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Attached comment submitted on behalf of OC Waste & Recycling.

COUNTY OF ORANGE
OC Waste&Recycling
Our Community. Our Commitment.

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Clerk's Office
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: Comments on Proposed Amendments to the Regulation on Methane Emissions from Municipal Solid Waste Landfills

To Whom It May Concern:

Thank you for the opportunity to comment on proposed revisions to the California Air Resources Board (CARB)'s Landfill Methane Regulation. We appreciate CARB's efforts and leadership in pursuing a better understanding of landfill methane emissions and identifying effective greenhouse gas (GHG) emissions reduction strategies needed to achieve carbon neutrality.

OC Waste & Recycling (OCWR) is a public agency providing integrated solid waste management services to protect public health and the environment in Orange County. OCWR converts waste into resources such as energy, recycled materials, and recycled water. OCWR is committed to environmentally sound waste management practices.

We recognize the importance of the updates to the Landfill Methane Regulation (LMR) that include leveraging recent research, revising emission standards, enhancing monitoring, improving alignment with federal rules, streamlining reporting, and encouraging the beneficial use of landfill gas (LFG). We agree that potential updates to the LMR should be explored in the areas of landfill methane monitoring, operational strategies, and reporting for compliance.

OCWR offers the following comments and requests for your consideration regarding the proposed amendments to the regulation and related statewide environmental goals.

Recognition of Composting and Renewable Natural Gas (RNG) as Essential Public Services

OCWR requests that CARB consider modifying the Landfill Methane Regulation to explicitly recognize composting operations and renewable natural gas (RNG) facilities located at publicly owned landfills as **essential public services**.

These facilities play a critical role in supporting California's climate goals by diverting organic waste from landfills, reducing methane emissions, and producing low-carbon fuels. **According to the US EPA, 64% of the state's composting facilities are co-located at publicly owned**

landfills, highlighting the importance of public-sector leadership in integrated waste management. Recognizing these operations as essential would help ensure regulatory consistency, support long-term infrastructure investment, and reinforce the importance of integrated waste management systems operated by public agencies in achieving statewide environmental objectives.

Alignment with Senate Bill 1383 (SB 1383)

OCWR requests that CARB ensure that any updates to the LMR are aligned with the objectives of Senate Bill 1383, which mandates a **75% reduction in organic waste disposal** and a significant increase in organics recovery and recycling.

We note that the successful diversion of organic material (such as food waste) from landfill disposal, as mandated by SB 1383, will decrease LFG quantity and quality over time. These factors negatively impact the potential beneficial use of LFG. Therefore, ensuring LMR alignment with SB 1383 objectives is crucial, particularly concerning the site-specific feasibility of beneficial use projects.

Satellite-Detected Emission Plumes

OCWR supports CARB's efforts to utilize recent advancements in remote sensing and satellite imaging technologies to monitor and control landfill surface methane emissions. However, while these emerging technologies could be valuable tools for identifying large methane emission sources, they are **not yet reliable for pinpointing emissions from discrete point sources**.

High-altitude methane plume mapping, such as satellite-detected methane plumes, can only provide sufficient data for **screening purposes**. Hence, additional ground surveying is needed to pinpoint emission sources. OCWR recommends that CARB consider providing adequate compliance flexibility and a phase-in approach so that the effectiveness and efficiency of real-world applications of these advanced technologies can be thoroughly evaluated and refined.

Improved Coverage of Surface Emission Monitoring

OCWR supports the concept of improved coverage for surface emissions monitoring. However, using alternative technologies to monitor the landfill working face/active areas for methane emissions may have limited value as newly disposed solid waste would typically take **six to eighteen months**, under anaerobic conditions, to generate methane. While drones could help safely survey steep or inaccessible areas, their effectiveness depends on sensor accuracy, flight protocols, and data interpretation.

OCWR recommends that CARB consider regulatory flexibility and allow site-specific implementation and enforcement. Additionally, any proposed alternative technologies will need to be thoroughly evaluated and approved by CARB, and a standardized operational protocol shall be developed for alternative monitoring technology applications.

Wellhead Monitoring - Oxygen

OCWR **strongly urges CARB to reconsider imposing oxygen concentration limits on wellheads**. Oxygen concentration above 5% alone is **not indicative of a possible landfill fire.** LFG collectors placed near boundaries to control lateral and subsurface gas migration typically operate with higher oxygen concentrations due to the use of higher vacuum levels. If a strict 5% oxygen limit is imposed, reducing the vacuum level at these gas migration control collectors would decrease the collector's radius of influence, compromising gas migration control and potentially allowing methane and other landfill gases to migrate offsite, creating hazards to human health. Furthermore, the EPA removed the operating standard for oxygen and nitrogen at gas collectors from the New Source Performance Standards (NSPS) for Landfills and Emission Guidelines (EG) to allow operators to employ site-specific LFG control measures.

Wellhead Monitoring - Temperature

Since wellhead temperature monitoring is already required and enforced by the EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations, OCWR recommends that CARB consider **aligning the LMR with the NESHAP** to avoid complexity and redundancy in regulatory compliance.

Wellhead Monitoring – Liquid Level and Well Decommissioning Requirements

OCWR is concerned that the proposed requirements for semi-annual liquid level monitoring and potential installation of liquid removal pumps may impose significant operational and financial burdens, particularly at closed sites or those with older infrastructure. For example, the estimated cost of semi-annual liquid level soundings across one of our regions is approximately **$70,000 per year**, with individual pump installations potentially exceeding $15,000 per well, not including additional infrastructure such as air supply lines.

Moreover, the proposed language regarding the repair or replacement of wells that are "pinched, broken, or otherwise compromised" raises concerns. Many older wells may have minor obstructions or structural irregularities but continue to function effectively as gas collectors. Replacing such wells could be prohibitively expensive or technically infeasible and may result in the abandonment of otherwise productive wells—ultimately reducing gas collection efficiency and undermining the rule's intent.

OCWR also requests clarification that the liquid level monitoring requirement applies only to accessible vertical wells, and not to horizontal collectors or remoted vertical wells, which comprise a significant portion of the wellfield at some sites. In many cases, horizontal collectors and remote wells are not physically accessible for traditional liquid level sounding, making monitoring infeasible without major excavation or system redesign. Additionally, determining screened intervals in older wells may not be feasible using sounding devices alone, and alternative methods such as well cameras are significantly more costly and time-consuming.

Finally, based on one of our closed landfills, liquids encountered are often perched and recharge quickly after removal, making sustained dewatering infeasible. OCWR recommends that CARB

consider a site-specific, performance-based approach to liquid level monitoring and well decommissioning requirements, with flexibility for older or closed sites and consideration of operational feasibility.

Gas Collection and Control System (GCCS) – Operational Concepts (Horizontal Collectors)

Newly disposed trash requires six to eighteen months, under anaerobic conditions, to decompose and generate methane. Although horizontal collectors laid under active areas previously helped control potential methane emissions, if these collectors are installed too shallow, they may introduce atmospheric air into the system, disrupting anaerobic conditions and reducing gas collection efficiency. Therefore, OCWR recommends that CARB consider excluding this requirement in the Gas Collection and Control System operational guidelines.

Expanded Digital Reporting

OCWR supports expanding digital reporting, as a standardized process would help improve reporting clarity and efficiency and facilitate accelerated data review and problem responses. However, the CARB's current proposed annual reporting template is very extensive and complex to navigate. Therefore, OCWR suggests training and a phased transition period to digital reporting.

Beneficial Use of Landfill Gas

In line with our mission, OCWR is supportive of utilizing LFG for energy recovery when feasible. However, the feasibility of projects like gas-to-electricity and pipeline injection relies on the quantity and quality of the LFG, which can differ significantly based on factors such as the age of the landfill, the type of waste, and the operational status.

LFG quantity and quality will decrease over time due to the diversion of organic material (SB 1383). Without sufficient gas quantity and quality, beneficial usage is infeasible, as currently there is no proven technology available for the beneficial use of LFG with relatively low energy content. Therefore, OCWR recommends that CARB include site-specific feasibility as a consideration for the beneficial use of landfill gas.

In summary, we commend CARB staff on their efforts and leadership in improving the LMR and achieving carbon neutrality. We appreciate the opportunity to work with CARB and participate in this process.

Thank you for considering our comments.

Sincerely,

Thomas Koutroulis
Director