

SCS TECHNICAL BULLETIN

COLORADO AQCC REGULATION 31 – CONTROL OF METHANE EMISSIONS FROM MUNICIPAL SOLID WASTE LANDFILLS

January 15, 2026

On December 18, 2025, the Air Quality Control Commission (AQCC) approved Regulation 31, developed by the Air Pollution Control District (APCD) within the Colorado Department of Public Health and Environment (CDPHE).

History and Rule Overview

Colorado's Greenhouse Gas (GHG) Roadmap 2.0, released in February 2024, set goals for certain industries across the state to reduce GHG emissions by 26% by 2025, 50% by 2030, and 100% by 2050. The solid waste industry was targeted in this GHG Roadmap and was instructed to "develop AQCC regulations directing enhanced monitoring, reporting, and capture requirements at landfills across the state."

While the roadmap directed the AQCC to develop regulations that are "modest, relatively simple policy changes, such as clarifying permitting or expanding existing capture requirements, [...] allowing private actors to more easily undertake reduction projects or through expanding measures already being undertaken at the local level," Regulation 31 is one of the most stringent landfill regulations in the United States. It is the most significant change to landfill regulations regarding methane in Colorado in decades.

This rulemaking process began in August 2024 with a small technical working group and culminated in a draft rule on April 2, 2025. This draft rule was discussed during an AQCC rulemaking hearing in August 2025, rewritten and revised in the following months, and adopted as the final rule on December 18, 2025. The Landfill Methane Rule (LMR) is set to go into effect on February 14, 2026.

Applicability

Applicability criteria of Regulation 31 are included in Part A, Section II of the LMR, and the LMR applies to all landfills in the state other than landfills that fall under the following exemptions:

- Resource Conservation and Recovery Act (RCRA) hazardous waste sites.
- Construction and Demolition (C&D) sites.
- Sites that stopped receiving waste before November 8, 1987.
- Sites closed before October 31, 1993, have less than 450,000 short tons of waste in place, and do not already have a Gas Collection and Control System (GCCS).

Landfills owned by municipalities or county governments that have less than 8 million short tons of waste in place do not have to comply with these regulations until 3 years after they take effect.

Privately owned or operated landfills must comply with these regulations immediately following the February 14, 2026, effective date.

Any third-party entities that receive or purchase landfill gas are responsible for complying with the LMR regulations included.

Waste-In-Place and Methane Generation Rate Reporting

This LMR rule increases the required reporting across almost all compliance areas and builds on federal requirements.

In addition to these reporting requirements, all landfills are required to submit a yearly Waste-In-Place Report (WIPR) by March 31st each year (June 30th for the 2026 year).

- If the landfill has less than 450,000 short tons of waste in place, the site must continue submitting yearly WIPRs.
- If the landfill has more than 450,000 short tons of waste in place, a Methane Generation Rate Report (MGRR) is required to be submitted.

Once 450,000 short tons of waste in place has been reached, a MGRR must be submitted within 90 days (June 30th for the 2026 year).

- For Inactive or Closed Sites:
 - <664 metric tons (732 tons): no further MGRR required and no GCCS required.
 - >664 metric tons (732 tons): surface emission monitoring (SEM) or Tier 2 required to evaluate if a GCCS is needed. Biofilter can be installed in place of a GCCS if requested/approved.
- For Active Sites:
 - <664 metric tons (732 tons): continue to submit yearly MGRR by March 31st.
 - >664 < 1814 (>732 < 2000): must either:
 - Install a GCCS;
 - Perform a Tier 2; or
 - Perform quarterly SEM.
 - >1814 (2000): must either:
 - Install a GCCS; or
 - Perform a Tier 2.

Tier 2 and Surface Emission Monitoring Requirements

Once a landfill has exceeded the 664 metric tons or 732 tons on its MGRR, a Tier 2 can be performed to evaluate the average methane concentration, or a quarterly SEM can be performed. Each landfill has the opportunity to fail both quarterly SEMs and a Tier 2 before a GCCS installation is completely required. The order in which Tier 2s and quarterly SEMs are performed is at the landfill's discretion.

This Tier 2 testing must be performed within 180 days of the MGRR exceedance.

- <30% average methane concentration: complete another Tier 2 evaluation no later

than 36 months after the first Tier 2 until >30% average methane concentration is reached or the site closes.

- >30% average methane concentration: install a GCCS or start performing quarterly SEMs.

Quarterly SEMs must be started within 90 days of the MGRR exceedance. Three types of emission monitoring events must be performed quarterly.

- Instantaneous Monitoring (25-foot spacing)
- Integrated Monitoring (50,000 sqft grids)
- Component Leak Monitoring

Each quarterly monitoring event date must be submitted to the Division at least 15 days prior, and a monitoring demonstration report must be filed within 30 days after the event has been completed.

Must follow U.S. Environmental Protection Agency (USEPA) Method 21 or Other Test Method 51 (OTM-51). Alternative monitoring methods are allowed if approved by CDPHE.

Exceedances are as follows:

- Instantaneous: 500 parts per million (ppm), anything above 200 ppm must be recorded.
- Integrated: 25 ppm.
- Component: 500 ppm.

Once an exceedance is located, the following must be completed:

- Location to be marked and recorded via GPS.
- Remediation of exceedance to be initiated by five days and completed by ten days after initial exceedance.
- Re-monitor ten days after initial exceedance.
 - If remediated, re-monitor once more one month after the first re-monitor.
 - If not remediated, one additional remediation effort can be performed.
 - If remediated, re-monitor once more one month after the first re-monitor.
 - If the second remediation effort does not work, GCCS must be installed or Tier 2 performed.

The serpentine path across the landfill for all monitoring must be spaced at no more than 25 feet. If four consecutive monitoring events have

found no exceedances, the monitoring path spacing can be increased to 100-foot spacing. If an exceedance is found, the spacing must be returned to 25 feet.

Three conditions constitute a failure of the quarterly SEMs, and a Tier 2 must be performed, or a GCCS must be installed.

- If, after the initial exceedance is found, two more attempts to remediate the exceedance have not been successful.
- If any quarterly monitoring events locate five or more integrated grids with exceedances.
- If four consecutive quarterly monitoring events have located exceedances (either on integrated or instantaneous monitoring).

GCCS Design and Installation

Once a GCCS must be installed (whether due to >2000 tons from MGRR, failed Tier 2, or failed SEMs), an Engineering Design Plan (EDP) must be submitted to meet the new requirements listed in Part C, Section 1, within 12 months of this date. These new requirements are extensive and include substantial analysis, engineering design, and planning for each landfill. Alongside the EDP, all air permit applications must be submitted no later than the EDP submittal.

Once an updated or new EDP is submitted to CDPHE, the Division has 90 days to either approve, deny, or request further information. If this is not completed within 90 days, the landfill may continue to implement the design, with the understanding that the Division may later request changes that require modifications or removal of some systems.

After the EDP is submitted, closed sites have 24 months to design, install, and start operating a GCCS. Active sites have 18 months from the date of the EDP submittal.

This new LMR requires continuous expansion of the GCCS based on the landfill size.

- <300,000 short tons accepted per year: GCCS must be installed in any areas with waste placement over 36 months old.
- >300,000 short tons accepted per year: GCCS must be installed in any areas with waste placement over 24 months old.

Once GCCS has been installed in these 24/36-month areas, the wells will be monitored monthly until a methane concentration of >30% is reached for two consecutive months. The well must be operational within 30 days of this second reading.

GCCS Well Monitoring

Monthly monitoring to be completed using industry-standard methods. All wells must be monitored except for the following instances:

- Methane <30%.
- Geosynthetic cover installed in the area.
- Decommissioned well.
- Inaccessible.
- A fire or increased temperature in a well.
- During well raising activities.
- During construction, maintenance, repair, or expansion events.

Well Temperature Standards:

- Standard Landfill Temperature: >131°F
- National Emission Standards for Hazardous Air Pollutants (NESHAP) Landfill Temperature: > 145°F

If well temperatures exceed these standards, a request to operate these high-temperature wells to the Division must be submitted. This submittal must include justifications for operating at these high temperatures and supporting data demonstrating that these temperatures will not cause a fire or inhibit methanogenesis.

New Flare Standards

All landfills must install and operate enclosed flares with at least 99% methane destruction efficiency by January 1, 2029. Currently installed and newly installed open/candlestick flares must meet the requirements set in Part C, Section II.B, or must apply and receive written approval from the Division to continue operating open/candlestick flares.

The following conditions are the only allowed instances to submit a request for continued open/candlestick flares use:

- Site must be able to prove that the GCCS flow rate and methane concentration are too low to continuously burn landfill gas without

supplemental fuel in an enclosed flare. The site must also be able to prove that no other GCCS devices can operate under these site conditions except for an open flare.

- An open flare is utilized as a backup or secondary system to another system (landfill-to-energy)
- An open flare is utilized during the repair or maintenance of a GCCS where an enclosed flare is being installed or offline. The maximum continuous use is 7 days under these conditions.
- An open flare can continue to operate for no more than ten years after its installation date ONLY if it was installed between January 1, 2020, and January 1, 2025.

Performance testing of all enclosed flares must be completed within 180 days of their installation and operation. Annual Performance Testing of all enclosed flares is required to be performed yearly and no later than 45 days from the previous year's Performance Test date. If three consecutive Performance Tests demonstrate compliance with the requirements, testing can be conducted every three years instead of annually.

Cover Requirements

Every active landfill with a GCCS must install a biocover on new intermediate cover installed on or after July 1, 2026, or on any soil in place for more than 180 days. Sites can also install 18 inches of suitable soil instead of biocover for this requirement.

Every landfill (active or inactive) that has over 450,000 short tons of waste in place must implement a Cover Integrity Program (CIP) for its site. This CIP must be created by either 90 days after the WIP exceedance or by July 1, 2026. This includes monthly maintenance and repairs of the cover to reduce potential emissions.

New Landfill Closure Procedures

New closure procedures are included in this LMR. Some of these include:

- Specific requirements that need to be reached to turn off and decommission GCCS for closed sites.
- Options for semicontinuous flare operations.
- Options to switch from enclosed to open/candlestick flares after closure.
- Biofilter installation on all closed sites.

Recordkeeping and Reporting

- Overall reporting requirements and recordkeeping of materials for each site have been heavily increased on all fronts.
- Keep all records related to LMR compliance for five years.
- A large amount of additional data is required for monthly, quarterly, and annual compliance reporting.
- Division as-builts, capacity calculations, design plans, and a large amount of other files to be continuously updated and made available to the Division at any time.

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