as follows:

§ 60.750 Applicability, designation of affected facility, and delegation of authority.

(a) The provisions of this subpart apply to each municipal solid waste landfill that commenced construction, reconstruction, or modification on or after May 30, 1991, but before July 18, 2014.

* * * * *

(d) An affected municipal solid waste landfill must continue to comply with this subpart until it:

(1) Becomes subject to the more stringent requirements in an approved and effective state or federal plan that implements subpart Cf of this part, or

(2) Modifies or reconstructs after July 17, 2014, and thus becomes subject to subpart XXX of this part.

Subpart XXX—Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014

■ 8. Section 60.762 is amended by revising paragraph (b)(2)(iv) to read as follows:

§ 60.762 Standards for air emissions from municipal solid waste landfills.

* * * * *

(b) * * *
(2) * * *

(iv) *Operation.* Operate the collection and control device installed to comply with this subpart in accordance with the provisions of §§ 60.763, 60.765, and 60.766; or the provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter. Once the owner or operator begins to comply with the provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of §§ 60.763, 60.765, and 60.766.

* * * * *

■ 9. Section 60.765 is amended by revising paragraph (a)(5)(ii) to read as follows:

§ 60.765 Compliance provisions.

(a) * * *
(5) * * *

(ii) If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) or positive pressure. The owner or operator must submit the items listed in § 60.767(g)(7) as part of the next annual report. The owner or operator must keep records according to § 60.768(e)(4).

* * * * *

■ 10. Section 60.767 is amended by revising paragraphs (g) introductory text, (g)(7), and (j) introductory text and adding paragraph (m) to read as follows:

§ 60.767 Reporting requirements.

* * * * *

(g) *Annual report.* The owner or operator of a landfill seeking to comply with § 60.762(b)(2) using an active collection system designed in

accordance with § 60.762(b)(2)(ii) must submit to the Administrator, following the procedure specified in paragraph (j)(2) of this section, annual reports of the recorded information in paragraphs (g)(1) through (7) of this section. The initial annual report must be submitted within 180 days of installation and startup of the collection and control system and must include the initial performance test report required under § 60.8, as applicable, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX. In the initial annual report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. For enclosed combustion devices and flares, reportable exceedances are defined under § 60.768(c). If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at § 60.762(b)(2)(iv), the owner or operator must follow the semi-annual reporting requirements in § 63.1981(h) of this chapter in lieu of this paragraph.

* * * * *

(7) For any corrective action analysis for which corrective actions are required in § 60.765(a)(3) or (5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

* * * * *

(j) *Corrective action and the corresponding timeline.* The owner or operator must submit according to paragraphs (j)(1) and (2) of this section. If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at § 60.762(b)(2)(iv), the owner or operator must follow the corrective action and the corresponding timeline requirements in § 63.1981(j) of this chapter in lieu of this paragraph.

* * * * *

(m) Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961, as allowed at § 60.762(b)(2)(iv), must submit the 24-hour high temperature report according to § 63.1981(k) of this chapter.

■ 11. Section 60.768 is amended by revising paragraph (e) introductory text and adding paragraph (e)(6) to read as follows:

§ 60.768 Recordkeeping requirements.

* * * * *

(e) Except as provided in § 60.767(c)(2), each owner or operator subject to the provisions of this subpart must keep for at least 5 years up-to-date, readily accessible records of the items in paragraphs (e)(1) through (5) of this section. Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at § 60.762(b)(2)(iv), must keep the records in paragraph (e)(6) of this section and must keep records according to §§ 63.1983(e)(1) through (5) of this chapter in lieu of paragraphs (e)(1) through (5) of this section.

* * * * *

(6) Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at § 60.762(b)(2)(iv), must keep records of the date upon which the owner or operator started complying with the provisions in §§ 63.1958, 63.1960, and 63.1961.

* * * * *

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 12. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 13. Section 63.14 is amended by revising paragraph (h)(94) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(h) * * *

(94) ASTM D6522–11 Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, Approved December 1, 2011, IBR approved for § 63.1961(a) and table 3 to subpart YYYY.

* * * * *

■ 14. Subpart AAAA is revised to read as follows:

Subpart AAAA—National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

What This Subpart Covers

Sec.

- 63.1930 What is the purpose of this subpart?
 63.1935 Am I subject to this subpart?
 63.1940 What is the affected source of this subpart?
 63.1945 When do I have to comply with this subpart?
 63.1947 When do I have to comply with this subpart if I own or operate a bioreactor?
 63.1950 When am I no longer required to comply with this subpart?
 63.1952 When am I no longer required to comply with the requirements of this subpart if I own or operate a bioreactor?

Standards

- 63.1955 What requirements must I meet?
 63.1957 Requirements for gas collection and control system installation and removal
 63.1958 Operational standards for collection and control systems
 63.1959 NMOC calculation procedures
 63.1960 Compliance provisions
 63.1961 Monitoring of operations
 63.1962 Specifications for active collection systems

General and Continuing Compliance Requirements

- 63.1964 How is compliance determined?
 63.1965 What is a deviation?
 63.1975 How do I calculate the 3-hour block average used to demonstrate compliance?

Notifications, Records, and Reports

- 63.1981 What reports must I submit?
 63.1982 What records and reports must I submit and keep for bioreactors or liquids addition other than leachate?
 63.1983 What records must I keep?

Other Requirements and Information

- 63.1985 Who enforces this subpart?
 63.1990 What definitions apply to this subpart?

Table 1 to Subpart AAAA of Part 63—Applicability of NESHAP General Provisions to Subpart AAAA

Subpart AAAA—National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

What This Subpart Covers

§ 63.1930 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills.

(a) Before September 28, 2021, all landfills described in § 63.1935 must meet the requirements of 40 CFR part 60, subpart WWW, or an approved state

or federal plan that implements 40 CFR part 60, subpart Cc, and requires timely control of bioreactors and additional reporting requirements. Landfills must also meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions as specified in Table 1 to Subpart AAAA of this part and must demonstrate compliance with the operating conditions by parameter monitoring results that are within the specified ranges. Specifically, landfills must meet the following requirements of this subpart that apply before September 28, 2021, as set out in: §§ 63.1955(a), 63.1955(b), 63.1965(a), 63.1965(c), 63.1975, 63.1981(a), 63.1981(b), and 63.1982, and the definitions of “Controlled landfill” and “Deviation” in § 63.1990.

(b) Beginning no later than September 27, 2021, all landfills described in § 63.1935 must meet the requirements of this subpart. A landfill may choose to meet the requirements of this subpart rather than the requirements identified in § 63.1930(a) at any time before September 27, 2021. The requirements of this subpart apply at all times, including during periods of SSM, and the SSM requirements of the General Provisions of this part do not apply.

§ 63.1935 Am I subject to this subpart?

You are subject to this subpart if you meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate an MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in § 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in § 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to § 63.1959.

(b) You are subject to this subpart if you own or operate an MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition, that includes a bioreactor, as defined in § 63.1990, and that meets any one of the criteria in paragraphs (b)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in § 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in § 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and that is not permanently closed as of January 16, 2003.

§ 63.1940 What is the affected source of this subpart?

(a) An affected source of this subpart is an MSW landfill, as defined in § 63.1990, that meets the criteria in § 63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.

(b) A new affected source of this subpart is an affected source that commenced construction or reconstruction after November 7, 2000. An affected source is reconstructed if it meets the definition of reconstruction in § 63.2 of subpart A.

(c) An affected source of this subpart is existing if it is not new.

§ 63.1945 When do I have to comply with this subpart?

(a) If your landfill is a new affected source, you must comply with this subpart by January 16, 2003, or at the time you begin operating, whichever is later.

(b) If your landfill is an existing affected source, you must comply with this subpart by January 16, 2004.

§ 63.1947 When do I have to comply with this subpart if I own or operate a bioreactor?

You must comply with this subpart by the dates specified in § 63.1945(a) or (b). If you own or operate a bioreactor located at a landfill that is not permanently closed as of January 16, 2003, and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³, then you must install and operate a collection and control system that meets the criteria in § 63.1959(b)(2) according to the schedule specified in paragraph (a), (b), or (c) of this section.

(a) If your bioreactor is at a new affected source, then you must meet the requirements in paragraphs (a)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose

to begin gas collection and control system operation 180 days after achieving a 40-percent moisture content instead of 180 days after liquids addition, use the procedures in §§ 63.1982(c) and (d) to determine when the bioreactor moisture content reaches 40 percent.

(b) If your bioreactor is at an existing affected source, then you must install and begin operating the gas collection and control system for the bioreactor by January 17, 2006, or by the date your bioreactor is required to install a gas collection and control system under 40 CFR part 60, subpart WWW; a federal plan; or an EPA-approved and effective state plan or tribal plan that applies to your landfill, whichever is earlier.

(c) If your bioreactor is at an existing affected source and you do not initiate liquids addition to your bioreactor until later than January 17, 2006, then you must meet the requirements in paragraphs (c)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40-percent moisture content instead of 180 days after liquids addition, use the procedures in § 63.1980(e) and (f) to determine when the bioreactor moisture content reaches 40 percent.

§ 63.1950 When am I no longer required to comply with this subpart?

You are no longer required to comply with the requirements of this subpart when your landfill meets the collection and control system removal criteria in § 63.1957(b).

§ 63.1952 When am I no longer required to comply with the requirements of this subpart if I own or operate a bioreactor?

If you own or operate a landfill that includes a bioreactor, you are no longer required to comply with the requirements of this subpart for the bioreactor provided you meet the conditions of either paragraph (a) or (b) of this section.

(a) Your affected source meets the control system removal criteria in § 63.1950 or the bioreactor meets the criteria for a nonproductive area of the landfill in § 63.1962(a)(3)(ii).

(b) The bioreactor portion of the landfill is a closed landfill as defined in § 63.1990, you have permanently ceased

adding liquids to the bioreactor, and you have not added liquids to the bioreactor for at least 1 year. A closure report for the bioreactor must be submitted to the Administrator as provided in § 63.1981(g).

Standards

§ 63.1955 What requirements must I meet?

(a) Before September 28, 2021, if alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions have already been approved under 40 CFR part 60, subpart WWW; subpart XXX; a federal plan; or an EPA-approved and effective state or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the SSM requirements in subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in § 63.1981(h), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3-hour monitoring block average. Beginning no later than September 28, 2021, the collection and control system design plan may include for approval collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions, as provided in § 63.1981(d)(2).

(b) If you own or operate a bioreactor that is located at an MSW landfill that is not permanently closed and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³, then you must meet the requirements of this subpart, including requirements in paragraphs (b)(1) and (2) of this section.

(1) You must comply with this subpart starting on the date you are required to install the gas collection and control system.

(2) You must extend the collection and control system into each new cell or area of the bioreactor prior to initiating liquids addition in that area.

(c) At all times, beginning no later than September 27, 2021, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty

to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if the requirements of this subpart have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

§ 63.1957 Requirements for gas collection and control system installation and removal.

(a) *Operation.* Operate the collection and control device in accordance with the provisions of §§ 63.1958, 63.1960, and 63.1961.

(b) *Removal criteria.* The collection and control system may be capped, removed, or decommissioned if the following criteria are met:

(1) The landfill is a closed landfill (as defined in § 63.1990). A closure report must be submitted to the Administrator as provided in § 63.1981(f);

(2) The gas collection and control system has been in operation a minimum of 15 years or the landfill owner or operator demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flow; and

(3) Following the procedures specified in § 63.1959(c), the calculated NMOC emission rate at the landfill is less than 50 Mg/yr on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.

§ 63.1958 Operational standards for collection and control systems.

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of § 63.1957 must:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade;

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

(1) A fire or increased well temperature. The owner or operator must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the semi-annual reports as provided in § 63.1981(h);