

# Staff Report

## June 21, 2026

### Landfill, Crematory and Non-Technical Update Rulemaking

## Contents

|                                                         |    |
|---------------------------------------------------------|----|
| DEQ recommendation to the DEQ Director .....            | 2  |
| Introduction .....                                      | 3  |
| Statement of need .....                                 | 4  |
| Federal relationship .....                              | 7  |
| Rules affected, authorities, supporting documents ..... | 11 |
| Fee analysis.....                                       | 19 |
| Statement of fiscal and economic impact .....           | 20 |
| Racial equity .....                                     | 25 |
| Environmental justice considerations .....              | 26 |
| Land use .....                                          | 27 |
| EQC prior involvement.....                              | 29 |
| Advisory committee.....                                 | 30 |
| Public engagement .....                                 | 33 |
| Public hearing .....                                    | 35 |
| Summary of public comments and DEQ responses .....      | 36 |
| Implementation .....                                    | 66 |
| Five-year review.....                                   | 67 |
| Non-discrimination statement .....                      | 67 |

# **DEQ recommendation to the DEQ Director**

The Oregon Department of Environmental Quality recommends that the Director, as delegated by the Environmental Quality Commission, adopt the proposed rules in Attachment A as part of Chapter 340 of the Oregon Administrative Rules and direct DEQ staff to submit rules to EPA to update Oregon's State Implementation Plan.

# Introduction

This rulemaking aligns Oregon Administrative Rules with recent statutory changes and makes non-technical corrections to DEQ's air quality rules that are needed to clarify requirements for regulated entities. In 2025, the Oregon legislature enrolled two separate bills that require rulemaking by DEQ to implement. Specifically, HB 3729 addressed crematory incinerators and SB 726 addressed municipal solid waste landfills in Benton County.

Updates to air quality rules are needed to reflect statutory changes enacted by both bills. As part of this rulemaking, DEQ is also proposing non-technical revisions to clarify several air quality rules. These revisions are packaged together in this rulemaking because they result in only minor changes and clarifications, with no substantive revisions to the content or structure of the rules.

## Statement of need

This rulemaking is needed to align Oregon Administrative Rules with changed Oregon Revised Statute and to correct various typographical errors, incorrect cross references, and make various clarifications to air quality rules.

## How would the proposed rule address the need?

The proposed rules address the need to align Oregon Administrative Rules with updated statutory language and directive in ORS chapter 468A enacted by HB 3729 and SB 726. The non-technical rule revisions address the need to clarify and correct issues that have been identified within various administrative rule divisions related to air quality requirements in Chapter 340.

## Landfill Monitoring

What need would the proposed rule address?

The statutory change for SB 726 has an effective date of Jan. 1, 2027, providing explicitly that DEQ and the EQC may take action prior to that date as is necessary to implement the statutory change.

The statutory language conflicts with existing requirements within Oregon Administrative Rules [Division 239](#), the Landfill Gas Emission rules. A rulemaking is required to align Division 239 with the new statutory provision in 468A.885.

Specifically, Division 239 requires surface emissions monitoring that includes walking the surface of the landfill, while the statutory change requires municipal solid waste landfills in Benton County to use advanced methane detection technology and monitoring of all surfaces of the landfill. See [SB 726](#) and ORS [468A.885](#) regarding municipal solid waste landfills in Benton County and advanced methane detection technology.

How would the proposed rule address the need?

The rule language would provide rules that outline, more specifically, what an affected facility must do to comply with the advanced methane detection technology requirements enacted by the legislature. The rules would also ensure that a facility does not have to perform duplicative surface emission monitoring (e.g., performing EPA Method 21, walking the surface of the landfill, and also conducting advanced methane detection technology monitoring).

How will DEQ know the rule addressed the need?

DEQ will know the rules addressed the need when municipal solid waste landfills in Benton County begin advanced methane detection technology monitoring and report the information to

DEQ without needing to separately perform EPA Method 21 to comply with other applicable landfill requirements.

## **Crematory Incinerator Temperatures**

What need would the proposed rule address?

The statutory change for HB 3729 was effective starting in September 2025 and is in direct conflict with existing Oregon Administrative Rule language and issued air quality permits.

In [Division 230](#), owners and operators of crematory incinerators installed on or after March 13, 1993, are required to operate their units at 1,800°F or higher, while the statutory change requires that DEQ not enforce any rule or standard that requires operation above 1,600°F. See [HB 3729](#) and [ORS 468A.865](#) regarding crematory incinerator temperatures.

DEQ has documented a directive to staff to ensure agency actions are aligned with the new statutory language in the short term. However, this rulemaking is needed to align Division 230 incinerator rules with the statute.

How would the proposed rule address the need?

The rule language would establish temperature requirements that align, instead of conflict, with Oregon statute 468A.865.

How will DEQ know the rule addressed the need?

DEQ will know the rule addressed the need when Oregon Administrative Rule and Oregon Revised Statute do not conflict. DEQ will also know when revised Basic and General Air Contaminant Discharge Permits are issued by DEQ and assigned or issued to affected facilities, clearly establishing the new temperature requirement.

## **Non-Technical Updates**

What need would the proposed rule address?

In addition to rule changes to address statutory changes described above, this rulemaking proposes clarifications and minor corrections to errors and omissions that have been identified in Divisions 200, 209, 210, 212, 216, 226, 230, 232, 236, 239, and 244. Incorrect cross references, for example, increase risk of inaccurate permit conditions, requests for contested case hearings after permit issuance, and complex compliance issues.

How would the proposed rule address the need?

The proposed rules would address the need by correcting or updating each of the issues that have been identified.

How will DEQ know the rule addressed the need?

DEQ will know the rule addressed the need when the errors and omissions in the current rules are corrected.

# Federal relationship

ORS 183.332, 468A.327 and OAR 340-011-0029 require DEQ to attempt to adopt rules that correspond with existing equivalent federal laws and rules unless there are reasons not to do so.

The proposed rules will impose requirements that will be different from or in addition to federal requirements.

## Landfills

There are federal air quality regulations that apply to landfills. Rules implementing SB726 would be more stringent or different from what is federally required by 40 CFR parts 60 and 63 for municipal solid waste landfills in Benton County. DEQ is imposing requirements different from or in addition to federal requirements to implement a change to Oregon Revised Statutes.

## Crematory Incinerators

The US EPA does not regulate crematory incinerators from an air quality perspective. All applicable crematory incinerator rules are specific to Oregon, so all changes to crematory requirements in Division 230 are more stringent or different from what is federally required. DEQ is imposing requirements different from or in addition to federal requirements to align Oregon Administrative Rules with the applicable Oregon Revised Statutes.

## Non-Technical Revisions to Oregon Administrative Rules

None of the proposed rules impose requirements that are different from or in addition to federal requirements unless the existing rule was already different from or in addition to federal requirements. Various rules in Division 239 will continue to be different from or in addition to federal requirements.

## Submission to EPA

State Implementation Plan: Concurrent with this rulemaking, DEQ is submitting a development plan and will submit a copy of any relevant proposed rule changes to EPA Region 10 for consideration and approval in Oregon's State Implementation Plan.

State Plan for Emission Guidelines: After adoption, DEQ will revise the current pending Landfill State Plan (for landfill emission guidelines) and submit to EPA for review and approval.

Equivalency Request for landfill NSPS/NESHAP: After adoption, DEQ will revise the current equivalency determination request letters (for landfill NSPS and NESHAP regulations) and submit to EPA for review and approval.

## **What are the scientific, economic, technological, administrative and other reasons for exceeding applicable federal requirements?**

### **Landfill**

DEQ is proposing changes to Division 239, exceeding applicable federal requirements for primarily administrative purposes, aligning administrative rules with Oregon Revised Statutes. Specifically, the statutory language authorizes DEQ and the EQC to take action necessary to implement Senate Bill 726 and ORS 468A.885. As described in this notice, the statutory language is not robust enough to accomplish implementation without further rulemaking by DEQ.

DEQ is also proposing specific rule language in exceedance of applicable federal requirements for economic and technological reasons. Specifically, DEQ could have proposed requiring the use of satellite or aircraft monitoring to conform with the statutory change. These technologies, however, would have required municipal solid waste landfills in Benton County to perform the federally required Method 21 (walking the surface of the landfill) and then also conduct the advanced methane detection technology monitoring separately. DEQ is proposing to require the use of drones, as this is the one technology that accomplishes the substantive purpose of the rulemaking that can also be used to satisfy existing federally required monitoring. See EPA's approved [Alternative Test Method 150](#) and [Other Test Method 51](#) documentation.

### **Crematory Incinerators**

As described above, there are no federal requirements applicable to crematory incinerator operations. DEQ is proposing changes to this rule for administrative purposes to align administrative rule language with applicable statutory provisions.

### **Non-Technical Revisions to Oregon Administrative Rules**

DEQ does not believe that any of the non-technical revisions to Oregon Administrative Rules exceed applicable federal requirements except for the existing adopted rules that were already exceeding applicable federal requirements.

# **What alternatives did DEQ consider and why are you not pursuing them?**

DEQ considered the following alternatives:

## **Landfill**

- (1) DEQ considered not proposing the adoption of rules to implement SB 726.
  - DEQ considered requiring airflight, satellite, or other non-drone remote direct monitoring of landfills.

## **Crematory Incinerators**

- DEQ considered not changing any Oregon Administrative Rule language.
- DEQ considered proposing a lower temperature for crematory incinerators.

## **Non-Technical Revisions to Oregon Administrative Rules**

- (1) DEQ considered not making technical revisions to Oregon Administrative Rules.
- (2) DEQ considered holding a separate rulemaking to make technical revisions to Oregon Administrative Rules.

DEQ did not pursue these alternatives because:

## **Landfill**

- (1) DEQ did not pursue this alternative because the legislative action does not include enough language to fully and practically implement the advanced methane detection technology monitoring requirements. Rather, the statutory change states that “the commission shall establish by rule requirements for surface emissions monitoring and mitigation of methane gas emissions from municipal solid waste landfills.” Without rulemaking, municipal solid waste landfills in Benton County would have continued to comply with existing Division 239 monitoring requirements until a rulemaking was completed.
- (2) DEQ did not pursue this alternative because the agency determined it would be the most economical to use an existing approved federal alternative to monitoring that also satisfies the requirements of the legislative change. Establishing the rules to require drone monitoring following EPA’s approved Other Test Method (OTM-51) means that municipal solid waste landfills in Benton County do not have to perform duplicative monitoring and can still monitor in conformance with the legislative change. DEQ did, however, include a provision that allows a landfill owner or operator to request approval of an alternative technology on a case-by-case basis. This is expected to accommodate, within reason, developments and advancements in monitoring technology.

## **Crematory Incinerators**

- DEQ did not pursue this alternative because misalignment of the temperature requirement in Oregon Administrative Rule and Oregon Revised Statute will result in confusion among internal and external parties. The legislative action establishes that DEQ will not enforce any standard, rule, or requirement of higher than 1,600°F. Without changing the rule, there is a significantly increased chance that DEQ staff, at some point in time, will attempt to enforce or apply the rule.
- DEQ did not pursue this alternative because the agency does not have sufficient information to ensure that lower operating temperatures will result in the same or less air pollutant emissions. The industry standard across the United States is operation of crematory incinerators at 1,600°F and DEQ does not have sufficient information to deviate from what was enacted by the Oregon legislature. Almost all crematory incinerators are regulated by DEQ's General Air Contaminant Discharge Permits, meaning temperature variability and case-by-case approvals of lower temperatures would be difficult to track, regulate, implement, and enforce upon appropriately over time.

## **Non-Technical Revisions to Oregon Administrative Rules**

- (1) DEQ did not pursue alternative because it would have left these minor errors in rule. While many of the issues addressed are minor, they have the potential to significantly complicate or delay permitting actions, cost the agency additional time and money, and cause confusion among internal and external parties.
- (2) DEQ did not hold a separate rulemaking for these changes because it would have taken substantially more agency resources.

# Rules affected, authorities, supporting documents

## Lead division

Air Quality Planning

## Program or activity

Air Contaminant Discharge Permitting and Title V Operating Permit programs

## Chapter 340 action

### Adopt

- 340-239-0610

### Amend - OAR

|              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|
| 340-200-0020 | 340-200-0040 | 340-200-0050 | 340-208-0110 | 340-209-0080 |
| 340-210-0225 | 340-210-0240 | 340-212-0230 | 340-216-0040 | 340-216-0060 |
| 340-216-0064 | 340-216-0082 | 340-216-8010 | 340-216-8020 | 340-226-0130 |
| 340-230-0210 | 340-230-0220 | 340-232-0150 | 340-236-0500 | 340-236-8010 |
| 340-239-0010 | 340-239-0015 | 340-239-0100 | 340-239-0105 | 340-239-0110 |
| 340-239-0200 | 340-239-0400 | 340-239-0600 | 340-239-0700 | 340-239-0800 |
| 340-244-0234 | 340-244-0237 | 340-244-0241 | 340-244-0246 | 340-244-0249 |
| 340-244-0251 |              |              |              |              |

### Statutory authority - ORS

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 468      | 468.020  | 468.065  | 468A     | 468A.025 |
| 468A.040 | 468A.050 | 468A.055 | 468.065  | 468A.070 |
| 468A.105 | 468A.135 | 468A.310 | 468A.315 | 468A.865 |
| 468A.885 |          |          |          |          |

## Statutes implemented - ORS

|                               |          |          |          |          |
|-------------------------------|----------|----------|----------|----------|
| 183.413                       | 183.415  | 183.468  | 468      | 468.020  |
| 468.065                       | 468A     | 468A.025 | 468A.035 | 468A.040 |
| 468A.050                      | 468A.055 | 468A.070 | 468A.075 | 468A.085 |
| 468A.105                      | 468A.135 | 468A.140 | 468A.155 | 468A.280 |
| 468A.310                      | 468A.315 | 468A.360 | 468A.363 | 468A.380 |
| 468A.385                      | 468A.420 | 468A.495 | 468A.500 | 468A.505 |
| 468A.515                      | 468A.575 | 468A.595 | 468A.600 | 468A.610 |
| 468A.612                      | 468A.620 | 468A.635 | 468A.707 | 468A.740 |
| 468A.745                      | 468A.750 | 468A.775 | 468A.780 | 468A.797 |
| 468A.799                      | 468A.803 | 468A.820 | 468A.865 | 468A.885 |
| Or. Laws 2009,<br>chapter 754 |          |          |          |          |

## Legislation

This rulemaking is the result of recent legislation.  
HB 3729 sponsor: Representative Emily McIntire  
SB 726 sponsor: Senator Sara Gelser Blouin

## Documents relied on for rulemaking

- [Other Test Method 51 \(OTM-51\) - UAS Application of Method 21 for Surface Emission Monitoring of Landfills](#)
- [2023 Broadly Applicable Alt Test Method.pdf](#)

## Rules summary

As OAR 166-500-0030(1)(e) requires, the following are included to provide a brief summary of the proposed new rules and existing rules affected by this rulemaking.

### **OAR chapter 340, divisions 200, 208, 209, 210, 212, 216, 226, 230, 232, 236, 239, and 244**

For more information about these changes, please refer to the '[Rule Change Description Report](#)'. In addition to the changes listed below, various rule divisions also include the following two changes:

1. "C.F.R." changed to "CFR"
2. "Part" changed to "part" where the word is referring to US EPA regulations under Title 40, Chapter I, Subchapter C.

| Rule Number      | Rule Title                                                                               | Explanation                                                                                                                                                                                                                                                                                                                                     |
|------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OAR 340-200-0020 | General Air Quality Definitions                                                          | <ol style="list-style-type: none"> <li>1. Update applicable timeline regarding use of categorically insignificant activity.</li> <li>2. Revise definition of 'emergency'</li> <li>3. Add inadvertently omitted compound to the list.</li> <li>4. Remove tables listed in rule that are already included within the rule text itself.</li> </ol> |
| OAR 340-200-0040 | State of Oregon Clean Air Act Implementation Plan                                        | <ol style="list-style-type: none"> <li>1. Update the date in rule listing when the SIP was last modified based on the final adoption date of these rules.</li> </ol>                                                                                                                                                                            |
| OAR 340-200-0050 | Compliance Schedules                                                                     | <ol style="list-style-type: none"> <li>2. Change 'his' to 'their'.</li> </ol>                                                                                                                                                                                                                                                                   |
| OAR 340-208-0110 | Visible Air Contaminant Limitations                                                      | <ol style="list-style-type: none"> <li>1. Add veneer dryers to the list of activities that are not subject to statewide opacity, rather the specific standards for this in Division 234.</li> </ol>                                                                                                                                             |
| OAR 340-209-0080 | Issuance or Denial of a Permit                                                           | <ol style="list-style-type: none"> <li>1. Add due date for applicants to request to provide DEQ responses to public comments.</li> </ol>                                                                                                                                                                                                        |
| OAR 340-210-0225 | Notice of Construction and Approval of Plans: Types of Construction/Modification Changes | <ol style="list-style-type: none"> <li>1. Include activities/processes covered by a General ACDP in the Type 1 NC 'notice and go' list.</li> <li>2. Revise 'tier 4' to 'tier 4 certified'</li> </ol>                                                                                                                                            |
| OAR 340-210-0240 | Notice of Construction and Approval of Plans: Construction Approval                      | <ol style="list-style-type: none"> <li>1. Update an incorrect cross reference.</li> </ol>                                                                                                                                                                                                                                                       |
| OAR 340-212-0230 | Compliance Assurance Monitoring: Deadlines for Submittal                                 | <ol style="list-style-type: none"> <li>1. Update an incorrect cross reference.</li> </ol>                                                                                                                                                                                                                                                       |
| OAR 340-216-0040 | Application Requirements                                                                 | <ol style="list-style-type: none"> <li>1. Revise requirements for an air permit applicant's legal name.</li> </ol>                                                                                                                                                                                                                              |
| OAR 340-216-0060 | General Air Contaminant Discharge Permits                                                | <ol style="list-style-type: none"> <li>1. Remove old General ACDP categories that are no longer available from the list.</li> <li>2. Update an incorrect cross reference.</li> <li>3. Revise fee classification (lower) for emergency engines.</li> </ol>                                                                                       |

| Rule Number      | Rule Title                                                                                         | Explanation                                                                                                                                                                                                                                                                                                                         |
|------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OAR 340-216-0064 | Simple ACDP                                                                                        | <ol style="list-style-type: none"> <li>1. Clarify applicability of 'low fee'</li> <li>2. Update incorrect cross reference.</li> </ol>                                                                                                                                                                                               |
| OAR 340-216-0082 | Expiration, Termination, Reinstatement or Revocation of an ACDP                                    | <ol style="list-style-type: none"> <li>1. Update incorrect statutory reference at the bottom of the rule (no rule text changed)</li> </ol>                                                                                                                                                                                          |
| OAR 340-216-8010 | Table 1 – Activities and Sources                                                                   | <ol style="list-style-type: none"> <li>1. Add 'reserved' text to a currently blank listing.</li> <li>2. Update incorrect cross reference.</li> <li>3. Add 'tire retreading' to the 'tire manufacturing' listing.</li> <li>4. Update language for various listings to use "more than" instead of 'equal to or more than'.</li> </ol> |
| OAR 340-216-8020 | Table 2 – Air Contaminant Discharge Permits                                                        | <ol style="list-style-type: none"> <li>1. Update the header to remove the reference to 'in addition to first annual fees'</li> </ol>                                                                                                                                                                                                |
| OAR 340-226-0130 | Highest and Best Practicable Treatment and Control: Typically Achievable Control Technology (TACT) | <ol style="list-style-type: none"> <li>1. Relocate the text "for the regulated pollutant emitted" to an earlier place in the same sentence.</li> </ol>                                                                                                                                                                              |
| OAR 340-230-0210 | Crematory Incinerators: Design and Operation                                                       | <ol style="list-style-type: none"> <li>1. Update incorrect cross reference.</li> <li>2. Update temperature requirements in alignment with HB 3729</li> </ol>                                                                                                                                                                        |
| OAR 340-230-0220 | Crematory Incinerators: Monitoring and Reporting                                                   | <ol style="list-style-type: none"> <li>1. Add a missing period "."</li> <li>2. Update crematory incinerator recordkeeping from two to five years.</li> </ol>                                                                                                                                                                        |
| OAR 340-232-0150 | VOC Liquid Storage                                                                                 | <ol style="list-style-type: none"> <li>1. Remove incorrect cross reference.</li> </ol>                                                                                                                                                                                                                                              |
| OAR 340-236-0500 | Solid Waste Landfills: Emission Standards for Municipal Solid Waste Landfills                      | <ol style="list-style-type: none"> <li>1. Add language allowing an owner or operator to elect to comply with NESHAP AAAA.</li> </ol>                                                                                                                                                                                                |
| OAR 340-236-8010 | Hot Mix Asphalt Plants: Table-Process Weight Table                                                 | <ol style="list-style-type: none"> <li>1. Add commas throughout the table.</li> <li>2. Update typographical error: "600000" to be "60,000".</li> </ol>                                                                                                                                                                              |
| OAR 340-239-0010 | Applicability                                                                                      | <ol style="list-style-type: none"> <li>1. Rephrase exemptions to be clearer.</li> <li>2. Refer to 'owner or operator' instead of 'landfill'</li> <li>3. Add a missing space.</li> </ol>                                                                                                                                             |

| Rule Number      | Rule Title                                                             | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                                                        | 4. Add a missing comma.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OAR 340-239-0015 | Definitions                                                            | <ol style="list-style-type: none"> <li>1. Add definition of 'advanced methane detection technology' (SB 726)</li> <li>2. Add definition of 'beneficial use'</li> <li>3. Update definition of 'component leak' to clearly state that 500 ppmv is an exceedance.</li> <li>4. Add a definition for 'integrated surface monitoring'</li> <li>5. Add a definition for 'instantaneous surface monitoring'</li> <li>6. Update definition of 'nondecomposable solid waste' to remove 'containing' from the reference to 'asbestos-containing waste'</li> <li>7. Remove 'or shroud' within the definition of 'open flare'.</li> <li>8. Update definition of 'operator' to include those who contract to receive or purchase landfill gas.</li> <li>9. Update definition of 'owner' to include those who contract to receive or purchase landfill gas.</li> <li>10. Update definition of 'root cause analysis'</li> </ol> |
| OAR 340-239-0100 | Landfills with Greater Than or Equal to 200,000 Tons of Waste-in-Place | <ol style="list-style-type: none"> <li>1. Clarify when a permit application is not required.</li> <li>2. Replace 'may not' with 'must not'.</li> <li>3. Change 'shall' to 'will'</li> <li>4. Clarify requirements apply to 'owners and operators' instead of 'landfills'</li> <li>5. Revise when a reduced testing frequency can be started.</li> <li>6. Revise the initiation of quarterly surface emissions monitoring from 90 days later to 'next calendar quarter'</li> <li>7. Remove duplicative text where the rule refers to itself.</li> <li>8. Remove the text 'landfill' when it is immediately followed by 'owner or operator'</li> <li>9. Remove self-reference within the rule.</li> <li>10. Delete typographical error.</li> <li>11. Update incorrect cross reference.</li> </ol>                                                                                                                 |

| Rule Number      | Rule Title                                                               | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OAR 340-239-0105 | Title V Operating Permit Requirement                                     | 1. Remove the text “to which this division applies”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| OAR 340-239-0110 | Gas Collection and Control System Requirements                           | <ol style="list-style-type: none"> <li>1. Remove text requiring installation of new wells within 60 days where the requirement to do so within 120 days is already in another rule.</li> <li>2. Update incorrect cross reference.</li> <li>3. Delete erroneous inclusion of “or”.</li> <li>4. Remove the text ‘landfill’ when it is immediately followed by ‘owner or operator’</li> <li>5. Include parameter ranges that apply prior to a permit issuance that includes them.</li> <li>6. Clarify text surrounding the ‘boiler or process heater’.</li> <li>7. Clarify applicability of the 99% methane reduction requirement to lean burn internal combustion engines.</li> <li>8. Revise and correct when a reduced testing frequency can be started.</li> <li>9. Change “may not” to “must not”.</li> <li>10. Clarify that 500ppmv is an exceedance instead of 501 ppmv.</li> </ol> |
| OAR 340-239-0200 | Compliance Standards                                                     | 1. Correct typographical error.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OAR 340-239-0400 | Permanent Shutdown and Removal of the Gas Collection and Control Systems | <ol style="list-style-type: none"> <li>1. Remove the text ‘landfill’ when it is immediately followed by ‘owner or operator’</li> <li>2. Remove unnecessary word “of”</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OAR 340-239-0600 | Monitoring Requirements                                                  | <ol style="list-style-type: none"> <li>1. Delete typographical error.</li> <li>2. Clarify requirements by adding subparagraphs (I) and (II).</li> <li>3. Correct reference to ‘third exceedance’ to ‘initial exceedance’</li> <li>4. Add requirement to new well to be installed in an area that will address the location identified by an exceedance.</li> <li>5. Remove reference to ‘alternative approvals’.</li> <li>6. Update incorrect cross reference.</li> <li>7. Clarify text surrounding the ‘boiler or process heater’.</li> </ol>                                                                                                                                                                                                                                                                                                                                          |

| Rule Number      | Rule Title                               | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                          | <ul style="list-style-type: none"> <li>8. Clarify that 500ppmv is an exceedance instead of 501 ppmv.</li> <li>9. Spell out “five” instead of “5”.</li> <li>10. Replace “shall” with “must”</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OAR 340-239-0610 | Advanced Methane Detection Monitoring    | New rule proposed to implement SB 726.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OAR 340-239-0700 | Recordkeeping and Reporting Requirements | <ul style="list-style-type: none"> <li>1. Remove the text ‘landfill’ when it is immediately followed by ‘owner or operator’</li> <li>2. Remove the text “subject to this division”</li> <li>3. Add reference to the ‘walking pattern’ map as a recordkeeping requirement to match the data required under - 0600(1)(a)(A).</li> <li>4. Add text “including all results” regarding recordkeeping of instantaneous monitoring results</li> <li>5. Clarify that approval of a higher well temperature is the monitoring parameter for that well.</li> <li>6. Spell out “five” instead of “5”.</li> <li>7. Replace the location of “and” to the 2<sup>nd</sup> to last item in the list.</li> <li>8. Clarify the recordkeeping requirement associated with monthly cover.</li> <li>9. Update the incorrect Celsius to Fahrenheit conversion.</li> <li>10. Clarify text surrounding the ‘boiler or process heater’.</li> <li>11. Clarify recordkeeping also applies to ‘component leak standards’</li> <li>12. Clarify that 500ppmv is an exceedance instead of 501 ppmv.</li> <li>13. Update reporting requirement of ‘location’ of exceedances to be reported on a map.</li> <li>14. Add additional flexibility in reporting due dates.</li> <li>15. Clarify when annual waste in place reports can cease.</li> <li>16. Clarify applicable requirements when a ‘closure notification’ has been submitted to DEQ.</li> <li>17. Correct typographical error.</li> </ul> |

| Rule Number      | Rule Title                                                           | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                                                      | <p>18. Extend timeline for submission of test reports to DEQ from 30 days to 60 days.</p> <p>19. Remove a rule's self reference.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OAR 340-239-0800 | Test Methods and Procedures                                          | <ol style="list-style-type: none"> <li>1. Replace "shall" with "must".</li> <li>2. Correct typographical errors.</li> <li>3. Revise 100-foot intervals to 30 meter intervals to align with NESHAP AAAA.</li> <li>4. Clarify that 500ppmv is an exceedance instead of 501 ppmv.</li> <li>5. Remove the text 'landfill' when it is immediately followed by 'owner or operator'</li> <li>6. Clarify applicability of the 99% methane reduction requirement to lean burn internal combustion engines.</li> <li>7. Add federally approved alternative method for analyzing carbon monoxide samples.</li> </ol> |
| OAR 340-244-0234 | Gasoline Dispensing Facilities: Affected Equipment and Sources       | <ol style="list-style-type: none"> <li>1. Clarify requirements are applicable to 'owners and operators' instead of facilities.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OAR 340-244-0237 | Gasoline Dispensing Facilities: GDF 1                                | <ol style="list-style-type: none"> <li>1. Add text 'as applicable' to distinguish the name of the rule from the applicable requirements.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OAR 340-244-0241 | Gasoline Dispensing Facilities: GDF 3                                | <ol style="list-style-type: none"> <li>1. Revise language requirement for clarity.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| OAR 340-244-0246 | Gasoline Dispensing Facilities: Enhanced Vapor Recovery Requirements | <ol style="list-style-type: none"> <li>1. Clarify requirements are applicable to 'owners and operators' instead of facilities.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OAR 340-244-0249 | Gasoline Dispensing Facilities: Testing and Monitoring Requirements  | <ol style="list-style-type: none"> <li>1. Clarify requirements are applicable to 'owners and operators' instead of facilities.</li> <li>2. Change 'initial' to 'most recent passing' regarding testing due dates for clarity.</li> <li>3. Revise test requirements to ensure only facilities with necessary equipment are required to conduct a Leak Rate of Drop Tube test.</li> </ol>                                                                                                                                                                                                                   |

| Rule Number      | Rule Title                                | Explanation                                                                                                                                                                               |
|------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                           | <ol style="list-style-type: none"> <li>4. Add clarification regarding owners and operators who have never conducted required testing.</li> <li>5. Correct typographical error.</li> </ol> |
| OAR 340-244-0251 | Gasoline Dispensing Facilities: Reporting | <ol style="list-style-type: none"> <li>1. Revise 'initial notification' requirements to remove applicability of GDF 2 facilities.</li> </ol>                                              |

## Fee analysis

This rulemaking does not involve fees.

# Statement of fiscal and economic impact

There are two main fiscal impacts of the proposed rules.

First, the proposed rules addressing SB726 requiring advanced methane detection technology to be used at municipal solid waste landfills in Benton County will have a fiscal impact on the one source that will be required to perform this monitoring. The source will be required to pay for staff, consultants, or third-party contractors to perform monitoring in accordance with the proposed rules. This fiscal impact is reduced by the cost savings associated with no longer paying for, or conducting, monitoring that includes walking the landfill surface with a portable gas detector (EPA Method 21), resulting in a net savings or positive fiscal impact. DEQ also proposes to allow landfills outside of Benton County to use this advanced methane detection technology. If a landfill owner or operator chooses to use this advanced technology, it would be on a voluntary basis and at their discretion.

Second, the proposed rules addressing HB 3729 which establish an upper limit on the required operating temperature for crematory incinerators may have a positive fiscal impact on crematory incinerators owners and operators who have installed an incinerator on or after March 13, 1993. These owners and operators will burn less fuel operating at a lower temperature and are expected to see an overall reduction in their operational costs. Owners and operators of crematory incinerators that were installed prior to this date remain subject to the same temperature limit of 1,600° F and are not expected to have a fiscal impact.

The non-technical updates are not expected to have a fiscal impact.

## Statement of cost of compliance

### State agencies

There are no impacts expected for state agencies as a result of this rulemaking.

### Local governments

#### Landfills

The proposed landfill advanced methane detection technology monitoring rules do not apply to any local governments directly. A local government that owns or operates a landfill may elect to utilize advanced methane detection technology monitoring as a result of these rules.

**Crematory Temperatures:** For any local governments that own or operate a crematory incinerator, the municipal government should expect their operational costs to either remain the same or be reduced based on the date the crematory incinerator was installed.

Non-technical updates are not expected to have a fiscal impact on local governments.

## Public

The public is not directly regulated by the proposed rules. However, owners and operators of facilities affected by this rulemaking could pass costs or savings on to the public by changing the costs of goods or services. DEQ does not have available data or information to estimate the public impacts further. In addition, for each landfill that uses advanced methane detection technology monitoring, DEQ expects the public will experience benefits from reduced methane emissions from landfill operations.

## Large businesses - businesses with more than 50 employees

Landfills: For large businesses, the cost to comply with the proposed landfill rules is generally the same as the costs described under local governments, with one exception: The one municipal solid waste landfill in Benton County that will be subject to the proposed enhanced monitoring rules will need to pay for monitoring services or staff to perform monitoring according to the proposed rules. The proposed rules, however, establish this enhanced monitoring in a way that allows the landfill owner or operator the ability to stop performing the currently required surface monitoring which includes walking the surface of the landfill with a handheld detector.

As such, the costs associated with advanced monitoring are mitigated by the reduction of cost from the cessation of the currently required monitoring that includes walking the landfill surface.

### Cost of Advanced Methane Detection Technology Monitoring

DEQ obtained a cost estimate from [Sniffer Robotics, Inc.](#), a company who performs landfill surface monitoring that would be compliant with the proposed rules. For a landfill that is approximately 150 acres, the cost for an initial visit is \$10,000. The initial visit cost includes getting the monitoring staff to the site and performing monitoring of the landfill surface. The rules require surface emissions monitoring quarterly, meaning this initial visit cost would be incurred four times per year. The total annual cost for four visits would be approximately \$40,000.

Landfill rules in Division 239 require owners and operators to take corrective actions when the monitoring identifies a surface leak, then remonitor the locations where leaks were identified to ensure they have been fixed. The proposed rules follow this same procedure for addressing leaks when using advanced methane detection technology. The estimate DEQ received lists this remonitoring at \$3,000 each but can increase in cost if there are a significant number of locations to remonitor (in excess of 50 surface leaks detected). For this fiscal estimate, DEQ assumed that each quarter the owner or operator will have two remonitoring events. In any quarter where there is an additional remonitoring event, the overall cost will go up \$3,000 per occurrence.

As remonitoring events are required based on exceedances of allowable surface emissions, DEQ only included two remonitoring events per quarter. The owner or operator's existing maintenance and operation of the landfill directly dictates how many exceedances need to be paid for, remedied, and remonitored. Though maintenance and operation of the landfill is the owner or operator's responsibility and remonitoring is not inherently a cost associated with the monitoring method used, DEQ elected to consider two remonitoring events as part of this fiscal impact because it will provide a fiscal estimate more comparable with existing monitoring performed at the municipal solid waste landfill in Benton County.

The cost estimate also includes initial regulatory preparations to be conducted by Sniffer Robotics, Inc. with a cost of \$2,000. This includes a monitoring design plan, notification letter to Oregon DEQ regarding the use of OTM-51, and an alternative request letter related to potential weather events.

Sniffer Robotics, Inc. also has an array of additional services and data available for purchase. As the proposed rules include various data elements to be submitted, it is possible that the owner or operator would need to pay additional fees for services to fully comply with the proposed rules' recordkeeping and reporting provisions (e.g., meteorological data, latitude/longitude coordinates, anemometer readings, maps). To address this possible fiscal impact, DEQ accounted for an additional \$10,000 expense by the owner or operator.

- Initial regulatory preparation = \$2,000
- \$10,000 per quarter for initial monitoring, 4 Quarters = \$40,000  
\$3,000 per remonitor, two remonitoring each quarter, 4 Quarters = \$24,000.
- Miscellaneous data needed to comply with the proposed rules: \$10,000
- Total expected annual fiscal impact: \$76,000

### **Cost of Current Surface Emissions Monitoring**

A Fiscal Advisory Committee member, a representative of Valley Landfills, Inc., stated during the Fiscal Advisory Committee Meeting that the company currently spends approximately \$100,000 on monitoring to comply with federal requirements and Oregon's Division 239 landfill gas emissions rules.

### **Net Fiscal Impact**

Advanced Methane Detection Technology Monitoring: ~\$76,000

Method 21 Methane Monitoring: ~\$100,000

The net fiscal impact associated with requiring advanced methane detection technology monitoring in accordance with the proposed rules in lieu of performing Method 21, on a quarterly basis, is a net savings of approximately \$24,000 per year.

Crematory Temperatures: For large businesses, the cost to comply with the proposed crematory incinerator rules is identical to costs described under local governments.

Non-technical updates: For large businesses, these rule changes are not expected to have a fiscal impact.

## **Small businesses – businesses with 50 or fewer employees**

No small businesses are expected to be affected by the proposed landfill advanced methane detection monitoring rules.

For small businesses, the cost to comply with the crematory incinerator proposed rules is the same as the costs described under local governments.

Non-technical updates are not expected to have a fiscal impact on small businesses.

## **ORS 183.336 - Cost of Compliance for Small Businesses**

### **a. Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.**

There are no small businesses subject to the proposed landfill advanced methane detection rules.

DEQ has issued 15 Basic Air Contaminant Discharge Permits to crematory incinerator owners and operators who incinerate less than 20 tons per year.

DEQ has assigned 73 facilities to the General Air Contaminant Discharge Permit for crematory incinerator operations with 20 or more tons per year incinerated.

Assuming all Basic and General ACDP holders are small businesses, these proposed rules could affect 88 small businesses.

### **b. Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.**

The proposed crematory incinerator rules do not require any additional activities.

### **c. Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.**

The proposed crematory incinerator rules will not require any additional resources.

### **d. Describe how DEQ involved small businesses in developing this proposed rule.**

DEQ included small business representatives on the Advisory Committee that advised DEQ on the cost of compliance for small businesses, including the owner of a crematory incinerator and funeral home.

As the fiscal impact is expected to save facilities money or have no impact, DEQ will communicate with current permit holders when their permit is proposed to be revised, reissued, or reassigned to reflect the temperature changes.

## **Documents relied on for fiscal and economic impact**

- [Sniffer Cost Estimate 2026 for OTM-51 at Coffin Butte Proposal](#)

## **Advisory committee fiscal review**

DEQ appointed an advisory committee.

As ORS 183.333 requires, DEQ asked for the committee's recommendations on:

- Whether the proposed rules would have a fiscal impact,
- The extent of the impact, and

- Whether the proposed rules would have a significant adverse impact on small businesses; if so, then how DEQ can comply with ORS 183.540 reduce that impact.

The committee reviewed the draft fiscal and economic impact statement, and its findings are summarized below. Additional information related to the committee's discussion can be found in the 'Advisory Committee' section later in this notice.

The committee determined the proposed rules would not have a significant adverse impact on small businesses in Oregon.

#### **Committee Final Assessment:**

- Would there be a fiscal impact?
  - Landfills: Yes.
  - Crematory: no comments or information provided from the FAC that there will be a fiscal impact. Implied agreement (lack of raising hands and providing alternative feedback or information) with DEQ's proposed FIS that there will be no fiscal impact.
  - Non-technical: no comments or information provided from the FAC that there will be a fiscal impact. Implied agreement (lack of raising hands and providing alternative feedback or information) with DEQ's proposed FIS that there will be no fiscal impact.
- What is the extent of the impact?
  - Landfills: \$60,000 initial estimate but presumed low and not showing 'net' changes appropriately. (Revised estimate obtained and proposed FIS revised as a result).
  - Crematory: N/A, see above.
  - Non-technical: N/A, see above.
- Would there be a significant impact to small businesses?
  - Landfills: No significant impact to small businesses.
  - Crematory: N/A, see above.
  - Non-technical: N/A, see above.

## **Racial equity**

Staff anticipate limited to no impacts on racial equity in the state resulting from the proposed rules. Adoption of the proposed rules would affect crematory incinerator owners and operators across the state and one municipal solid waste landfill in Benton County. Since the proposed rules will apply equally across all crematory incinerators and to one specific facility in Benton County, there is no expected impact on racial equity in the state. Establishing these requirements, as proposed, will align Oregon Administrative Rules with Oregon Revised Statutes as necessary to protect public health.

# Environmental justice considerations

## Environmental justice analysis

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, education or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. DEQ is committed to incorporating environmental justice best practices into its programs and decision-making, to ensure all people in Oregon have equitable environmental and public health protections.

DEQ is committed to incorporating environmental justice best practices into its programs and decision-making, to ensure all people in Oregon have equitable environmental and public health protections. The DEQ Air Contaminant Discharge Permit and Title V Operating Permit programs are designed to regulate and reduce emissions from facilities in Oregon. Environmental justice communities are often fence-line communities that are disproportionately affected by pollution. Adopting the proposed rules includes statutory updates required of the air program that are expected to reduce emissions from crematory incinerators and more effective surface emissions monitoring at the Benton County landfill. Overburdened communities may see environmental benefits from these changes.

# Land use

## Land-use considerations

In adopting new or amended rules, ORS 197.180 and OAR 340-018-0070 require DEQ to determine whether the proposed rules significantly affect land use. If so, DEQ must explain how the proposed rules comply with statewide land-use planning goals and local acknowledged comprehensive plans.

Under OAR 660-030-0005 and OAR 340 Division 18, DEQ considers that rules affect land use if:

- The statewide land use planning goals specifically refer to the rule or program, or
- The rule or program is reasonably expected to have significant effects on:
- Resources, objects, or areas identified in the statewide planning goals, or
- Present or future land uses identified in acknowledge comprehensive plans

DEQ determined whether the proposed rules involve programs or actions that affect land use by reviewing its Statewide Agency Coordination plan. The plan describes the programs that DEQ determined significantly affect land use. DEQ considers that its programs specifically relate to the following statewide goals:

| Goal | Title                                                         |
|------|---------------------------------------------------------------|
| 5    | Natural Resources, Scenic and Historic Areas, and Open Spaces |
| 6    | Air, Water and Land Resources Quality                         |
| 11   | Public Facilities and Services                                |
| 16   | Estuarine Resources                                           |
| 19   | Ocean Resources                                               |

Statewide goals also specifically reference the following DEQ programs:

- Nonpoint source discharge water quality program – Goal 16
- Water quality and sewage disposal systems – Goal 16
- Water quality permits and oil spill regulations – Goal 19

## **Determination**

DEQ determined that these proposed rules do not affect land use under OAR 340-018-0030 or DEQ's State Agency Coordination Program.

## **EQC prior involvement**

The EQC met on March 12, 2026 and authorized delegation to Director Leah Feldon for this rulemaking.

# Advisory committee

## Background

DEQ convened the **Landfill, Crematory and Non-Technical Updates** advisory committee. The committee included representatives from **environmental advocacy, state and county government, consultants and industry** and met **one** time. The committee's web page is located at: [Landfill, Crematory and Non-Technical Updates 2026](#)

The committee members were:

| Name                | Representing                                  |
|---------------------|-----------------------------------------------|
| Mason Leavitt       | Beyond Toxics                                 |
| Paul Koster         | Valley Landfills, Inc.                        |
| Marc Lund           | Smith Lund Mills Funeral Chapel & Crematorium |
| Bailey Payne        | Benton County                                 |
| Sarah Gelser Blouin | Oregon State Legislature                      |
| Emily McIntire      | Oregon State Legislature                      |
| David Barron        | Sniffer Robotics, Inc.                        |
| Chad Darby          | Maul Foster & Alongi, Inc.                    |
| Becky Kim           | Microchip Technology Incorporated             |

## Meeting notifications

To notify people about the advisory committee's activities, DEQ:

- Sent GovDelivery bulletins, a free e-mail subscription service, to the following lists:
  - Rulemaking
  - Air Quality Permits
  - DEQ Public Notices
  - Title V Permit Program
- Added advisory committee announcements to DEQ's calendar of public meetings at [DEQ Calendar](#).

## Committee discussions

In addition to the recommendations described under the Statement of Fiscal and Economic Impact section above, the committee discussed several items related to the proposed rules:

- Consider allowing a lower crematory incinerator temperature on a case-by-case basis if the owner or operator can demonstrate sufficient pollutant destruction to allow for a further reduction in fuel use, especially relevant as fuel costs are expected to increase due to the Climate Protection Program.
  - Crematory owners and operators who are experts in the use of their machines should be allowed to operate them as efficiently as possible. The industry standard is 1,600°F. When the incinerator temperatures were established, there was no consideration of greenhouse gas emissions.
- The definition of ‘advanced methane detection technology’ includes subsections which specifically include criteria applicable to drone monitoring. The current structure of this rule language will prohibit DEQ from approving non-drone alternative monitoring methods in the future.
- Request clarification on DEQ’s change associated with OAR 340-216-8010 Table 1 and whether there were any known sources that would ‘drop out’ of permitting based on the proposed changes.
- Request clarification on DEQ’s proposed change to the definition of ‘emergency’ in Division 200.
- Concern with requiring a technology by rule that only one company can accommodate.
- Did DEQ consider other technologies that could be used to detect methane emissions in addition to drones?
- Sniffer Robotics is listed in OTM-51, but does license the technology to other parties across the country. OTM-51 is not specific to Sniffer Robotics, as any other entity may submit data to EPA for approval in the use of OTM-51.
- DEQ should consider removing the specific required use of OTM-51 to allow the use of other technologies and companies- namely if Sniffer Robotics goes out of business or is too busy to be scheduled timely for compliance purposes.
- Legislative intent was not to create winners and losers, rather to create winners in Oregon via better safety and monitoring of landfills. SB726 was written in a way that did not restrict or limit DEQ’s ability to further require this technology across the state if the agency decides to do that.
- Requiring additional advanced monitoring instead of replacing existing monitoring methods is encouraged, though it is acknowledged that this would be an increased cost. Different monitoring methods can show different or more leaks. It would be expected that these costs would be passed on to users and consumers, though the wide body of consumers would likely mean a very minimal impact to each consumer. There would be significant positive effects to the surrounding community.
- Valley Landfills, Inc. is not opposed to using different technologies, rather wants to apply the best available technology at any point in time. The financial impacts can’t all be passed on to consumers based on existing contracts and agreements in place.
- OTM-51 (drones) would be used in lieu of walking the surface performing Method 21 under the proposed rules. Though walking the surface would still be required to verify increased meter readings and confirm repairs have been completed to address leaks. The point of using OTM-51 would be to replace the bulk of the walking, not all of it.
- Specifically related to the proposed Fiscal Impact Statement, the committee engaged in the following discussion and considerations:
  - Chad and Paul noted that the cost estimate included in the FIS appears to be significantly lower than what it is expected to be and posits that it may not include the entirety of the fiscal impacts, possibly excluding ‘data processing’ or ‘additional rechecks’. Another FAC member, David Barron, clarified that the estimate provided to DEQ does include data processing and various information

being provided to the owner/operator who contracts with Sniffer Robotics, Inc. for these services. David Barron confirmed that an updated and site-specific cost estimate would be provided. [A site-specific estimate was provided on 4/17/2026, which is reflected in the Fiscal Impact Statement earlier in this document; of note, the original estimate was substantially similar to the site-specific revised estimate]

- One FAC member, Paul, stated that Valley Landfills, Inc. spends “just under \$100,000 per year” for current monitoring. Other FAC members, David & Mason, stated that the FIS presented by DEQ should also consider the cost of current monitoring that will no longer be conducted (walking the surface Method 21) as a cost savings to show the net expense required by the proposed rules. DEQ asked the FAC whether Valley Landfills, Inc. currently uses employees to perform Method 21 surface emissions monitoring or contracts for these services. Valley Landfills, Inc. contracts for Method 21 to be performed.
- The FAC discussed whether remonitoring events (or ‘rechecks’) should be included in the cost estimates. While they are costs incurred to comply with existing and proposed rules, they are also expenses that are fully within the control of the landfill owner or operator. One FAC member, David, stated that these costs are not from the rule change because current rules require these remonitoring events anyway, rather these costs are variable and can also be significantly less for well-controlled landfills. The recommendation was for DEQ to compare the methods of OTM-51 and EPA Method 21 specifically and not consider follow-up events as part of the FIS. Another FAC member stated that their company implemented a Leak Detection And Repair (LDAR) program and found many leaks at their facility, noting that these leak repairs were a substantive expense but one that the company needed to bear as their equipment was what was leaking and repairs of this type are expected to be necessary.
- One FAC member, Mason, stated that DEQ should consider the positive effects on the community and nearby residential health due to the expected reduction of methane emissions in addition to the financial impacts. Even if costs for monitoring are passed on to consumers, there are many consumers using Valley Landfills, Inc. so the costs passed on to consumers will be minor, arguably outweighed by the positive impacts of reduced methane emissions.

# Public engagement

## Public notice

DEQ provided notice of the proposed rulemaking and rulemaking hearing by:

On April 29, 2026, filing notice with the Oregon Secretary of State for publication in the May 2026 Oregon Bulletin;  
Notifying the EPA by email;

- Posting the notice, invitation to comment and draft rules on the [rulemaking web page](#).
- Emailing approximately 19,000 interested parties on the following DEQ lists through GovDelivery:

- Rulemaking
- Air Quality Permits
- DEQ Public Notices
- Title V Permit Program

Emailing the following key legislators required under [ORS 183.335](#):

- Senator Janeen Sollman, Chair, Energy and Environment
- Senator Sara Gelser Blouin (Primary Sponsor SB 726)
- Representative John Lively, Chair, Climate, Energy and Environment
- Representative Emily McIntire (Primary Sponsor HB 3729)

Emailing advisory committee members,

- Posting on the [DEQ event calendar](#)

## How to comment on this rulemaking proposal

DEQ is asking for public comment on the proposed rules. Anyone can submit comments and questions about this rulemaking. A person can submit comments by email, mail or at the public hearing.

- **Email:** Send comments by email to: [AQRules.2026@deq.oregon.gov](mailto:AQRules.2026@deq.oregon.gov)
- **Postal mail:** Oregon DEQ, Attn: Dan DeFehr, 700 NE Multnomah St., Room 600, Portland, OR 97232-4100
- **At public hearing:** 5:15 P.M. May 29, 2026

## Comment deadline

DEQ will only consider comments on the proposed rules that DEQ receives by **4 p.m., on June 1, 2026**

**Note for public university students:**

ORS 192.345(29) allows Oregon public university and OHSU students to protect their university email addresses from disclosure under Oregon's public records law. If you are an Oregon public university or OHSU student, notify DEQ that you wish to keep your email address confidential.

# Public hearing

DEQ held one public hearing. DEQ received zero comments at the hearing. Later sections of this document include a summary of the 19 comments received during the open public comment period, DEQ's responses, and a list of the commenters. Original comments are on file with DEQ.

## Presiding officers' record

Hearing 1

Date: May 29, 2026

Place: Zoom Meeting

Start time: 5:15pm

End time: 5:48pm

Presiding officer: Graham Bates

## Presiding officer

The presiding officer convened the hearing, summarized procedures for the hearing, and explained that DEQ was recording the hearing. The presiding officer asked people who wanted to present verbal comments to sign the registration list, or if attending by phone, to indicate their intent to present comments. The presiding officer advised all attending parties interested in receiving future information about the rulemaking to sign up for GovDelivery email notices.

As Oregon Administrative Rule 137-001-0030 requires, the presiding officer summarized the content of the rulemaking notice.

No person presented any oral testimony or written comments.

# Summary of public comments and DEQ responses

## Public comment period

DEQ accepted public comment on the proposed rulemaking from April 30<sup>th</sup>, 2026 until 4 p.m. on June 1<sup>st</sup>, 2026.

For public comments received by the close of the public comment period, DEQ responded to each comment below. Original comments are on file with DEQ and listed below.

DEQ changed the proposed rules in response to comments described in the response sections below.

## Commenter 1: Sue B.

As a citizen, I feel very strongly that there should be the highest and most effective identification of methane identification from the landfills. Methane is very dangerous based on science. Of course companies don't want to spend the money but they they should be required to do better

### DEQ Response:

DEQ appreciates the time and effort the commenter took to review the proposed rules and provide feedback. After consideration, DEQ has determined that no changes to the proposed rules are warranted in response to this comment. DEQ thanks the commenter for their participation in the rulemaking process.

## Commenter 2: Joshua Coleman

Requiring monitoring is a good idea, but deciding exactly how it should be done is a bad idea. Telling coffin butte that they have to use drones in place of other methods is a bad idea. We don't need more red tape that gets in the way of the goal: make sure the dump is safe. Drones may be effective, but I believe that requiring them is an overstep of beauracracy. Define what needs to be measured, but do not tell them how it needs to be achieved. The oversight is the same whether they use drones or not.

The problem, from my understanding, was that Coffin Butte wasn't properly reporting. It wasn't that their methods of measurement were ineffective. Creating a new drone rule is not solving a problem, it's introducing potential new ones by limiting how something can be done. Don't allow this proposed methane monitoring rule to pass.

### DEQ Response:

DEQ appreciates the time and effort the commenter took to review the proposed rules and provide feedback. After consideration, DEQ has determined that no changes to the proposed rules are warranted in response to this comment.

DEQ is taking this rulemaking action as a result of the Oregon Legislature's passing of [Senate Bill 726](#) in 2025. The senate bill, now Oregon Revised Statute [468A.885](#), establishes that municipal solid waste landfills in Benton County are required to perform monitoring using

Advanced Methane Detection Technology. DEQ's rulemaking is providing necessary administrative rule language changes to support implementation of this new requirement. To ensure that municipal solid waste landfills in Benton County are not restricted to only using drones, or Unmanned Aerial Systems, DEQ did include a provision in the rules for landfill owners/operators to propose alternative methods, obtain DEQ approval, and use them. DEQ also chose to establish the default method of advanced methane detection monitoring as EPA Other Test Method 51 (OTM-51) as this specific monitoring method is the only available option that satisfies the legislative changes and current federal monitoring requirements, allowing for reduced redundancy in monitoring.

## Commenter 3: Max Hueftle

- LRAPA asks DEQ to consider adding a concentration (e.g., ppm) limit as a compliance option for renewable natural gas (RNG) facilities that use thermal oxidizers because they are combusting a heavy VOC stream that has been removed from the methane. LRAPA suggests that DEQ consider adding a 3000-ppm methane limit for these types of RNG facilities with thermal oxidizers or other enclosed combustors with low inlet methane concentration. This is for OAR 340-239-0110(2)(d).
- Also, for OAR 340-239-0110(2)(d), LRAPA believes the boiler and process limit for a minimum of 150 MMBtu/hr is supposed to allow an exemption from performance testing. However, LRAPA suggests that DEQ should not establish this to be the limit of possible control options. LRAPA suggests that in OAR 340-239-0110(2)(d)(A) above, the first sentence should drop the clause "with either having a design heat input capacity equal to or greater than 44 MW/hr (150 MMBtu/hr)". Additionally, LRAPA suggests that in OAR 340-239-0110(2)(d)(B)(i), DEQ should expand the low ppmv option to enclosed combustors with low inlet methane concentrations, in addition to lean burn internal combustion engines.
- In 340-239-0600(1)(a), LRAPA sees that DEQ has proposed removing the option for other correction action for surface emissions monitoring (SEM) exceedances. However, LRAPA suggests that if there is already a well in the radius of influence, another well could conflict and not solve the problem. LRAPA suggests that DEQ retain the alternate correction action clause in 340-239-0600(1)(a).
- For the recordkeeping requirements in OAR 340-239-0700(2)(b)(E), LRAPA notes that DEQ has placed the 150 MMBtu/hr limit on all enclosed combustion devices as a criterion for specific recordkeeping. LRAPA asks if this is what DEQ had intended or if the original language should be retained.

## DEQ Response:

1. **PPM Limit for Other Enclosed Combustors (OAR 340-239-0110(2)(d)(B)(i))**
  - a. DEQ agrees with the commenter. As written, the proposed rules did not allow facilities with other enclosed combustors any available alternative emissions limit. This is especially useful and necessary for facilities that have processes to remove methane from the landfill gas stream and are subsequently combusting the remaining pollutants, which is often low-methane high-VOC. Achieving a 99% destruction efficiency may not be possible for various facilities with these processes, so an option to align with NESHAP AAAA which allows a ppmv alternative is appropriate and reasonable.
  - b. DEQ made changes to the proposed rules in response to this comment.

- c. DEQ modified the 99% methane destruction efficiency requirement to also allow a 3,000 ppmv methane limit for additional types of control devices.
- 2. 150 MMBtu/hr. Limit (OAR 340-239-0110(2)(d)(A))**
  - a. DEQ agrees with the commenter. The language in the proposed rules at OAR 340-239-0110(2)(d)(A) inadvertently established a limit on the devices that could be used to combust landfill gases. This was not DEQ's intent. For landfill owners and operators using a boiler or process heater to combust landfill gas, the requirement was intended to be only that the landfill gas stream must be introduced into the flame zone. DEQ did not intend to only allow boilers and process heaters that have heat input capacities at or above 150 MMBtu/hr. to be used.
  - b. DEQ made changes to the proposed rules in response to this comment.
- 3. Alternative to New Well Installation (OAR 340-239-0600(1)(a)(C)(iv))**
  - a. DEQ agrees with the commenter. DEQ's proposed rules established that surface emissions monitoring exceedances which can't be resolved by the third monitoring/remonitoring event must install a new or replacement well to address the exceedance. Further, DEQ proposed to require that the new or replacement well must be within the radius of influence of where the exceedance was found. There may be cases, however, in which it is appropriate to replace other components. There may also be situations in which a new well in the same area as an existing well may not achieve the desired outcome of collecting additional gas, as the two wells may 'fight' for the same gas.
  - b. DEQ added back in the alternative remedy provisions.
  - c. DEQ made changes to the proposed rules in response to this comment.
- 4. Recordkeeping (OAR 340-239-0700(2)(b)(E))**
  - a. DEQ agrees with the commenter. DEQ did not intend to place qualification criteria on all enclosed combustors in that way. DEQ intended for this change to align with the US EPA federal requirements under NESHAP AAAA. DEQ changed the proposed rules to revert to the previous language, which aligns with the NESHAP, exempting 150 MMBtu/hr. or larger boilers or process heaters from the recordkeeping requirement.
  - b. DEQ made changes to the proposed rules in response to this comment.

## Commenter 4: Martha Truninger

I support senate bill 726. I live near Coffin Butte and have repeatedly smelled the dump. Although methane is odorless, the methane leaks carry additional gases which are detectible at my home. It is really disturbing that I smell the dump which has increased over the time I have lived here.

I support the rule changes proposed to methane monitoring at Coffin Butte and believe they are a strong step in the right direction of comprehensive landfill gas monitoring. Requiring operators to monitor the whole landfill, including the working face, helps ensure as many leaks are caught as soon as possible. This is so important. Research shows that up to 79% of landfill gas emissions come from the working face, so the proposed rules reflect a common sense approach to managing odors and greenhouse gas emissions.

Detecting and repairing landfill gas leaks will reduce odor problems for nearby homes and businesses. Nearby businesses, particularly farms and wineries, have faced trouble hiring labor willing to work in odorous environments and the odor even prevented the sale of a nearby winery when prospective buyers got a headache from landfill gas exposure. Odor complaints from residents are common during, particularly in winter inversions but also in the spring in the early morning. Odors hamper local and tourist scenic recreational activities, discourage other outdoor activities, and prevent residents from enjoying and even feeling safe in their home. I

especially am beginning to feel unsafe when I smell the dump. What else am I breathing in the landfill gas.

While the use of EPA method OTM 51 will allow Coffin Butte to meet both federal and state requirements, the use of remote sensing would constitute a stronger approach. States like California and Colorado have required or allowed operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51. Additionally, California and Colorado have both required landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space. Data from Carbon Mapper is freely available to operators and the public, and the organization has found a multitude of leaks at Coffin Butte and other Oregon landfills.

The proposed rules allow the use of above methods with DEQ approval. The use of multiple methods of monitoring, such as a combination of traditional SEM or OTM 51 with remote sensing will ultimately be a more comprehensive approach to landfill gas monitoring, and this approach is highly encouraged.

## **DEQ Response:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

## **Commenter 5: Kim Davis**

The rule changes proposed to methane monitoring at Coffin Butte head us in the right direction of comprehensive landfill gas monitoring. Requiring operators to monitor the whole landfill, including the working face, helps ensure as many leaks are caught as possible. Research shows that up to 79% of landfill gas emissions come from the working face, so the proposed rules reflect a common sense approach to managing odors and greenhouse gas emissions. The clarified data reporting procedures alongside the requirements to monitor the whole landfill will produce helpful data for future monitoring.

Detecting and repairing landfill gas leaks will reduce odor problems for nearby homes and businesses. Nearby businesses, particularly farms and wineries, have faced trouble hiring labor willing to work in odorous environments and the odor even prevented the sale of a nearby winery when prospective buyers got a headache from landfill gas exposure. Odor complaints from residents are common during, particularly in winter inversions. Odors hamper local and

tourist scenic recreational activities, discourage other outdoor activities, and prevent residents from enjoying and even feeling safe in their home.

While the use of EPA method OTM 51 will allow Coffin Butte to meet both federal and state requirements, the use of remote sensing would constitute a stronger approach. States like California and Colorado have required or allowed operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51. Additionally, California and Colorado have both required landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space. Data from Carbon Mapper is freely available to operators and the public, and the organization has found a multitude of leaks at Coffin Butte and other Oregon landfills.

Thank you for working to reduce methane emissions related to the Coffin Butte landfill.

## DEQ Response:

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

## Commenter 6: Carolyn Kohout

I have a few things to present:

Background: Evidence which indicates critically necessary changes - in procedures and practices - to hold Republic Services accountable for public health harms:

1- DEQ has proposed it will fulfill the requirements of SB 726 to require Coffin Butte Landfill to use advanced technologies, like drones, to monitor for methane emissions to mimicking "[OTM 51](#)", which EPA developed, to detect landfill gas leaks at Coffin Butte.;

2- important corrective actions - stronger monitoring procedures to help protect local public health for people who live and work near landfills – which will keep Oregon accountable for reducing greenhouse gas emissions. These are steps in the right direction; and

3- the recent record-breaking \$3 million fine.

Title V Permits determine how much pollution an entity is allowed to emit.

Proposed: Republic Services is seeking to increase the pollution allowed by their Title V Permit by two to four times what their current permit allows.

Currently: At the Eugene City Council virtual public hearings on May 29<sup>th</sup> re: Republic Services' Title V Permit.

1. It is important to put in place Public Health Standards of Eugene's land use codes in order to create protective buffer zones between industrial and residential zones.
2. It is necessary to shift the burden of proof that industry is protecting all “parties” involved onto industries.
3. More reviews by the community must be done to determine if industry projects pollute the earth and air.
4. Applicants for projects must document and attest to the air, land, and water quality permits they need.

Public Health Standards' Version 3: 1- creates a balance between the needs of the community without creating undue burden on businesses; 2- allows for better transparency and accountability.

Why: Increasingly more students/children and adults are coming down with asthma and other environmentally caused health conditions as each year passes.

To better monitor Coffin Butte Landfill so that more effective and efficient detection of landfill gas leaks will be repaired in a timely manner.

There are signs the plant and animal life are fewer and less vibrant. These nourish us ... (what is in the air goes into our food...) and are our surroundings. It is important the balance of nature stays healthy.

## **DEQ Response:**

Thank you for your comment. There are no changes requested to the proposed rules; DEQ has not modified the proposed rules in response to this comment.

## **Commenter 7: Alida Rol**

I am writing in support of the DEQ proposed "OTM 51" mimicking to detect landfill gas leaks at Coffin Butte to fulfill the requirements of SB 726. Better monitoring methods will ultimately lead to more effective and efficient detection of landfill gas leaks so they can be repaired in a timely manner.

## **DEQ Response:**

Thank you for your comment. No changes were made to the proposed rules in response to this comment.

## **Commenter 8: Paul Koster**

Valley Landfills, Inc. (VLI) submits the following comments regarding the proposed revisions to Oregon Administrative Rule (OAR) 340-239-0610 associated with implementation of Senate Bill 726 and the requirement for advanced methane monitoring technology at Coffin Butte Landfill beginning January 1, 2027.

VLI, owner and operator of Coffin Butte Landfill in Benton County, Oregon, respectfully requests flexibility in implementation and opposes a regulatory framework that effectively limits compliance to a single methodology or vendor.

VLI remains committed to reducing and controlling methane emissions and supports the use of advanced technologies that improve environmental performance and operational effectiveness. Senate Bill 726, as adopted and signed into law by Governor Tina Kotek on June 16, 2025, broadly defines "advanced methane detection technology" as:

*[S]atellite monitoring, airlight monitoring, drones or remote direct monitoring technology that yields emission rates and the location of a methane emissions point as further defined by the Environmental Quality Commission by rule....*

See Senate Bill 726, Section 2(1)(a).

The language adopted by the Legislature and signed by the Governor intentionally provides flexibility and allows for continued advancement and adoption of improved technologies over time. VLI supports this open and technology-neutral approach.

However, the Oregon Department of Environmental Quality's proposed revisions to OAR 340-239-0015 substantially narrow that legislative intent by defining "advanced methane detection technology" as:

[A]n advanced methane detection monitoring program that uses satellite monitoring, airlight monitoring, drones, or remote direct monitoring technology that meets either (a) or (b):

(a) A surface emission monitoring method and protocol that is substantially equivalent to EPA OTM-51 (ALT-150) or EPA Method 21 and is approved by DEQ in writing; or

(b) A monitoring system that complies with EPA Other Test Method-51 – 'UAS Application of Method 21 for Surface Emission Monitoring of Landfills', as approved by EPA on December 15, 2022 (OTM-51) and all criteria in OAR 340-239-0610.

See Oregon DEQ Draft Rules Landfill Crematory and Non-Technical Updates 2026, § 340-239-0015(2), p. 95.

As discussed in detail below, VLI respectfully requests Oregon DEQ to not move forward with the current regulatory definition of "advanced methane detection technology." Instead, we request revisions to the definition to avoid dictating the use of a specific proprietary technology. First, it effectively mandates the use of a single, proprietary vendor, Sniffer Robotics, owner of SnifferDRONE™, giving the company practical exclusivity in emissions monitoring without adequately considering long-term operational resilience, market evolution, or the potential for emerging technologies to deliver improved outcomes. Although not explicitly stated, the proposed language may effectively limit compliance to a single currently available technology provider, creating unnecessary dependence on one proprietary system. Regulatory frameworks should establish performance standards rather than effectively selecting a specific technology or vendor solution.

Second, the proposed rules create practical implementation challenges. The proposed requirement for written DEQ approval of alternative methodologies, coupled with follow-up ground-based surveys within 24 hours of drone monitoring, introduces uncertainty and operational constraints outside the control of facility operators. Factors including weather conditions, equipment malfunctions, scheduling limitations, and report-processing delays can impact the ability to meet strict timelines. Greater flexibility would better reflect operational realities while maintaining environmental protections.

Third, ODEQ's proposed approach may impose overlapping compliance requirements beyond existing federal monitoring obligations. The U.S. Environmental Protection Agency currently requires established walking patterns under Method 21 for surface emissions monitoring. Oregon's proposed framework could require multiple monitoring methodologies to be implemented simultaneously, potentially increasing operational complexity and costs without a corresponding demonstrated environmental benefit. Additionally, reliance on a single technology pathway appears inconsistent with the rapid pace of advancement occurring in methane detection systems and artificial intelligence applications.

For example, in August 2025, VLI successfully conducted surface emissions monitoring using a remote rover platform. Additional technologies, including robotic and autonomous monitoring systems, continue to be evaluated. Limiting compliance pathways today may unintentionally restrict adoption of future technologies that could provide greater accuracy, efficiency, and environmental benefit.

In regards to the proposed Fiscal Impact Statement, VLI believes the analysis to be incomplete. Specifically, during the April 8, 2026, Rules Advisory Committee Meeting, Sniffer Robotics indicated that other companies may be capable of conducting surface emissions monitoring (SEM) in accordance with OTM-51 and EPA Alternative Test Method Letter 150. However, Sniffer Robotics stated that these companies would be required to license Sniffer Robotics' proprietary algorithm in order to perform the monitoring consistent with the OTM-51 methodology.

This requirement raises significant concerns regarding the availability of fair and equitable opportunities for small businesses to participate in the market for OTM-51 monitoring services. If successful implementation of OTM-51 requires access to a proprietary algorithm controlled by a single vendor, then the associated licensing costs become a material component of compliance and may create barriers to entry for smaller firms seeking to provide these services.

Notably, the cost estimates provided to Oregon DEQ do not appear to include any licensing fees or other costs associated with obtaining access to the proprietary algorithm. As a result, the fiscal impact analysis may substantially underestimate the actual costs that businesses would incur to comply with the proposed rule and may fail to accurately assess the competitive impacts on small businesses.

VLI believes that, to ensure transparency and to properly evaluate the rule's economic impacts, Oregon DEQ should require disclosure of any licensing fees, subscription costs, or other proprietary technology costs necessary to perform OTM-51 monitoring. These costs should be incorporated into the fiscal impact statement so that regulators and stakeholders can fully assess whether the proposed rule creates disproportionate burdens on small businesses or limits competition within the marketplace.

VLI is not alone in expressing these concerns. During the April 8, 2026 Rules Advisory Committee meeting, similar questions regarding flexibility and implementation were raised by stakeholders including Mason Leavitt of Beyond Toxics and Chad Darby of Maul Foster Alongi. In closing, VLI respectfully requests that the final rule language adopt a flexible, performance-based framework that allows for multiple validated technologies and avoids unintended vendor exclusivity. Such an approach would encourage innovation, preserve operational reliability, maintain regulatory compliance, and support continued environmental progress across Oregon landfill facilities. Please feel free to contact me at [pkoster@republicservices.com](mailto:pkoster@republicservices.com) or 541-230-5543 to further discuss VLI's comments.

## **DEQ Response:**

Thank you for your comments regarding the proposed revisions to OAR 340239 related to implementation of Senate Bill 726. DEQ appreciates VLI's engagement in the rulemaking process and the detailed feedback provided. DEQ offers the following responses to the primary concerns raised.

### **1. Alternative definition of "advanced methane detection technology"**

VLI expressed concerns with the proposed definition, requesting a change to avoid requiring the use of a specific technology. VLI did not, however, provide alternative regulatory language or methodologies in the comment for DEQ's consideration.

During rule development, DEQ reviewed multiple possible approaches and determined that aligning the definition of 'advanced methane detection technology' with established, EPA-approved methodologies best meet the statutory requirements of SB 726 while ensuring environmental integrity, consistency, and simplifies implementation for VLI and DEQ. DEQ did not make changes to the proposed rules as a result of this comment.

DEQ disagrees with the assertion that the proposed language limits operators to a single methodology. The primary option for municipal solid waste landfills in Benton County is OTM-51, using Unmanned Aerial Systems (UAS, or drones) to perform surface emissions

monitoring. The rules, however, do include a specific provision, added in response to the Rules Advisory Committee discussion, to ensure other technologies would be able to be approved by DEQ in the future. The definition proposed in the rules allow alternative monitoring technologies, but VLI should be aware that alternatives which are not approved by EPA to be used in lieu of Method 21 would result in duplicative monitoring being required (both EPA Method 21 or OTM-51 *and* the other method requested/approved).

## **2. Practical Implementation Challenges**

DEQ acknowledges that circumstances outside the control of landfill owners and operators have the potential to lead to noncompliance with the proposed surface emissions monitoring requirements.

However, DEQ notes that the implementation challenges identified by VLI are not unique to the proposed advanced monitoring provisions. Similar constraints exist under the current surface emissions monitoring framework using EPA Method 21. During the Rules Advisory Committee process, VLI stated that it relies on external contractors to conduct quarterly Method 21 monitoring. As a result, factors such as equipment malfunctions, weather conditions, contractor scheduling limitations, and report processing timelines are already inherent in the existing monitoring approach.

OAR chapter 340, division 239 already includes the alternative approval process in OAR 3402390500, which allows landfill owners and operators to request alternatives to many existing requirements. Under this rule, an alternative may be approved when the applicant demonstrates that the proposal meets the qualifications specified in the rule. Lastly, DEQ notes that it retains general enforcement discretion under its existing authorities. In situations where a violation is caused entirely by factors outside the control of the facility and where the facility/permittee has documented their attempts to remain in (or return to) compliance, the agency may, where appropriate, consider those circumstances when determining the appropriate enforcement response.

## **3. Overlap of monitoring requirements**

DEQ does not agree that the proposed framework creates overlapping or duplicative monitoring requirements. The default advanced methane detection monitoring pathway proposed in the rules, OTM51, is in fact the only method that allows a landfill owner or operator to forgo concurrent ground-based monitoring. The structure of OAR 340-239-0610 is intentionally designed to provide a streamlined option for facilities that utilize OTM51, thereby reducing—rather than increasing—the need for multiple monitoring methods.

OTM-51 requires the owner or operator to conduct ground-based surveys at any areas where an ‘increased meter reading’ is found by the drone. This could be interpreted as duplicative, however, the ground-based monitoring is only required at areas where the drone finds methane above the limit, which is based on the operation and maintenance of the landfill’s gas collection and control system and cover. Well-controlled and maintained landfills should expect minimal ground-based follow-up survey work.

If DEQ were to establish any alternative monitoring technology in rule, landfill owners and operators would still be required to conduct the federally mandated quarterly Method 21 monitoring, in addition to any state specified method. In contrast, EPA has approved OTM51 for use in lieu of Method 21 (in most circumstances). For these reasons, DEQ disagrees with the comment and maintains that the proposed rule approach represents the only viable option that generally reduces monitoring redundancy and complies with SB 726.

## **4. Fiscal impact assessment**

DEQ appreciates VLI’s comments regarding the Fiscal Impact Statement and the

concerns related to potential proprietary technology costs associated with implementing OTM51. DEQ reviewed all available cost information throughout the rulemaking process and subsequently revised the Fiscal Impact Statement after receiving supplemental materials from Sniffer Robotics, including a detailed proposal for services specific to VLI with pricing locked through the end of 2026. These figures, along with an additional \$10,000 contingency to account for unanticipated costs, were incorporated into the updated analysis to more accurately reflect expected expenditures.

EPA allows any entity to seek approval to conduct OTM51 monitoring, and the ability to provide monitoring services is not limited to a single firm. Companies that choose not to develop their own EPA-approved methodology, or do not wish to demonstrate their capacity to conduct monitoring consistent with OTM51, may instead lease equipment or procure services from an approved provider. These are business decisions undertaken at the discretion of the operator and are not costs imposed by the proposed rules.

DEQ further notes that the proposed changes to the landfill rules do not apply to small businesses. SB 726 identifies a single affected landfill—Valley Landfills, Inc. at Coffin Butte. While other landfills may elect to use OTM51 under the rules, they are not required to do so. The determination of which entities have the personnel, equipment, or technical capacity to implement OTM51 is outside the scope of this rulemaking and is not attributable to the regulatory requirements themselves. Accordingly, the rules do not create disproportionate impacts on small businesses.

For these reasons, DEQ maintains that the revised Fiscal Impact Statement accurately reflects the regulatory costs associated with the proposed rules and that additional disclosure requirements related to proprietary technology fees are not warranted.

## **Commenter 9: Mel S.**

All of this information below is information that I strongly believe the DEQ in Oregon already knows and agrees with. When I think of the DEQ, I think acts in the benefit to whom? Why does the DEQ exist? For whom? To what? And it is my hope and wish that in the case of Coffin Butte that the DEQ will focus on bettering the quality of the environment as it appears to me it is supposed to do. Implementing these rules are helpful. Quality of life not just for corporations needs to be maintained and made better. We've had too much time of big business getting help from government agencies and now the scales must become even again. Life expectancy has not gotten back to even what it was pre-pandemic.

The DEQ must really enforce the rule changes because pollution is a detriment to the quality of the environment which is what the agency is supposed to be enhancing and sometimes forgets because of the terms "benefit" and "benefactor". But in this case we do see the new rule changes are bending back towards benefit of humankind and our environment. I feel a little more at ease than I did months ago knowing these changes might come.

The rule changes proposed to methane monitoring at Coffin Butte are a strong step in the right direction of comprehensive landfill gas monitoring. Requiring operators to monitor the whole landfill, including the working face, helps ensure as many leaks are caught as possible.

Research shows that up to 79% of landfill gas emissions come from the working face, so the proposed rules reflect a common sense approach to managing odors and greenhouse gas emissions. The clarified data reporting procedures alongside the requirements to monitor the whole landfill will produce helpful data for future monitoring.

As an Oregonian who is quite sensitive to pollution and has been fighting an awful eye condition I agree with this statement:

Detecting and repairing landfill gas leaks will reduce odor problems for nearby homes and businesses. Nearby businesses, particularly farms and wineries, have faced trouble hiring labor willing to work in odorous environments and the odor even prevented the sale of a nearby winery when prospective buyers got a headache from landfill gas exposure. Odor complaints from residents are common during, particularly in winter inversions. Odors hamper local and tourist scenic recreational activities, discourage other outdoor activities, and prevent residents from enjoying and even feeling safe in their home.

Wind blows pollution and that needs to be understood because you don't have to be up close to experience the problems the Coffin Butte landfill brings. Clouds, wind, water, soil, etc. can bring the environmental issues far and wide.

While the use of EPA method OTM 51 will allow Coffin Butte to meet both federal and state requirements, the use of remote sensing would constitute a stronger approach. States like California and Colorado have required or allowed operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51. Additionally, California and Colorado have both required landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space. Data from Carbon Mapper is freely available to operators and the public, and the organization has found a multitude of leaks at Coffin Butte and other Oregon landfills.

The proposed rules allow the use of above methods with DEQ approval. The use of multiple methods of monitoring, such as a combination of traditional SEM or OTM 51 with remote sensing will ultimately be a more comprehensive approach to landfill gas monitoring, and this approach is highly encouraged.

Thank you for what I hope becomes a reality in regulating the Coffin Butte landfill. Someday soon, we need the agency to ask itself how to lower not just pollution of such but the very existence of landfills in the numbers that they currently are and maybe do we need them at all? For whom? To what does a landfill exist and is there an exit? To be clear SB 726 is an excellent direction for the DEQ on monitoring emissions and their degradation to our environment. I appreciate the attention given to the issue at hand. It's very positive and I hope for more of that.

## **DEQ Response:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

# Commenter 10: Virginia Scott

## **No Exclusions to Monitoring**

I am very pleased with the requirement in SB 726, page 122, 340-239-0610 (3) that all areas of the landfill be monitored including the working face with no exclusions permitted. Requiring operators to monitor the whole landfill, including the working face, helps to ensure that as many leaks are caught as possible. Research shows that up to 79% of landfill gas emissions come from the working face, so the proposed rules reflect a common sense approach to managing odors and greenhouse gas emissions. The clarified data reporting procedures along with the requirements to monitor the entire landfill will produce helpful data for future monitoring. This data needs to be transparently available to the public as well.

## **DEQ to Require Multiple Monitoring Methods**

Multiple monitoring methods provide a more complete picture of methane leaks at Coffin Butte Landfill. My suggestion is that in addition to the use of EPA method OTM 51 which will allow Coffin Butte to meet both federal and state requirements, the use of remote sensing would constitute a stronger approach.

States like California and Colorado have required, or allowed operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51. Additionally, California and Colorado have both required landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space. Data from Carbon Mapper is freely available to operators and the public, and the organization has found a multitude of leaks at Coffin Butte and other Oregon landfills.

I believe that a requirement should be added that Coffin Butte should have to immediately respond to and remediate excessive leak findings reported by Carbon Mapper or other 3rd party remote sensing platforms within the same time constraints for identifying, remediating and reporting as the owner must adhere to with other detection methods.

## **Fence Line Monitoring**

Detecting and repairing landfill gas leaks will reduce odor problems for nearby homes and businesses. Odor complaints from residents are common, particularly in winter inversions. Odors hamper local and tourist scenic recreational activities, discourage other outdoor activities, and prevent residents from enjoying and even feeling safe in their home.

Since public odor reports to ODEQ are currently met with a nose blind human from Republic Services going out to the fence line and declaring "there are no odors", we need to take the human "he said/she said" out of the equation by implementing fence line monitoring and a meteorological tower with real-time, publically accessible data reporting.

Please add a requirement to SB 726, for the Coffin Butte Landfill, that along with the other monitoring, Republic Services/Valley Landfills Inc. must install six fence line monitoring systems (see below) and one 10+ meter meteorological (MET) tower equipped with instruments to measure wind speed, wind direction, temperature, humidity, rainfall, and barometric pressure. Republic Services/Valley Landfill Inc. must install and operate six monitoring stations (24 hours a day, 7 days a week, 365 days a year) along the perimeter of the Coffin Butte Landfill. Each of the six stations is to be equipped with sensors for Hydrogen Sulfide (H<sub>2</sub>S), methane (CH<sub>4</sub>), and meteorological instrumentation. The H<sub>2</sub>S and CH<sub>4</sub> sensors will measure the presence of these compounds along the perimeter of the Coffin Butte Landfill. While H<sub>2</sub>S itself is generally considered an odorous gas, CH<sub>4</sub> is odorless. CH<sub>4</sub> acts as a surrogate for other potentially odorous compounds that cannot themselves be readily and continuously measured. Depending on the levels detected, the presence of these compounds at the facility perimeter could indicate the potential for detectable odors at off-site locations under certain meteorological conditions.

Coffin Butte Landfill required to:

Install six perimeter monitoring systems (MS), one on the eastern fence line, one on the SE corner of the fence line and 3 distributed along the southern fence line, and one on the SW corner fence line of the Coffin Butte Landfill (see map below).



Each fence line monitoring system (MS) would monitor for Hydrogen Sulfide (H<sub>2</sub>S), Methane (CH<sub>4</sub>), wind speed, wind direction, temperature, humidity, and barometric pressure.

The meteorological tower (MET) would be a minimum of 10 meters tall, would be located 500 ft. south of the southern Coffin Butte fence line and would monitor wind speed, wind direction, temperature, humidity, rainfall, and barometric pressure.

Each station would record an average of the prior hours measurements and log hourly and report out all measurements in real-time to: DEQ, Valley Landfills/Republic Services, and a publicly accessible monitoring site.

Corrective action would be immediately required if levels reached or exceeded:

CH<sub>4</sub>– 30 ppm

H<sub>2</sub>S – 20 ppb

Add real-time methane limits to the DEQ requirement for these Monitoring Stations that if methane (CH<sub>4</sub>) concentrations reach 30 ppm and remain above the 30 ppm threshold Valley Landfills/Republic Services must respond immediately, report the problem on their publically available website, report the problem to DEQ, determine the source of the problem. Valley Landfills/Republic Services must fix the problem within 48 hours and report the fix to both their website and DEQ. If the methane levels do not fall below 30 ppm within 48 hours, this will trigger immediate violations and enforcement by DEQ. If Valley Landfills has identified the problem and cannot fix it within 48 hours, they may request more time with a formal written request to DEQ that includes the details of the issue and the plan and timeline to address it. Any requests for extension must be approved by DEQ.

Add real-time hydrogen sulfide limits to the DEQ requirement for these Monitoring Stations that if hydrogen sulfide (H<sub>2</sub>S) concentrations reach 20 ppb and remain above the 20 ppb threshold Valley Landfills/Republic Services must respond immediately, report the problem on their publically available website, report the problem to DEQ, determine the source of the problem. Valley Landfills/Republic Services must fix the problem within 48 hours and report the fix to both their website and DEQ. If the methane levels do not fall below 20 ppb within 48 hours, this will trigger immediate violations and enforcement by DEQ. If Valley Landfills has identified the problem and cannot fix it within 48 hours, they may request more time with a formal written request to DEQ that includes the details of the issue and the plan and timeline to address it. Any requests for extension must be approved by DEQ.

## Summary

The proposed rules allow the use of above methods with DEQ approval. The use of multiple methods of monitoring, such as a combination of traditional SEM or OTM 51 with remote sensing and fence line monitoring will ultimately be a more comprehensive approach to landfill gas monitoring, and this approach is highly encouraged.

### **Elevated Temperature Landfills ( ETLF)**

Per the EPA document “When Does a Municipal Solid Waste Landfill become an Elevated Temperature Landfill (ETLF)?” the threshold for an elevated temperature wellhead is 131 degrees Fahrenheit. Based on the EPA’s published information, the well head temperature thresholds in the DEQ requirement should be adjusted throughout. ETLF produce toxic fumes that are a danger to the landfill workers, the people around the landfill and emergency workers. Addressing an elevated temperature situation before it reaches a potentially dangerous level would be a sound protective measure.

3 (a) p. 114 (~~62.8~~ **55** degrees Celsius or ~~445~~ **131** degrees Fahrenheit)

(A) & (B) p. 120 (~~62.8~~ **55** degrees Celsius or ~~445~~ **131** degrees Fahrenheit)

(D) p.120 ~~76.7~~ **71.1** degrees Celsius (~~470~~ **160** degrees Fahrenheit) & (~~62.8~~ **55** degrees Celsius or ~~445~~ **131** degrees Fahrenheit)

(E) p. 126 (~~62.8~~ **55** degrees Celsius or ~~445~~ **131** degrees Fahrenheit)

(M) p. 137 (~~62.8~~ **55** degrees Celsius or ~~445~~ **131** degrees Fahrenheit)

(8) p. 143 (~~62.8~~ **55** degrees Celsius or ~~445~~ **131** degrees Fahrenheit)

## **DEQ Response:**

### **Satellite/Other Monitoring:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature’s directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

### **Elevated temperature:**

DEQ does not agree with the recommendation to revise the rule’s temperature threshold to 131 degrees Fahrenheit. EPA uses 131 °F in technical guidance as an indicator that atypical thermal conditions may be developing in a landfill; however, this value is not a regulatory trigger. In contrast, the federal NESHAP Subpart AAAA establishes 145 °F as the legally enforceable threshold requiring enhanced monitoring and compliance actions at wellheads. The two temperatures serve different purposes: 131 °F reflects an informational benchmark used in research and outreach materials, while 145 °F is the federally established regulatory standard.

For consistency with federal requirements, current state rule, and to ensure alignment with existing compliance obligations, DEQ proposes to retain 145 °F as the applicable threshold in the rule.

**Fenceline monitoring:**

DEQ appreciates the comment recommending the requirement to install six meteorological towers to enhance fenceline pollutant monitoring. DEQ does not agree the requirement is appropriate and believes the requested change is out of scope for this rulemaking. The proposed rules do not establish fenceline emissions monitoring obligations of this type, and imposing a requirement to purchase, operate, and maintain meteorological towers would result in substantial additional costs that are not justified by the current regulatory framework or the initial scope of this rulemaking. Meteorological tower installation and maintenance involve significant capital investment, specialized instrumentation, and ongoing operational oversight, which would create burdens that are inconsistent with existing state and federal air quality rules. DEQ intends to evaluate the effectiveness of the monitoring and reporting requirements adopted in this rulemaking before considering more prescriptive or resource-intensive measures. Accordingly, DEQ is not proposing to require meteorological towers as part of this rulemaking.

**Commenter 11: [@Tweet37@juno.com](https://twitter.com/Tweet37)**

I concur with Beyond Toxics and

**DEQ Response:**

Thank you for your comment.

**Commenter 12: Mark Henkels**

I strongly endorse the general principles of the current proposal by Oregon DEQ to implement SB 726, which requires the establishment of a better system for monitoring methane emissions from landfills.

I am not an engineer and cannot attest to the full implications of each technical alternative, but my reading of DEQ literature and of various analyses and commentary on monitoring landfill emissions leads to me to support the following actions.

First, I believe that all landfills should be monitored using the most advanced methods, such as the now well-established “[OTM 51](#)” approach. DEQ should survey all Oregon landfills in order to both catch emissions that may be larger than presumed and to create a comprehensive statistical picture of the total landfill methane emissions.

Second, DEQ must require the latest technologies regarding methane detection. Localized methods such as drones and more advanced on-site detection of leaks and emissions from the working surface are needed to properly fulfill the purpose of SB 726. Such technologies could eliminate the current gaps in data created by surface areas that are deemed difficult to monitor. The well-established systems for measuring plumes of methane from satellites should also be part of the comprehensive monitoring system. Space-based technology is readily available through systems such as Carbon Mapper and should be incorporated into our information systems to broaden and deepen the data we have on emissions.

Third, if monitoring is to be privatized, it is critical that the system does not depend on voluntary or self-reporting. Both the US EPA and Oregon’s DEQ found that the reports of emissions from Coffin Butte filed by Republic Services were grossly inaccurate, which led to one of the largest

civil penalties against a corporation in Oregon's history. If third parties are to be used for monitoring, it is essential that they be carefully vetted and held to high professional standards. Finally, it is clear that Coffin Butte is a particularly troublesome site for methane emissions, as demonstrated by its history of poor monitoring and emission violations. This site deserves specifically careful monitoring. That monitoring should require comprehensive and more frequent surface measurements and not allow for excluded areas. Drones or other technology make this possible. There should also be automated border measuring devices on the perimeters of Coffin Butte. Such fence-line monitoring would verify the information provided by monitoring of the gas collection and energy generation facilities and through surface monitoring. The 1.1 million tons of refuse deposited in Coffin Butte annually, combined with the high rainfall in the area and the well-documented existing impacts of emissions on the surrounding area, justify such an enhanced monitoring system.

SB 276 creates the potential for a major advancement of our understanding and control of methane releases from landfills. I commend the start that DEQ is making on this policy.

## **DEQ Response:**

Thank you for your comment.

### **Survey All Landfills:**

The revisions to Division 239 for landfill gas regulation were made to implement Senate Bill 726, which requires advanced methane detection at municipal solid waste landfills in Benton County. At this time DEQ is not conducting a broader survey of all landfills. However, the proposed rules include provisions allowing any landfill owner or operator to use OTM-51, which DEQ believes has the potential to improve methane leak detection and remediation statewide.

### **Use Satellite/Other:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

### **Self-Reporting**

DEQ is not creating new or different reporting protocols in the proposed rules. The legal entity responsible for permit compliance remains the same entity responsible for certifying the accuracy of reports submitted to DEQ. When inaccurate information is submitted, DEQ has the authority to take appropriate enforcement actions, as it has done in the past. DEQ believes the level of detail required in the proposed rules will support more accurate reporting.

### **Fenceline monitoring:**

DEQ appreciates the comment recommending the requirement to perform fenceline pollutant monitoring. DEQ does not currently agree that such a requirement is appropriate. The proposed rules do not establish fenceline emissions monitoring obligations of this type, and imposing a requirement to purchase, operate, and maintain meteorological towers would result in substantial additional costs that are not justified by the current regulatory framework or the initial scope of this rulemaking. Meteorological tower installation and maintenance involve significant capital investment, specialized instrumentation, and ongoing operational oversight, which would create burdens that are inconsistent with existing state and federal air quality rules. DEQ intends to evaluate the effectiveness of the monitoring and reporting requirements adopted in this rulemaking before considering more prescriptive or resource-intensive measures. Accordingly, DEQ is not proposing to require meteorological towers as part of this rulemaking.

## **Commenter 13: Priya Thakkar**

As a neighbor of Coffin Butte Landfill and someone who has frequently smelled the dump and felt nauseous from the dump, and had my day to day activities affected by the smell, I wanted to provide input on the proposed rule changes.

The rule changes proposed to methane monitoring at Coffin Butte are a strong step in the right direction of comprehensive landfill gas monitoring. Requiring operators to monitor the whole landfill, including the working face, helps ensure as many leaks are caught as possible.

Research shows that up to 79% of landfill gas emissions come from the working face, so the proposed rules reflect a common sense approach to managing odors and greenhouse gas emissions. The clarified data reporting procedures alongside the requirements to monitor the whole landfill will produce helpful data for future monitoring.

Detecting and repairing landfill gas leaks will reduce odor problems for nearby homes and businesses. Nearby businesses, particularly farms and wineries, have faced trouble hiring labor willing to work in odorous environments and the odor even prevented the sale of a nearby winery when prospective buyers got a headache from landfill gas exposure. Odor complaints from residents are common during, particularly in winter inversions. Odors hamper local and tourist scenic recreational activities, discourage other outdoor activities, and prevent residents from enjoying and even feeling safe in their home.

While the use of EPA method OTM 51 will allow Coffin Butte to meet both federal and state requirements, the use of remote sensing would constitute a stronger approach. States like California and Colorado have required or allowed operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51. Additionally, California and Colorado have both required landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space. Data from Carbon Mapper is freely available to operators and the public, and the organization has found a multitude of leaks at Coffin Butte and other Oregon landfills.

The proposed rules allow the use of above methods with DEQ approval. The use of multiple methods of monitoring, such as a combination of traditional SEM or OTM 51 with remote sensing will ultimately be a more comprehensive approach to landfill gas monitoring, and this approach is highly encouraged.

## **DEQ Response:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair. At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

## Commenter 14: Mark Yeager

SB 726 and the corresponding proposed rules take a step forward in regulating the consequences of landfill methane emissions, but there are areas where rules could go further to leverage current best practices. California and Colorado have recently implemented rules that better emulate best practices, and I recommend that DEQ folds these existing resources into the current rulemaking in order to bring regulation up to date. DEQ has already taken some steps to match these other rules, so our comments are both directed at strengthening DEQ's rationale and suggesting further areas of improvement.

The draft rules specifically aimed at implementing the language of Senate Bill 726 are a step in the right direction in that they require monitoring the entire surface of the landfill, including the working face, which can be a significant, even primary source of fugitive emissions. While this is a statutory requirement, it is a common sense step in successfully preventing harmful fugitive emissions. Aerial surveys conducted were able to detect significant methane plumes coming from the landfill's active working face. Surveys in the United States and Canada show active face emissions can represent 60-79% of total site emissions, meaning traditional SEM effectiveness would top out at 21-40% of emissions.

The final rules should combine traditional SEM or OTM 51 with infrared drone monitoring (also called remote sensing) and satellite remote sensing to catch more leaks of landfill gas. DEQ's stated definition of OTM 51 being the default "advanced monitoring technology" is a step forward, as OTM 51 has been approved by the federal EPA as comparably effective to Method 21, however its protocols replicate flaws that lead to missed methane emissions.

Several states have already updated their regulations to reflect the current reality and availability of advanced technologies, and DEQ can directly draw from their analyses and protocols already developed to further justify proposed rules and add regulations that would strengthen the implementation of SB 726.

As written, the draft rules omit investigation and repair of the largest methane plumes. The draft rules focus on surface monitoring, but do not create a broader satellite/aerial plume response system requiring investigation, mitigation, public reporting, and follow-up when large plumes are detected. This is a major gap compared with the Colorado and California methane rules, which emphasize prompt investigation and mitigation of remotely detected large releases.

The draft rule relies on self-monitoring by the landfill owner or operator, without the benefit of third-party surveys that detect the largest methane plumes. As the EPA inspections of Coffin Butte landfill demonstrates, self-monitoring has significant limitations. Therefore, independent detection from qualified parties is necessary to achieve the core objective of the rule, which is reducing methane emissions from landfills.

SB 726 specifically requires advanced methane monitoring for landfills located in Benton County, which solely applies to Coffin Butte Landfill. However, DEQ has the full ability to broaden these requirements to all landfills that already comply with DEQ Landfill Methane Rules. Considering the sizable amount of methane emissions that have been observed at landfills, it is critical that DEQ's final rules incorporate the most effective detection approaches. DEQ rulemaking requires the consideration of impacts the proposed regulations would have to small businesses, governments, and residents. Overall here, I would assert that these regulations would positively impact the economic environment around Coffin Butte (and other landfills should they be required to comply with advanced monitoring as well).

In the Rules Advisory Committee Meeting on April 8th, Paul Koster, the general manager of Coffin Butte landfill stated that additional costs from monitoring would not necessarily be passed to consumers. In this scenario, VLI & Republic Services would cover any additional costs of monitoring, however, current projections estimate that advanced methane monitoring would save costs (\$24,000 annually) for operators. Even if rules were to result in additional costs and they were passed onto customers, this would be a negligible impact. Coffin Butte currently services a large watershed with hundreds of thousands of customers. Distributing additional monitoring costs across such a wide group of residences and businesses would present a nominal increase in garbage services expenses.

Coffin Butte has caused significant harm to local businesses and residences due to its odorous gas emissions. "Dump Days" are a frequent occurrence, which stifles nearby recreation, enjoyment of property, and business activities. These rules will lead to increased detection and repair of landfill gas, which will improve local economic conditions for residents and small businesses.

## **DEQ Response:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

## **Commenter 15: Faye Yoshihara**

I am submitting public comment regarding Coffin Butte Landfill SB 726 Methane Monitoring. I support the legislation and specifically want to highlight three points:

1. No exclusions to monitoring - the entire surface should be monitored in order to understand the methane and associated toxic chemicals emanating from the Landfill.
2. Require multiple monitoring methods - DEQ should require multiple methods to ensure timely awareness of and remediation of leaks.

3. Fence line monitoring - Republic Services refused to acknowledge the odors coming off the dump and into neighbors air space. Real-time, publicly available monitoring is a solution that will allow all stakeholders to work together to identify and mitigate odors as well as the associated particulates.

Thank you for allowing me to submit comments for this important legislation.

## **DEQ Response:**

### **Monitor Entire Landfill Surface**

The proposed rules establish that, for municipal solid waste landfills in Benton County, the entire surface of the landfill must be monitored using advanced methane detection monitoring. No changes were made in response to this comment.

### **Require Multiple Monitoring Methods**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

### **Fenceline monitoring.**

DEQ appreciates the comment recommending the requirement to conduct fenceline pollutant monitoring. DEQ does not currently agree that such a requirement is appropriate. The proposed rules do not establish fenceline emissions monitoring obligations of this type, and imposing a requirement to purchase, operate, and maintain meteorological towers would result in substantial additional costs that are not justified by the current regulatory framework or the initial scope of this rulemaking. Meteorological tower installation and maintenance involve significant capital investment, specialized instrumentation, and ongoing operational oversight, which would create burdens that are inconsistent with existing state and federal air quality rules. DEQ intends to evaluate the effectiveness of the monitoring and reporting requirements adopted in this rulemaking before considering more prescriptive or resource-intensive measures. Accordingly, DEQ is not proposing to require meteorological towers as part of this rulemaking. No changes were made to the proposed rules as a result of this comment.

## **Commenter 16: Greg Shiffer**

The rule changes proposed to methane monitoring at Coffin Butte are a strong step in the right direction of comprehensive landfill gas monitoring. Requiring operators to monitor the whole landfill, including the working face, helps ensure as many leaks are caught as possible. Research shows that up to 79% of landfill gas emissions come from the working face, so the

proposed rules reflect a common sense approach to managing odors and greenhouse gas emissions. The clarified data reporting procedures alongside the requirements to monitor the whole landfill will produce helpful data for future monitoring.

Detecting and repairing landfill gas leaks will reduce odor problems for nearby homes and businesses. Nearby businesses, particularly farms and wineries, have faced trouble hiring labor willing to work in odorous environments and the odor even prevented the sale of a nearby winery when prospective buyers got a headache from landfill gas exposure. Odor complaints from residents are common during, particularly in winter inversions. Odors hamper local and tourist scenic recreational activities, discourage other outdoor activities, and prevent residents from enjoying and even feeling safe in their home.

While the use of EPA method OTM 51 will allow Coffin Butte to meet both federal and state requirements, the use of remote sensing would constitute a stronger approach. States like California and Colorado have required or allowed operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51. Additionally, California and Colorado have both required landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space. Data from Carbon Mapper is freely available to operators and the public, and the organization has found a multitude of leaks at Coffin Butte and other Oregon landfills.

The proposed rules allow the use of above methods with DEQ approval. The use of multiple methods of monitoring, such as a combination of traditional SEM or OTM 51 with remote sensing will ultimately be a more comprehensive approach to landfill gas monitoring, and this approach is highly encouraged.

## **DEQ Response:**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

## **Commenter 17: Pam Castle**

As a resident of Benton County, I am appreciative of how SB 726 will facilitate better control of landfill methane emissions and by extension releases of PFAS, non-methane VOCs, H<sub>2</sub>S, and other toxic components of landfill gas. Although I am 8 miles from the Coffin Butte Landfill (CBL), we regularly smell landfill odor during the fall and winter months when inversions are not uncommon. Not only will the methane monitoring and reporting requirements result in less

methane entering the environment, they will also reduce the frequency and intensity of odor the public is subject to.

We know from the DEQ PEN issued to VLI that fugitive landfill gas emissions at CBL have presented a substantial environmental and health risk to the region. The requirement for monitoring of the entire landfill surface, including the working face where a majority of landfill gas emissions occur, will allow for more rapid mitigation of landfill gas leaks and for agency enforcement of regulations. More nimbleness in this system will benefit both the environment and residents around landfills because leaks will be mitigated more quickly, reducing the duration and intensity of odor events as well as exposure to other dangerous landfill gas components. The new rules should result in more rapid enforcement of regulations by agencies – this would go a long way in rebuilding public trust that regulations matter to enforcement agencies and that there are repercussions for not meeting them. It should also provide benefits to landfill operators because they can mitigate odors faster and be able to provide information to agencies and the public in a transparent manner.

While SB 726 has many good elements, there are ways to improve it that would further help curb methane emissions by better pinpointing the sources of emissions allowing for efficient and timely mitigation. While Oregon set precedent with this modernization of methane monitoring, California and Colorado have pursued stronger standards – they followed our lead in establishing new rules and now we should follow theirs by upping our standards.

Requiring operators to use drone based remote sensing, which can catch different types of leaks than traditional SEM and OTM 51, would produce a more robust, useful data set.

Requiring landfill operators to respond to leaks detected by 3rd party remote sensing platforms such as satellites flown by Carbon Mapper, which can detect massive landfill gas leaks from space, would provide another piece of information creating a stronger monitoring system. Data from Carbon Mapper is available without charge and has a record of finding methane leaks at CBL and at other landfills in Oregon. Not taking advantage of this free data collection seems unwise and the public could perceive it as an attempt to avoid doing all that needs to be done to stem fugitive landfill gas emissions.

Another step in the right direction would be to make methane emission data available to the public in an easily accessible way. The immense erosion of public trust of landfill operators has been substantial and causes immense unease and stress which is not only problematic for them, but also for landfill operators themselves and for regulatory agencies. In short, the public is never sure that they can trust what is self-reported by landfill operators. Ready access to robust data from landfill operators and independent entities like Carbon Mapper can go a long way in restoring some of that trust. This makes for fewer negative interactions between all parties in a time when it is sorely needed.

## **DEQ Response:**

### **Remote Sensing (Satellite)**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature's directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from

municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

### **Make Methane Emissions Data Publicly Available**

DEQ now uses the online platform Your DEQ Online (YDO), for applications and reports from permitted facilities. Much of the data reported by permitted facilities is public record and available for review. As the agency spends more time with this relatively new YDO system, more records will be readily available by the public. Until then, all records remain available for review according to the public records process.

## **Commenter 18: Mason Leavitt**

### **Introduction**

In addition to its climate impacts, methane contributes to ozone and particulate matter pollution, harming respiratory, reproductive, and cardiovascular health<sup>1</sup>. Accordingly, methane from MSW landfills poses a preventable threat to Oregon's rural communities.

SB 726 and the corresponding proposed rules take a step forward in regulating the consequences of landfill methane emissions, but there are areas where rules could go further to leverage current best practices. California and Colorado have recently implemented rules that better emulate best practices, and we recommend that DEQ folds these existing resources into the current rulemaking in order to bring regulation up to date. DEQ has already taken some steps to match these other rules, so our comments are both directed at strengthening DEQs rationale and suggesting further areas of improvement.

### **Monitoring of Area where Most Methane Escapes is Step Forward**

The proposed rules move towards better regulatory outcomes for all Oregon landfills with some specific additions for Coffin Butte Landfill. Many of the proposed changes to division 239 offer greater clarity for operators and the public regarding definitions, expected practices, and reporting requirements. The increased clarity, if properly followed and enforced, will lead to greater identification and documentation of landfill gas leaks and their repair. This will ultimately have positive impacts through preventing greenhouse gases from entering the atmosphere without proper combustion and by reducing odorous and toxic gasses from entering the local airshed prior to combustion.

The draft rules specifically aimed at implementing the language of Senate Bill 726 are a step in the right direction in that they require monitoring the entire surface of the landfill, including the working face, which can be a significant, even primary source of fugitive emissions. While this is a statutory requirement, it is a common sense step in successfully preventing harmful fugitive emissions. Aerial surveys conducted were able to detect significant methane plumes coming from the landfill's active working face<sup>2</sup> Surveys in the United States and Canada show active face emissions can represent 60-79% of total site emissions, meaning traditional surface emission monitoring (SEM) effectiveness would top out at 21-40% of emissions<sup>3</sup>.

**Figure 1: Walking SEM coverage findings from Dave Risk 2024 CARB LMR Presentation**

# New walking SEM learnings - coverage

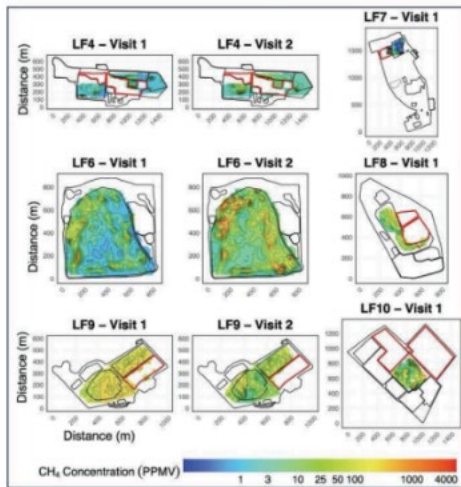
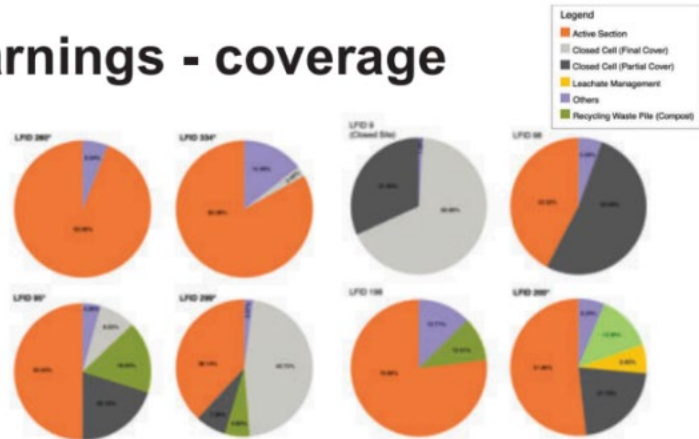


Figure 2. SEM maps of surveyed landfills LF4, LF6, and LF9 from both Visit 1, conducted between August and September 2023, and Visit 2, conducted between October and November 2023, as well as LF7, LF8, and LF10, which were surveyed once. The colors represent different CH<sub>4</sub> concentrations, with red indicating the highest levels and dark blue showing the lowest. The outlined borders mark the landfill perimeter and different component areas. Red borders highlight active face zones, identified through mobile surveys as major contributors to emissions at most sites. These active areas are typically not covered by SEM measurements.

Professional contractor. Interpolated SEM in color. Red shows highest emitting areas.



## Active working face “surprise”

- 60% of total, 12 sites, Canada – **orange=active**
  - SEM effectiveness would **top out at 40% of emissions**
- 79% of total, 217 sites, US (*Scarpelli et al. EST 2024*)
  - SEM effectiveness would **top out at 21% of emissions**

FLUX LAB

## Strengthen Rule By Deploying Effective Technologies

The final rules should combine traditional SEM or Other Test Method (OTM) 51 with infrared drone monitoring (also called remote sensing) and satellite remote sensing to catch more leaks of landfill gas. DEQ’s stated definition of OTM 51 being the default “advanced monitoring technology” is a step forward, as OTM 51 has been approved by the federal EPA as comparably effective to Method 21<sup>4</sup>, however its protocols replicate flaws that lead to missed methane emissions.

There are also readily available technologies that can detect and pinpoint methane leaks at landfills, as illustrated in EPA’s Landfill Methane Emissions Workshop in April 2021, EPA’s Methane Detection Workshop in August 2021, California Air Resources Board (CARB’s) Public Workshop on Landfill Methane Emissions in California in December 2022, and EPA’s Landfill Methane Outreach Program (LMOP) Webinar on Detecting Landfill Methane Emissions with Drones in September 2023. A 2023 research study conducted at a closed landfill in Ontario, Canada tested 17 different methane detection technologies used in monitoring landfill methane emissions, including satellite, aircraft, truck, drone, and tripod-based systems.<sup>5</sup>

Technology providers with drone surveying capabilities at landfills, include ABB, Aerometrix, Bridger Photonics, Project Canary, Scientific Aviation, SeekOps, and SnifferDrone, among others. These other technologies have more vendor options which can address the concern with relying on one vendor for OTM 51, though we would contend that requiring the use of OTM 51 does encourage more vendors to enter the market.

Generally, landfill point source emissions are more persistent compared to their counterparts in oil and gas production. For those landfills with observed emissions, 60% had emissions that persisted over months or years.<sup>6</sup> These persistent emissions totaled 87% of all quantified emissions in the study.<sup>7</sup> Comparatively, the majority of methane super-emitters in the oil and gas sector are related to irregular, short-duration events.

The 2024 Carbon Mapper study also found significant gaps in landfill leak detection and quantification protocols. Advanced monitoring strategies, such as remote sensing from satellites, aircraft and drones can provide a more accurate picture of landfill methane emissions than walking SEM. When combined with improved ground-based measurements, remote

sensing can provide consistent, comprehensive measurements to better inform models, guide mitigation efforts and verify emission reductions. Finally, the 2024 Carbon Mapper study also found little agreement with reported and quantified emissions at U.S. landfills, indicating that current methods used to report facility emissions, such as the EPA's Greenhouse Gas Reporting Program (GHGRP), are missing or misrepresenting large sources of methane.<sup>8</sup> On average, Carbon Mapper found that aerial emission rates were 1.4 times higher than GHGRP.<sup>9</sup> As detailed in the CARB Summary of 2020, 2021 and 2023 Airborne Methane Plume Mapping Studies,<sup>10</sup> CARB partnered with the University of Arizona, and in 2021 partnered with Carbon Mapper to conduct plume mapping flights over the state, resulting in the detection of 502 methane plumes from oil and gas and landfills. CARB shared the findings with operators in the form of "incidence reports," and operators were asked to follow up and identify the source of emissions, if possible, and report their findings to CARB. The report noted that operators were generally responsive, but that the response time was slow—particularly for landfills.<sup>11</sup> The report states, "Additional regulatory language could address operator response rate, response speed, and response quality as well as consider if there are additional sources that need to be covered."<sup>12</sup>

CARB further states:

*Finally, there are co-benefits of using advanced technology to initiate leak repairs. In addition to methane, which is non-toxic, oil and gas developments and landfills are known to emit hazardous air pollutants (HAPs), which can cause acute and chronic health problems. Furthermore, exposure to these emissions is not equally shared by all people; indeed, disadvantaged communities often suffer from higher exposures to these co-emitted pollutants. Therefore, using this technology to initiate rapid repair of high-emitting sources can have a co-benefit of reducing pollutant exposure for affected communities.<sup>13</sup>*

Several states have already updated their regulations to reflect the current reality and availability of advanced technologies, and DEQ can directly draw from their analyses and protocols already developed to further justify proposed rules and add regulations that would strengthen the implementation of SB 726.

**Colorado, Regulation 31<sup>14</sup>: Enables use of advanced technology to find methane leaks:**

- Moves beyond walking-only monitoring: The rule allows landfill operators to use alternative monitoring methods in place of traditional walking SEM (Method 21), rather than requiring exclusive reliance on grid-based handheld surveys.
- Creates a formal approval pathway for new technologies: Operators can propose Division-approved alternative monitoring approaches, as long as they demonstrate emissions detection that is comparable to or better than standard SEM requirements.
- Explicitly enables advanced technologies: The rule recognizes and allows drone-based SEM (e.g., OTM-51), optical gas imaging, and other EPA- or Division-approved technologies for surface emissions monitoring and leak detection.
- Allows hybrid monitoring approaches: Operators can combine traditional SEM with advanced technologies to improve overall coverage and detection performance across the landfill surface.
- Shifts to a performance-based framework: Instead of prescribing a single method, the rule focuses on achieving equivalent or better emissions detection outcomes, allowing flexibility as technologies evolve.
- Improves coverage of hard-to-monitor areas: By enabling aerial and remote tools, the rule makes it more feasible to monitor areas that are unsafe or difficult to access on foot, improving overall detection of methane leaks

**California, Landfill Methane Rule (2025)<sup>15</sup> Requires use of advanced technology to find methane leaks:**

- Requires tools such as handheld or drone-mounted laser scanners to identify leaks in inaccessible areas that are currently excluded from monitoring.
- Creates a formal approval pathway for alternative monitoring technologies: Allows any entity to apply for approval of new tools (e.g., drones, aerial surveys, laser-based sensors, continuous monitors) to be used in place of traditional quarterly walking SEM.
- Enables broader, standardized use of advanced technologies: Moves beyond case-by-case approvals to allow approved methods to be used across landfills, increasing consistency and uptake.
- Provides flexibility to adopt emerging tools: Establishes a voluntary, forward-looking process so operators can use the latest technologies as they develop, rather than being locked into outdated methods.

### **Require Coffin Butte Landfill Response to Existing Remote Detection Providers**

As written, the draft rules omit investigation and repair of the largest methane plumes. The draft rules focus on surface monitoring, but do not create a broader satellite/aerial plume response system requiring investigation, mitigation, public reporting, and follow-up when large plumes are detected. This is a major gap compared with the Colorado and California methane rules, which emphasize prompt investigation and mitigation of remotely detected large releases.

Colorado, Regulation 31, 2025: Requires landfill operators to quickly investigate, address, and report back on large methane releases once they are notified.

- It ensures credibility by requiring third parties providing these notifications to be certified by EPA or the state.
- It clearly lays out required corrective actions, setting expectations for both landfill operators and the public.
- Repeated large releases (above 207 kg/hr) trigger a requirement to install a gas collection system if one is not already in place, unless tied to approved activities like excavation. This threshold is reasonable because it reflects emissions levels that would already warrant controls under standard calculations.
- The rule also requires detailed reporting on plume detections, including the detection method, plume visualization, and estimated release rate.

California, Landfill Methane Regulation 2025: Institutes a Remote Emission Plume Response requirement, when a methane plume is detected by satellite or aerial monitoring:

- The landfill operator must inspect a defined area (600 ft × 600 ft) around the plume source.
- They must conduct surface emissions monitoring (SEM) and component leak monitoring within 5 days.
- This inspection is essentially the same procedure already used for quarterly compliance monitoring using manual technologies, just triggered by a plume alert.
- Provides data and results to the public.

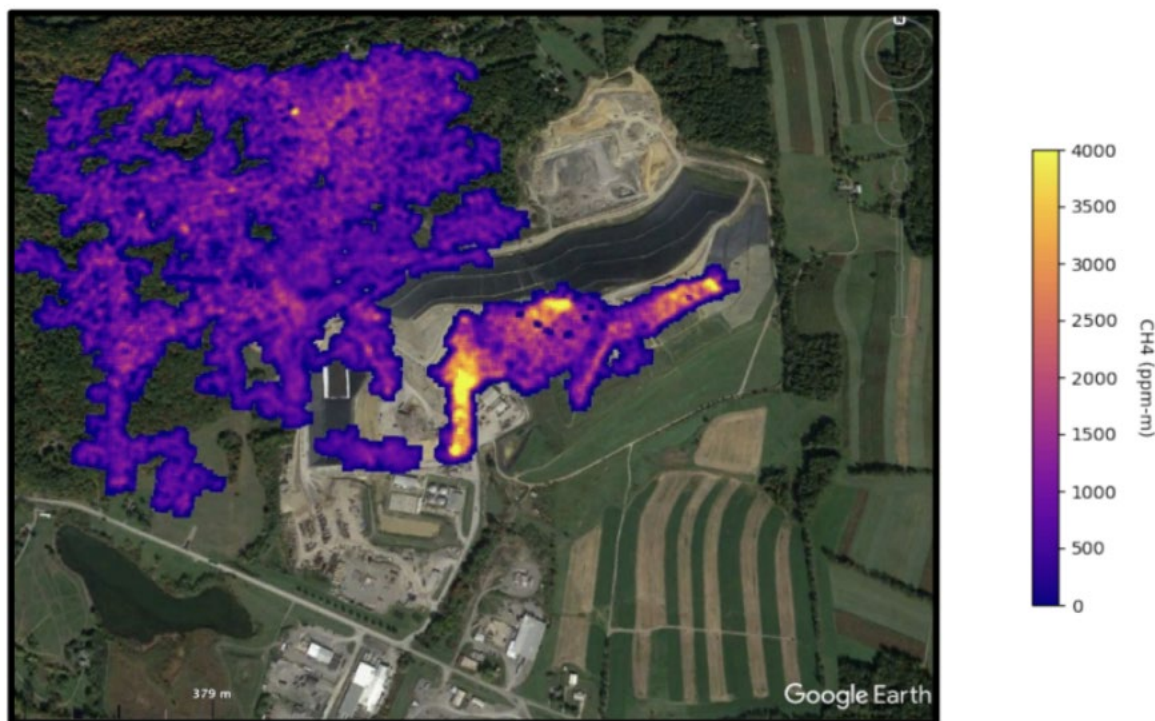
Timely and effective detection of large methane emissions through satellite or aircrafts remote flyovers holds the potential for exponentially more effective methane mitigation. For example, two California state agencies contracted with NASA to fly remote sensing equipment over portions of the state.<sup>16</sup> This California Methane Survey identified hundreds of methane point sources but found that just ten percent of the point sources emitted nearly half the total methane emissions detected.<sup>17</sup> CARB noted the survey's importance, stating, "Methane is invisible to the human eye, but can be detected by NASA's Airborne Visible InfraRed Imaging Spectrometer - Next Generation (AVIRIS-NG)."<sup>18</sup> The sophisticated imaging equipment, carried by a twin-engine aircraft, identifies gases by analyzing sunlight passing through molecules in the atmosphere. The state of Pennsylvania sponsored satellite overflights which detected methane leaks, resulting in significant emissions reductions at participating landfills—the biggest percentage

reduction of any participating sector.<sup>19</sup> The Pennsylvania Department of Environmental Protection (DEP) detailed the results in the “Pennsylvania Methane Overflight Study Final Report,” stating:

Through partnership with Carbon Mapper and the U.S. Climate Alliance, DEP successfully achieved its main research objective to detect, measure, and abate methane-emitting point sources. This was accomplished through a series of overflight campaigns that employed airborne imaging spectrometer technology to identify methane emissions above the 100 kg/hr threshold for subsequent on-the-ground investigation. DEP gained invaluable insights into the inventory of methane emitters across multiple industry sectors and the relative emission levels between them, achieved real-world, meaningful methane reductions, and inspired the development and implementation of several best practices across multiple industries. As a result, methane emissions were reduced between 37.2 and 39.5 percent in the MSW landfill sector and 10.5 to 13.7 percent in the oil and gas sector, depending on the calculation method used.<sup>20</sup>

DEP further noted that, “because many high methane-emitting sources are also highly variable, intermittent, and prevalent across diverse emission sectors, accurate quantification and effective mitigation of these emissions requires frequent, repeated sampling of large geographic areas. Therefore, employing satellites with enough sensitivity, spatial coverage, and revisit frequency could supplement, and perhaps eventually supplant, airborne and surface observations to address these challenges moving forward.”<sup>21</sup> The DEP report provides an appendix with observations, an example of which is reproduced below:<sup>22</sup>

**Aerial methane emissions from municipal solid waste facilities:**



**Emission Rate: 671 +/- 524 kg/hr**

At Sunshine Canyon Landfill in California, aerial flyovers by Carbon Mapper detected large methane plumes from intermediate cover slopes during overpasses in 2016.<sup>23</sup> The landfill then updated its infrastructure and made several changes to the landfill cover and gas collection

system to reduce landfill emissions.<sup>24</sup> Subsequent overpasses in 2017 observed a marked decrease in methane emissions (and concurrent increases in landfill gas (LFG) collection), and these results were validated by fewer neighborhood odor complaints.<sup>25</sup> Through its 2020, 2021, and 2023 Airborne Methane Plume Mapping Studies, CARB documented other examples of successful leak repairs, prompted by aerial observational data.<sup>26</sup> Current and planned satellite constellations – such as MethaneSAT, GHGSat, and Carbon Mapper/Planet, have the capability to scan large areas and identify high-emission events at frequent cadences, such as days to weeks.<sup>27</sup>

The draft rule relies on self-monitoring by the landfill owner or operator, without the benefit of third-party surveys that detect the largest methane plumes. As the EPA inspections of Coffin Butte landfill demonstrates, self-monitoring has significant limitations. Therefore, independent detection from qualified parties is necessary to achieve the core objective of the rule, which is reducing methane emissions from landfills.

The benefits of incorporating credible third-party data pinpointing large methane sources are significant and would be available at no cost to landfill operators. In fact, both the state of Colorado and California conducted analysis on the cost of follow-up and repair due to remotely detected methane plumes: California found “the total SEM and Component Leak Monitoring costs (CLM) to respond to one notification are estimated as just \$677.”<sup>28</sup>

### **Ensure advanced methane monitoring applies to all landfills regulated under DEQ Landfill Methane Rules**

SB 726 specifically requires advanced methane monitoring for landfills located in Benton County, which solely applies to Coffin Butte Landfill. However, DEQ has the full ability to broaden these requirements to all landfills that already comply with DEQ Landfill Methane Rules. Considering the sizable amount of methane emissions that have been observed at landfills, it is critical that DEQ’s final rules incorporate the most effective detection approaches. Carbon Mapper et al. found that fifty-two percent (52%) of surveyed landfills had observable point source emissions, which far exceeds the 0.2% to 1% detection rate observed for super-emitters from surveyed oil and gas infrastructure in California and the Permian Basin.<sup>29</sup>

### **Costs and Benefits**

CARB estimates that improved methane detection and faster repair enabled by enhanced monitoring will reduce California landfill methane emissions by approximately 17,000 metric tons of methane per year (about 450,000 metric tons of CO<sub>2</sub>-equivalent annually). These reductions are attributed to improved gas capture, more comprehensive surface emissions monitoring, and prompt identification and repair of leaks detected through remote sensing technologies. No such estimate has been conducted for SB 726, but the general principles apply. Catching greenhouse gas emissions in the present will invariably lead to a reduction in future climate damages.

### **Costs & Impacts**

DEQ rulemaking requires the consideration of impacts the proposed regulations would have to small businesses, governments, and residents. Overall here, we would assert that these regulations would positively impact the economic environment around Coffin Butte (and other landfills should they be required to comply with advanced monitoring as well).

In the Rules Advisory Committee Meeting on April 8th, Paul Koster, the general manager of Coffin Butte landfill stated that additional costs from monitoring would not necessarily be passed to consumers. In this scenario, Valley Landfills, Inc. (VLI) & Republic Services<sup>30</sup> would cover any additional costs of monitoring, however, current projections estimate that advanced methane monitoring would save costs (\$24,000 annually) for operators. Even if rules were to result in additional costs and they were passed onto customers, this would be a negligible impact. Coffin Butte currently services a large wasteshed with hundreds of thousands of customers.

Distributing additional monitoring costs across such a wide group of residences and businesses would present a nominal increase in garbage services expenses.

Coffin Butte has caused significant harm to local businesses and residences due to its odorous gas emissions. “Dump Days” are a frequent occurrence, which stifles nearby recreation, enjoyment of property, and business activities.<sup>31</sup> These rules will lead to increased detection and repair of landfill gas, which will improve local economic conditions for residents and small businesses.

## **DEQ Response:**

### **Satellite/Remote Sensing**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature’s directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

### **Independent Reporting**

DEQ is not creating new or different reporting protocols in the proposed rules. The legal entity responsible for permit compliance remains the same entity responsible for certifying the accuracy of reports submitted to DEQ. When inaccurate information is submitted, DEQ has the authority to take appropriate enforcement actions, as it has done in the past. DEQ believes the level of detail required in the proposed rules will support more accurate reporting.

## **Commenter 19: Ken Ecklund**

My comments today focus on detecting landfill gas leaks and remediating them quickly. I encourage efforts such as continuous fenceline monitoring to better understand odors emanating from the landfill, but odors are really a symptom (and an indicator) of the underlying problem, which is out-of-control leakage of landfill gas.

I don’t use the descriptor “out of control” lightly: I have been closely observing the characteristics of the data emerging about the landfill’s landfill gas leakage for five years now, and have seen nothing to indicate that the landfill operators aren’t just playing a reluctant game of whack-a-mole, and the moles are winning.

I urge the rulemakers to implement both a regular comprehensive surface monitoring requirement such as OTM-51, plus a continuous remote sensing requirement. Both of these need to be conducted by an independent party or parties free of operator influence.

In addition, I urge the rulemakers to establish a “betterment” process – an entity which evaluates the monitoring process and improves it, and integrates the data. The greatest underlying wisdom to SB 726, I feel, is that it focuses on collecting data that can be applied to

creating the first ever holistic understanding of Coffin Butte Landfill and its landfill gas leakage problem. The landfill operators self-report that they have spent millions on their gas collection system, seemingly to little effect. A more holistic understanding of where the landfill gas is leaking out will begin to identify the patterns that will enable Republic Services to end their process of whack-a-leak.

When I say “enable” above, that of course is a euphemism. Lastly, I urge the rulemakers to take an aggressive stance toward enforcement mechanisms, because that is called for under the circumstances. In my long dealings with Republic via the county’s Disposal Site Advisory Committee, they have made it clear that they respond only to legal requirements that are backed by enforcement. The current DEQ enforcement proceedings have now made that apparent to everyone. Again, I urge the rulemakers to draft enforcement provisions which will protect the public, because I believe those provisions are likely to be used.

## **DEQ Response:**

### **Fenceline Monitoring:**

DEQ appreciates the comment recommending the requirement to perform fenceline pollutant monitoring. DEQ does not currently agree that such a requirement is appropriate. The proposed rules do not establish fenceline emissions monitoring obligations of this type, and imposing a requirement to purchase, operate, and maintain meteorological towers would result in substantial additional costs that are not justified by the current regulatory framework or the initial scope of this rulemaking. Meteorological tower installation and maintenance involve significant capital investment, specialized instrumentation, and ongoing operational oversight, which would create burdens that are inconsistent with existing state and federal air quality rules. DEQ intends to evaluate the effectiveness of the monitoring and reporting requirements adopted in this rulemaking before considering more prescriptive or resource-intensive measures. Accordingly, DEQ is not proposing to require meteorological towers as part of this rulemaking.

### **Satellite/Remote Sensing**

Thank you for your comment. DEQ appreciates your request to require additional methods of monitoring and agrees that using more, or different, technologies to find and address surface leaks could result in additional emissions reductions.

The purpose of this rulemaking is to align Oregon Administrative Rule with a 2025 legislative action ([Senate Bill 726](#)) by adopting rule language DEQ determined was necessary to implement the legislature’s directive: requiring municipal solid waste landfills in Benton County to use Advanced Methane Detection Technology. DEQ elected to accomplish this by aligning, to the extent possible, current federal and state regulations related to landfill emissions monitoring. DEQ believes the proposed approach is a positive step toward better methane control from municipal solid waste. DEQ believes the proposed rules will result in improved surface emissions monitoring and more effective leak identification and repair.

At this time, DEQ is not taking action to implement additional or alternative technologies. DEQ will, however, continue to review the advancements in monitoring technology, the effectiveness of the proposed rules at landfills in Benton County, and may take future action to require additional data sources to be used for investigating and remediating potential surface or leak issues.

### **Betterment Process**

DEQ conducts a five-year review for most rulemaking actions, evaluating available data to determine whether the rules achieved their intended outcomes or whether additional rulemaking is needed. DEQ believes this existing process closely aligns with the commenter’s request. In addition, DEQ staff plan to review surface emissions monitoring reports quarterly, track leak

repairs, and assess whether methane emissions decrease under the updated monitoring requirements. If the rules do not produce the desired results, DEQ is open to considering additional monitoring procedures or methods.

## Implementation

The proposed rules would become effective upon filing on approximately September 01, 2026. DEQ would notify affected parties through:

- Govdelivery, a web-based subscription service that allows DEQ to provide news and information updates to the public via email and/or text messages;
- Emailing interested parties through program lists;
- Emailing to registered sources using contacts from DEQ's Your DEQ Online permitting platform;

### **Crematory**

DEQ will modify and reissue general permit 12 for crematory incinerators. DEQ will reassign all current permittees to the modified version of the permit.

### **Landfill**

Changes to Division 239 will be incorporated into affected facility permits at next renewal or modification. DEQ does not expect to modify any permits solely based on this rulemaking.

### **Non-Technical Updates**

DEQ will include permit changes at next renewal or modification.

# Five-year review

## Requirement

Oregon law requires DEQ to review new rules within five years after EQC adopts them. The law also exempts some rules from review. DEQ determined whether the rules described in this report are subject to the five-year review. DEQ based its analysis on the law in effect when EQC adopted these rules.

## Exemption from five-year rule review

The Administrative Procedures Act exempts most of the proposed rules from the five-year review because the proposed rules would:

- Amend or repeal an existing rule. ORS 183.405(4).

## Five-year rule review required

No later than Sept. 25, 2031, DEQ will review the newly adopted rules for which ORS 183.405 (1) requires review to determine whether:

- The rule has had the intended effect
- The anticipated fiscal impact of the rule was underestimated or overestimated
- Subsequent changes in the law require that the rule be repealed or amended
- There is continued need for the rule.

DEQ will use “available information” to comply with the review requirement allowed under ORS 183.405 (2).

DEQ will provide the five-year rule review report to the advisory committee to comply with ORS 183.405 (3).

## Rules subject to five-year review:

- 340-239-0610

---

## Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age, sex, religion, sexual orientation, gender identity, or marital status in the administration of its programs and activities.

For translation or other formats, visit DEQ's [Civil Rights and Environmental Justice page](#).