



OPAL Fuels LLC
5087 Junction Road
Lockport, New York 14094
Tel. (716) 439-1004 Fax. (716) 439-0135

November 10, 2025

Clerk of the Board
California Air Resource Board (CARB)
1001 I Street

To Whom It May Concern:

On September 26, 2025, the California Air Resources Board (CARB) opened the public comment period on the “Proposed Amendments to the Regulation on Methane Emissions from Municipal Solid Waste (MSW) Landfills,” also known as the California Landfill Methane Rule (LMR). This regulation is contained within 17 Code of California Regulations (CCR), Subarticle 6. Comments are due on November 10, 2025, allowing for a 45-day comment period on the regulation.

OPAL Fuels is a Renewable Energy company that produces renewable natural gas and renewable energy through the collection and processing of landfill gas. In many instances, OPAL Fuels is responsible for operation and maintenance of the gas collection and control system at the landfill. Our organization fully recognizes the need to update the LMR to incorporate proven new technologies as well as the necessity for enhanced predictive monitoring and data capture. While our organization is supportive of these goals, they need to be achieved in a manner that allows facility owners to safely and efficiently manage their operations.

OPAL Fuels has conducted a cursory review of the proposed regulatory changes, and initial comments are noted below. In addition, since the proposed changes and additions are significant and will have a large financial and operational impact on landfills throughout California, we do not believe that 45 days is sufficient time to fully address all concerns from the proposed amendments. Therefore, we request that the public comment period be extended through January 31, 2026.

OPAL Comments

1. Exhaust Monitoring for Engines or Turbines

Section 95464(b)(3) of the draft rule requires oxygen or methane monitoring in the exhaust of engines and turbines. This is presumably to demonstrate that those devices are continually meeting methane destruction requirements. Oxygen and methane may not be the only relevant parameters that could be used to determine the efficiency of combustion that will

ensure methane destruction. The rule should allow any parameter recommended by the manufacturer as a means to demonstrate adequate combustion efficiency ensuring methane destruction.

2. Conversion from Celsius to Fahrenheit

In multiple places in the rule, CARB continues to make an error in converting 28 degrees Celsius to Fahrenheit. Since the temperature requirement is based on a change or drop in temperature of 28 C (not an absolute 28 C), then this equates to 82 F not 50 F. This was a mistake in the original federal LFG rules that the U.S. Environmental Protection Agency (EPA) later corrected, but CARB has not. This mathematical error should be corrected.

3. SEM Requirements for Inactive Landfill or Areas

We recommend that there should be no changes made to the inactive landfill/area SEM requirements, as CARB has not provided an adequate basis to justify this change.

4. Wellhead Requirements

The draft rule includes new wellhead temperature and oxygen monitoring, limits, and corrective action requirements, including enhanced monitoring, and includes an extensive revision to the current rule, which has no wellhead temperature or oxygen requirements.

Intermittent high temperature readings may occur sporadically at any facility and data suggests that it is a common occurrence. U.S. EPA studied the wellhead temperature issue during the rulemaking for the NESHAP rule and elected to establish a 145 F wellhead temperature limit. This limit is intended to replace the 131 F limits found in earlier New Source Performance Standard (NSPS) and Emission Guideline (EG) rules. As such, we request that CARB change the proposed rule such that wellhead temperatures of 131 F do not require any corrective action. Only at 145 F should corrective action be triggered.

The current draft of the revised LMR would appear to require an operator to initiate corrective actions, cover integrity assessments and collection system assessments immediately following the occurrence of single elevated temperature reading (i.e., greater than 131 F and 145 F as noted in Section 95464(e)(3) and (4)). We would suggest that all follow-on actions be required only if an elevated temperature reading occurs consistently over 60 days for any temperature threshold versus detection with a single reading. This would essentially encompass three (3) monthly readings and initiation of follow-up actions would be based on gathering of some statistically significant data.

Similarly, it is very common for landfills to have wells with oxygen over 5%. For example, it is very common for perimeter wells used for gas migration control; surface collectors, such as horizontal wells; and wells installed in low gas production areas (e.g., newer waste areas, older waste areas with declining gas production, areas with large quantities of non-degradable waste, very dry climate landfills, etc.) to have elevated oxygen. This is a normal occurrence and does not represent an operational or design issue.

Oxygen limits were removed from the original NSPS in subsequent rule revisions by U.S. EPA because it was demonstrated that adjusting wells to artificially meet an arbitrary 5% oxygen standard did not reduce the number or frequency of subsurface landfill fires but did result in a reduction in LFG recovery and an increase in surface emissions and subsurface gas migration. This is because wells are arbitrarily tuned down to reduce oxygen levels, which reduces their ability to extract gas. As such, we request that the specific oxygen limits be removed from the rule; instead, like the federal NSPS and NESHAPs rules, oxygen would be monitored monthly and used as a parameter in well adjustments, but without the arbitrary limit.

Additionally, the time frames in which remediation of an elevated temperature or oxygen content reading is to be addressed should be re-assessed. While some elevated readings can be mitigated in a short period of time, others may take an extended period due to location, access issues at certain times of the year and subcontractor availability. The regulation does not allow for the request for additional time in the event of a single temperature reading that exceeds 131 F (either instantaneous or over a 60-day period) if that threshold is kept in the rule. It is allowed for temperature readings above 145 F (Section 95464(e)(4)D). Our request is that provisions to request additional time be added in text referencing corrective actions related to an exceedance of the 131 F temperature threshold. While the provisions contained within Section 95468 – Alternative Compliance Options would appear to allow for this request, we believe a specific reference such as the text included for corrective actions associated with temperatures above 145 F should be included in Section 95464(e)(3), as our experience has been recently that districts and CARB are rejected all requests for alternatives.

It is also important to note that the balance between oxygen, carbon monoxide content and temperature (and other variables) is such that attempting to mitigate one variable could cause the other to move in a negative direction. As such, mitigating all the parameters being considered within the 60-calendar day period noted above may not be practical or achievable. To that end, we request that an operator be given the opportunity to provide an alternative compliance approach to a specific situation versus being bound to mitigate the situation in its entirety within a 60-calendar day period.

5. Unsafe to Walk Areas

Under the current rule, unsafe to walk areas are exempt from monitoring for the period of time that they remain “dangerous.” Under the proposed rule (Sections 95469(a), 95471(d), and 95475(a)(40)), these areas are only exempt from standard SEM if they are unsafe to walk during the entire quarterly period of monitoring. And even if this requirement is met, the area is still required to be monitored by alternative means as described in (Sections 95469(a)).

Due to limitations related to safety, access, and availability of technology, which may prevent these screening technologies from being deployed in the same quarter when an area was unsafe. As such, we request that the rule provide an allowance that based on site

conditions and/or availability, that a landfill be allowed to monitor an unsafe to walk area when it is not a safety risk, as long as all reasonable efforts were made to conduct screening safely in the same quarter.

6. Remote Plume Monitoring

The draft rule adds a completely new requirement for Remotely Detected Emission Plumes (Sections 95469(b)(2)-(4)). Previously, CARB had been requesting that landfills conduct this assessment on a voluntary basis. The new rule would make this a requirement. In general, we request that this remains a voluntary task.

7. Wellhead Trend Analysis

Section 95469[e](7) of the draft rule now includes a requirement for a monthly Wellhead Parameter Trend Analysis, whereby the owner shall examine monthly records for each well and take several actions dependent on results.

The values prescribed in this rule section seem particularly arbitrary with no scientific basis as to why these specific values were selected, how it was determined that those values are relevant to proper wellfield operations and maintenance (O&M), and how these prescriptive numbers will improve compliance.

We do not think short-term changes in these parameters should be counted toward the triggering criteria in this rule as long as they can be corrected on the same day of the exceedance with a simple valve adjustment. Also, wells that are under corrective action for other wellhead parameters should also not be subject to the thresholds in this section, as it is very common that adjustments to address one parameter can affect others.

8. Additional SEM Requirements

Under Section 95469(a), CARB has made various components of the SEM requirements more stringent. This includes:

- Only allowing active areas to be exempt from monitoring for 180 days once first waste is accepted there.
- Shortened the period to begin correction action to three days.
- Adding additional criteria and tight timeline for seeking alternative remedies for SEM exceedances beyond new or replacement gas wells.
- Adding additional requirements for Recurring SEM exceedances areas as detailed below:

Recurring Surface Exceedances (95469(a)(4)): The owner or operator of a MSW landfill that experiences either five initial (i.e., not including re-monitoring) instantaneous exceedances or three initial integrated exceedances within a single grid over a rolling 12 month period, including exceedances detected during monitoring pursuant to section 95469(a)(1) and (2) and compliance inspections, shall do the following in the grid that exceeded the threshold and all adjacent grids (i.e., grids that share an edge or corner):

- Complete a collection system assessment as described in section 95471(j) and a cover integrity assessment as described in section 95471(k) within 30 calendar days after reaching the threshold in section 95469(a)(4) and correct any issues identified in the assessments that could be contributing factors to the surface exceedances within 60 calendar days after reaching the threshold.
- Increase the frequency of surface emissions monitoring performed pursuant to section 95469(a) to monthly. The first monthly monitoring shall occur within 30 calendar days of reaching the threshold in section 95469(a)(4). The frequency can be reverted to quarterly after six consecutive monthly monitoring periods show no exceedances in the area in which the monitoring frequency was increased.

The requirement in Section 95469(a)(4) to assess the condition of the collection system and perform monthly surface emissions monitoring in the grids adjacent to a grid with recurring surface emissions exceedances is onerous and unreasonable, especially since by definition grids that are adjacent to the grid with recurring surface emissions exceedances would not themselves have had recurring surface emissions exceedances. Surface emissions are a local condition that are remediated by adjusting the wells closest to the exceedance and/or repairing the cover at the location of the exceedance. The requirement to include the adjacent grids simply takes the focus (and labor) away from the actual location of the exceedance.

Thank you for allowing our review and comment on this rulemaking. If you have any questions, please contact me at schakladar@opal_fuels.com or (951) 833-4153.

Sincerely,

Suparna Chakladar

Suparna Chakladar
Senior Vice President of Fuel Supply and
Environmental Services
OPAL Fuels