

SCS TECHNICAL BULLETIN

FEDERAL PLAN FOR LANDFILL EG RULE

May 24, 2021

Background

On May 21, 2021, the U.S. Environmental Protection Agency (EPA) published a Federal Plan to implement the new Emission Guideline (EG) rule for municipal solid waste (MSW) landfills. The Federal Plan is published under Title 40 of the Code of Federal Regulations (CFR) Part 62, Subpart 000.

Published in August 2016 under 40 CFR 60 Subpart Cf, the EG rule applies to existing landfills (landfills that have accepted waste since November 8, 1987 and that have not been modified or reconstructed since July 17, 2014). The EG rule essentially replaces the existing rule under the New Source Performance Standards (NSPS) of Subpart WWW and the EG of Subpart Cc. The EG rule requires states or local agencies to submit individual plans to implement the EG rule to the EPA for approval. Landfills in states or Indian country without approved plans are subject to the Federal Plan. Once a state/tribal plan is approved by the EPA and becomes effective, landfills covered by that plan are no longer subject to the Federal Plan. SCS is tracking the status of each state, tribal, and local agency plan. The Federal Plan includes all requirements of the Subpart Cf rule, with some key clarifications on compliance schedule (as detailed below).

Federal Plan Brief

The Federal Plan becomes effective on June 21, 2021. Note that the Federal Plan is administered by the EPA and not individual state agencies.

Requirements for “Legacy Controlled Landfills”.

In the Federal Plan, EPA has defined “legacy controlled landfills” as those landfills that have already submitted a gas collection and control system (GCCS) design plan as required by NSPS Subpart WWW or EG Subparts Cc or GGG. No additional initial submittals are required for these landfills. However, these landfills **must comply with the Federal Plan requirements by June 21, 2021**. Landfills still within the 30-month window for initially triggering GCCS requirements under Subparts WWW, Cc, or GGG may use the remaining amount of the full 30 months to complete GCCS installation.

Initial Submittal Requirements. If a landfill is not a “legacy controlled landfill” as described above, an initial design capacity report is due to the EPA by September 20, 2021. For landfills with a design capacity of at least 2.5 million Mg and 2.5 million m³, an initial non-methane organic compound (NMOC) emission rate report is also due to the EPA by September 20, 2021.

Reduced NMOC Threshold for GCCS Installation and Operation. The Federal Plan reduces the threshold that triggers the requirements to install and operate a GCCS from 50 Mg/yr to 34 Mg/yr, with one exception. Existing, closed landfills, defined in the rule under the closed landfill subcategory (sites that were closed by September 29, 2017), will be allowed to continue using the 50 Mg/yr threshold. Landfills with emissions above the threshold trigger requirements to install and operate a GCCS, although there are a few “tiered” levels of refinement that may be used to revise emission rates.

Landfills subject to the GCCS requirements must follow the below timeline and report increments of progress towards regulatory deadlines (the timeline begins upon submittal of the triggering NMOC report). Note that the EPA will review alternate timelines if submitted with the GCCS Design Plan.

1. Within 12 months of submittal, submit a GCCS design plan.
2. Within 20 months, award contract or submit orders for GCCS components.
3. Within 24 months, begin construction of the GCCS.
4. Within 30 months, complete GCCS construction/installation and begin compliance with control requirements.

State Plans Supersede Federal Plan. Once EPA approves a state/tribal plan and it becomes effective, that plan will supersede the Federal Plan in that jurisdiction. Note that state/tribal plans may contain additional requirements beyond the minimum required by the EG or require different increments of progress.

Key Components of the EG Rule

The new EG rule and Federal Plan (Subpart Cf and Subpart OOO) essentially mirror the current NSPS rules under Subpart XXX, which are currently in effect for new landfills (new or expanded since July 17, 2014). In addition to the reduced NMOC threshold, other key areas of the rules include:

LFG Treatment The definition of LFG treatment remains unchanged (filtration, dewatering and compression), with an additional notation on beneficial use. However, the rules include an additional requirement for each regulated landfill to develop a treatment system monitoring plan to address treatment criteria.

Surface Monitoring. All penetrations to the landfill cover must now be monitored during each quarterly surface emission monitoring (SEM) event. This is in addition to monitoring of the required serpentine path across the landfill surface, the path around the perimeter of the landfill, and for areas where visual observations suggest a potential leak. EPA has provided some

guidance as to what is and is not a penetration (LFG wellheads are penetrations while, for example, fence posts are not) but no actual definition is provided. Additionally, coordinates must be recorded for each exceedance location within +/- 4 meter accuracy.

Tier 4. A new Tier 4 methodology has been included to assess whether a GCCS is required once NMOC emissions exceed 34 Mg/year (but are less than 50 Mg/year). The procedure includes four quarters of SEM with no exceedance of the 500 parts per million by volume (ppmv) threshold for methane and then quarterly SEM for active sites and annual SEM for closed sites after the initial monitoring period. Monitoring under Tier 4 must be conducted during specific wind conditions (or otherwise use a wind barrier) and wind speed monitoring is required during the events. Use of the Tier 4 methodology requires notification of dates of proposed testing and annual reports of results. Although this could help low gas-producing landfills, the stringent requirements and small NMOC emission rate window (≥ 34 Mg/yr; < 50 Mg/yr) may limit its use and value.

Wellhead Criteria and Corrective Actions. EPA has removed the wellhead threshold criterion for oxygen. Oxygen monitoring is still required monthly, but no limits or exceedances will exist. Maintaining negative pressure and a temperature of less than 131 °F are still requirements, as they were in the previous EG rules. If an exceedance cannot be corrected within 15 days, a root cause analysis must be conducted, and the exceedance remediated within 60 days. If not completed by 60 days, then the landfill must conduct a corrective action analysis and develop an implementation schedule for completion of corrective action by 120 days. If longer than 120 days is necessary, then Administrator approval is required, and the landfill must submit the root cause/corrective action analyses and schedule within 75 days.

Criteria for Removing GCCS. For removal/decommissioning of the GCCS, the following three criteria must be met: (1) must be a closed landfill; (2) GCCS must have operated for 15 years or landfill must demonstrate that the GCCS could not operate for 15 years due to

declining flow; and (3) the calculated NMOC emission rate at the landfill is less than 34 Mg/yr on three consecutive test dates (50 Mg/yr for the closed landfill subcategory).

Removal of the Startup, Shutdown, and Malfunction (SSM) Exemption. The rules will now apply at all times, including during SSM events. This removes the SSM “exemption” that was contained within the previous EG rules and allowed landfills to avoid non-compliance during SSM events. However, now a work practice standard applies during SSM events. During such events, owners or operators must shut down the gas mover system and close all valves in the GCCS, which could contribute to the potential venting of the gas to the atmosphere, within one hour. The new rules also have specific criteria for managing SSM events for monitoring equipment used for rule compliance. Additionally, all periods of control device and treatment system downtime must be reported, not just those exceeding 1 hour.

Note that SSM reporting and recordkeeping may still be required under the separate NESHAP program of 40 CFR 63 Subpart AAAAA until September 28, 2021.

Other Issues Addressed

GCCS Design Plans must be updated under two situations: (1) within 90 days after expansion of the GCCS into a new area or (2) if changes made to the GCCS were not consistent with the current plan. Under the Federal Plan, landfills must notify the EPA when a Design Plan has been completed and submit the signature page, stamped by a professional engineer. The EPA will then have 90 days to request a full copy of the plan be submitted for review. If they don’t, then the plan can be implemented, and no submittal is required, although the landfill owner remains “at risk” and responsible for developing a fully compliant Design Plan. If submittal is requested, then the landfill is bound by requirements for working with the agency to get the plan approved and then complying with it.

Electronic Reporting will be required for performance test reports, NMOC emission rate reports, annual reports, Tier 4 reports, and wet

landfilling practices through the EPA’s Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI), once templates are available. Electronic copies of the records may be maintained in lieu of hard copies.

EPA Method 25A is included in the rule for testing low NMOC concentrations on the control device outlet, but EPA Method 18 is only allowed if used in conjunction with Method 25A.

Waste Definitions. EPA has clarified the definitions of “household waste” and “segregated yard waste” so that landfills that take these materials are not defined as MSW landfills under the rules unless they also accept other materials classified as MSW.

Wet Landfills. Landfills that recirculate leachate or accept liquid wastes (or have done so in the past 10 years) are subject to additional recordkeeping and annual reporting requirements.

Portable Meters. EPA has explicitly allowed the use of portable meters for compliance with EPA Methods 3A and 3C (nitrogen and oxygen).

Low-Producing Areas. EPA still requires that low-producing areas must be generating less than 1% of the NMOC emissions compared to the landfill as a whole before they can be removed from the gas collection and monitoring requirements. However, the Federal Plan allows the option to use actual gas flow data in lieu of the LFG generation model for estimating NMOC emissions from these areas.

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