COMMUNITY DEVELOPMENT DEPARTMENT
4500 SW Research Way
Corvallis, OR 97333-1192
(541) 766-6819

Disposal Site Advisory Committee (DSAC)
AGENDA
December 11, 2024
6:00 p.m. – 8:00 p.m.
4500 SW Research Way, Corvallis, OR 97333

This meeting will be held in-person. The meeting will be accessible online for those unable to attend.
https://us06web.zoom.us/j/88247921911?pwd=EQu4Ofo6VVJNGuVr9KmWhTx96R6LKs.1
Meeting ID: 882 4792 1911
Passcode: 680718

DSAC website with meeting materials, including the meeting packet:
https://cd.bentoncountyor.gov/disposal-site-advisory-committee-dsac

Agenda Item #	Start Time	Duration	Topic	Speaker(s)
1	6:00 p.m.	5 min.	Call to Order	Vice Chair
2	6:05 p.m.	20 min.	Public comment – your comments welcome. Each commenter generally limited to 3 minutes.	Public
3	6:25 p.m.	10 min.	Past Minutes – Review, edit as necessary, and approve Committee minutes for Oct. 9, 2024 – discussion, action. Please review the draft minutes [link to packet] and meeting video (link – password: 0c?YQwkQ) ahead of time.	Committee
4	6:35 p.m.	10 min.	Past Minutes – Review, edit as necessary, and approve Committee minutes for Oct. 25, 2023 or earlier – discussion, action. Please review the draft minutes [link to packet] and meeting video (Link) ahead of time.	Committee
5	6:45 p.m.	15 min.	Fire Safety Report – David Hackleman has updated the report based on feedback from DSAC on 10/9/24; additional information has come forward in the meantime (see packet). DSAC to review; approval will submit the report to the County Administrator and Board of Commissioners.	David Hackleman, Committee

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6	7:00 p.m.	5 min.	Break	All
7	7:05 p.m.	15 min.	Elections of Chair and Vice Chair for 2025.	Committee
8	7:20 p.m.	15 min.	Carbon Mapper update. Since July of 2023 the tech non-profit Carbon Mapper has been observing and quantifying the methane leaking from Coffin Butte Landfill (link).	Ken Eklund, Committee
9	7:35 p.m.	10 min.	Update on Republic's application to expand the landfill. Information sharing, discussion of possible Committee actions to keep informed / keep the public informed.	Committee
10	7:45 p.m.	10 min.	Request Agenda Items, staff requests for next meeting	Committee
			Requested Agenda item: discussion of EPA's two enforcement alerts for MSW landfills (link) and their impact on Coffin Butte Landfill.	Ken Eklund
11	7:55 p.m.	5 min.	Next meeting/wrap up/adjourn	Vice Chair

Disposal Site Advisory Committee (DSAC) Membership

Name	Term	Name	Term
Brent Pawlowski	1/1/24 - 12/31/25	Rachel Purcell, Vice Chair	1/1/24 - 12/31/25
Chuck Gilbert	1/1/24 - 12/31/25	Ian MacNab, Landfill Representative	1/1/24 - 12/31/25
Jennifer Field	1/1/24 - 12/31/25	Charlene Carroll	10/1/24 - 12/31/25
David Hackleman	1/1/24 - 12/31/25	David Livesay	10/1/24 - 12/31/25
Jeffrey Morrell	1/1/24 - 12/31/25	Ken Eklund, Chair	1/1/22 - 12/31/24
Vacant			
Benton County Staff			
Petra Schuetz, Interim Community Development Director			
Bailey Payne, Solid Waste Program Coordinator			

DSAC Members Excused:

Benton County
Disposal Site Advisory Committee
Packet for December 11, 2024 meeting

Contents:

1. Draft meeting minutes from 10/9/24
2. Draft meeting minutes and recordings from 7/11/2022 - 10/25/2023
3. Fire Safety Report
4. Adair Village Fire Rural Fire Department Incident Reports from 12/24/23 - 9/29/24
5. Community concerns received from 10/9/24 – 12/4/24
6. Relevant news articles and additional information

Draft meeting minutes from 10/9/24

DRAFT MEETING MINUTES
Disposal Site Advisory Committee (DSAC)
October 9, 2024

COMMITTEE MEMBERS ATTENDING
Ken Eklund, *Chair*
Rachel Purcell
Chuck Gilbert
Brent Pawlowski
David Hackleman (online)
Ian MacNab, *Republic Services Representative*
Charlene Carroll
David Livesay

STAFF
Bailey Payne, *Solid Waste Program Coordinator*

GUESTS
Marge Popp, *Community member*
Julie Jackson, *Republic Services*
Mark Yaeger, *Community member**
Bernie Cummings, *Community member*
Kevin Kenaga, *Community member*
Bryn Hazell, *Community member*
Janet O., *Community member*
**Guests that provided oral comment to the DSAC*

ABSENT: Matthew Ruettgers (excused), Jeffrey Morrell (excused)

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1. Call to Order

- The meeting was called to order at approximately 6:00 PM by Chair Ken Eklund who reviewed the list of attendees.

Announcements

- Regular DSAC (Disposal Site Advisory Committee) meetings are scheduled for the second Wednesday of each month at 6:00 PM through the end of the year.
- The DSAC is not involved in the decision-making process regarding Republic Services' landfill expansion. The decision-makers are:
    1. ENRAC (Environmental Review and Advisory Committee)
    2. Planning Commission
    3. Board of Commissioners
- Public testimony regarding the landfill expansion needs to be directed to the relevant decision-making bodies at appropriate stages.

- It was noted that ENRAC may not have a public comment period, which could affect the public's ability to voice opinions to this committee.

Committee Change:

- Matthew Rutgers has announced his resignation due to a standing commitment, and he will no longer be able to participate in DSAC meetings. The committee acknowledged his contributions and wished him well.
- Members offered support to newer members, acknowledging the complexity of the issues and encouraging them to ask questions.

2. Public Comment

- **Mark Yeager**, a Benton County resident, raised concerns about Republic Services' construction of a landfill expansion into the quarry site. He emphasized that this expansion, according to Benton County Code Chapter 77, requires a conditional use permit, which he believes has not been obtained.
    - Yeager questioned whether DSAC was aware of the construction and if they had any comments on the issue.
- **Ian McNabb** (Republic Services representative) responded, confirming that the construction in the quarry had been publicly discussed in previous meetings and open houses.

Discussion:

- There was a brief discussion about whether the committee members were aware of the construction activities.
- A member raised the issue of quarry operations, noting that it would potentially extend for 14 to 16 years. They referenced discussions involving the county's legal subcommittee and third-party land-use attorneys, but specific documentation was not recalled.
- Clarification was sought regarding the capacity of the quarry area and its relation to cell 6.
- Legal and Land Use Considerations:
    - The Benton County Talks Trash (BCTT) legal subcommittee previously found that the quarry was within the existing landfill footprint, but the details were unclear, and further review of past documents was recommended.
    - A member noted that documents referring to the use of quarry space were outdated, dating to before the quarry excavation, and there is uncertainty regarding land use conditions applied to the area.
- Regulatory Hierarchy: A discussion on the hierarchy of regulatory bodies took place, particularly between Oregon's Department of Environmental Quality (DEQ) and county land use. It was noted that DEQ issues permits, but county land-use approval is needed for the landfill's expansion or use of the quarry area.
- It was suggested to review the findings and recommendations of the Benton County Talks Trash (BCTT) subcommittees, particularly the legal subcommittee's report, as it had extensively looked into the matter. Members were encouraged to revisit the report for more insight. There was a suggestion to reach out to relevant county officials or the Planning Commission for further clarification.
- It was noted that cell 6 had been approved and constructed by DEQ, but the central issue remains with county land use and not DEQ's approval.
- **Mark Yeager's Comment**: Mark Yeager followed up on Rachel's earlier question, clarifying that the quarry would provide an additional 14 to 16 years of landfill capacity. This estimate was collaboratively developed with Republic Services. He emphasized that this extended capacity is contingent on staying below 1.1 million tons per year of garbage.

Next Steps

- Members agreed to read the legal subcommittee's report between meetings and come prepared with any questions or points of discussion.
- Further investigation into the county's role and any missing documents regarding land-use approvals for the quarry area was encouraged.
- The committee will seek clarification from county officials regarding the land-use process and any documentation related to the quarry area and cell 6.
- No further public comments were made.

3. Review and Approval of September 19th Meeting Minutes

The committee discussed the minutes from the previous meeting. Several amendments were made:

- Absentee Clarification: It was noted that Jennifer Field had notified in advance of her absence, and this should be reflected in the minutes.
- Rewrite of a Statement: The phrase regarding the committee's role in the expansion decision was revised to: "Any testimony regarding the expansion must be submitted to the decision-making bodies to be considered by them. The committee hears concerns as per its function to report them to the Oregon Department of Environmental Quality."
- Deletion of Comment: A comment stating "time limit for public comment was invoked" was removed.
- Clarification on Analysis of Comments: A section regarding future reports was updated to emphasize a need for more "analysis" rather than "synthesis" of community comments in future reports.
- Correction on Fire Department Name: The "Near Fire Department" was corrected to "Adair Rural Fire Department."
- Ken Eklund raised a point regarding page 5/6 of the minutes and the need to clarify that the staff presentation did not fully address the question of how much outreach had been done or planned to make the public aware of DSAC's restart and mission. Another member recalled that the presentation did include some details on outreach activities, and a discussion followed on the accuracy of this statement. It was agreed that the critique was part of the original presentation and should be recorded in the minutes.
- A DSAC member identified a typographical error, stating that "DSAC" stands for "Disposal Site Advisory Committee"
- A line indicating the status of November/December meetings as undecided was suggested to be deleted, as these meetings were already scheduled.
- Motion was made (Chuck Gilbert) to accept the minutes with the amendments discussed. The motion was seconded (Ken Eklund), and the minutes were unanimously approved with the revisions.

4. Election of Vice Chair

- Elections for the Chair will occur before the year ends.
- Nominations were opened:
    - A Chuck Gilbert nominated Rachel Purcell for Vice Chair. Ken Eklund seconded.
    - Rachel accepted the nomination
    - A vote was held and unanimously passed, making Rachel Purcell the DSAC's Vice-Chair.

5. Fire Safety Inquiry and Recommendation to Commissioners

- The fire safety report by David Hackleman was reviewed.
- Discussion on fire safety and the role of DSAC in providing recommendations to the Commissioners was held.
- The document addresses concerns about recent landfill fires, specifically those occurring after hours. Recent incidents involved fires spotted by motorists due to a lack of monitoring on-site during off-hours (6:00 p.m. to 6:00 a.m.).
- Previous fires were caused by "hot loads" of garbage that smoldered upon arrival at the landfill, leading to subsequent fires.
- A specific incident involved a fire that reignited after being partially extinguished during operational hours, which raised concerns about monitoring and communication protocols.
- Discussion about the absence of a current protocol for informing the fire department about extinguished fires during operational hours.
- Members expressed the need for a system to ensure awareness of potential fire hazards.
- Current protocol only involves notifying the fire department when assistance is needed.
- Discussion on whether a notification system for local fire authorities should be implemented for landfill fire incidents. Emphasis on the need for a reliable monitoring system for fire detection, especially during times when no personnel are present at the site.
- Concerns raised regarding the current reliance on passersby to report fires on Highway 99W and the implications of delayed response times.
- The overarching recommendation to the Board of Commissioners is to explore better systems for monitoring fire risks proactively.

Suggested Changes to the Document

- It was noted that an intermediate command level between the Rural Fire Department and the State Fire Marshal should be included in the document for clarification.
- Proposed revisions to clarify conditions under which incidents occurred, particularly around the classification of fires during operational hours versus after hours.
- Emphasis on the importance of addressing both operational and non-operational monitoring for fire safety.
- Suggestions were made for improved communication with local fire authorities regarding incidents to enhance safety measures.
- Current protocol only involves notifying the fire department when assistance is needed.
- Discussion on whether a notification system for local fire authorities should be implemented for landfill fire incidents.

Next Steps

- David Hackleman will continue to refine the fire safety document based on the feedback regarding the language in condition one and consider the implications of proposed changes.
- Members will review the modifications before final approval.
- Staff was asked about the process for submitting recommendations to the Board of Commissioners. It was clarified that the recommendations would be sent to the County Administrator, who would present them to the Board. The Board may invite someone to present further, likely the DSAC Chair.

6. Break

- A five-minute break was observed.

7. Updated Coffin Butte Landfill 2023 Annual Report

- Review of the annual report that was initially presented in July and subsequently returned by the Board of Commissioners for revisions.
    - Republic revised the report, and DSAC was tasked to provide guidance to assist the Commissioners in reviewing the updated document.
    - Rachel summarized the DSAC guidance into a final document that was submitted before the October 1st deadline.
    - Acknowledgment of the challenges faced due to the tight timeline but recognition that the guidance captured the nuances of the committee's remarks effectively.
    - Request made to attach the letter and additional materials from the late packet to the minutes.

Discussion on Arsenic Levels

- Queries raised regarding the reports of high arsenic levels in the landfill's leachate.
    - Clarification sought on whether arsenic levels in groundwater were derived from the leachate or if they were naturally occurring.
    - Emphasis on the need for clearer context regarding background levels of arsenic in the region.
    - Suggestion to include a presentation from a geologist in next year's annual report to help interpret the data and improve understanding of groundwater flow and contaminant levels.
    - David Hackleman mentioned the existence of USGS information about arsenic levels in the Willamette Valley, noting that some groundwater exceeds recommended drinking water levels.

8. 2022 Community Concerns Annual Report

- The staff draft of the 2022 Community Concerns Annual Report needs to be finalized.
- Positive Feedback: Members appreciated the addition of the pie chart summarizing community concerns.

Committee Concerns

- The fourth paragraph discussing the number of complaints in 2021 and 2022 was questioned for its accuracy and relevance. It was suggested that the statement claiming a significant increase in complaints needed substantiation.
- Members were unsure about the inclusion and context of the graph showing total vehicles per year to Coffin Butte landfill, suggesting it may be better to remove it due to a lack of explanation.
- Chair Eklund expressed concern regarding the assumptions made about complaint numbers, highlighting a lack of access to historical data from previous years (2018 and 2019).
- It was discussed that increased community concerns often relate to activities such as conditional use permit applications, but currently, there is no evidence of such spikes in activity.

- Members discussed the potential reasons for an increase in complaints, including total tonnage incoming and vehicle traffic.
- There was a consensus that while speculation about the causes of complaints is plausible, it is essential to substantiate these claims with thorough data analysis.
    - One member expressed concern over the purpose of exploring causes for the complaints, stating that their role is to report comments rather than provide explanations.
    - Another member questioned if their mission was well-defined, emphasizing the importance of providing data and contextual trends.

Report Structure and Contextual Analysis

- Members debated whether the annual report should focus solely on the current year or also consider previous years for context.
- The conversation highlighted the need for integrating context into data presentations, particularly regarding trends and anomalies.
- A suggestion was made to include a chart showing the number of complaints over the past five years to visualize trends alongside tonnage data.
- The first column in the complaints table was noted to have formatting issues, causing numbers to appear vertically.
- There were calls for standardization in how responses to complaints are presented, especially regarding who provided the responses.
- Discussion ensued regarding the need for clarity on landfill operators' responses to complaints. Members noted the absence of information regarding whether Republic Services were informed of concerns and what actions, if any, were taken.
- It was agreed that the current reporting format should be improved to ensure that all relevant details about responses to complaints are documented.

General Observations and Suggestions

- Members acknowledged the challenge of tracking responses to multiple complaints.
- There was agreement that thorough investigative work on each complaint might be beyond the scope of their responsibilities.
- It was suggested to visualize the complaint resolution process, clarifying where the trail ends concerning each complaint.
- Member highlighted the report labeled 59, indicating it represents an aggregation of various comments received concerning the landfill issues covered by Benton County Talks Trash.

Historical Context:

- A historical note was made that the DSAC (Department of Solid Waste Advisory Committee) was prevented from receiving community concerns during the period Benton County Talks Trash was convened.
- The absence of a public comment period in DSAC meetings was due to directives from the Commissioner, who preferred to channel all concerns through Benton County Talks Trash.
- It was discussed that all public comments regarding landfill concerns were directed to Benton County Talks Trash and should be treated similarly to individual complaints received by DSAC.

- Chair Eklund questioned the fairness of not including comments from individuals who submitted complaints directly to Benton County Talks Trash in the report.
- Members confirmed that the current practice allows for individual entries for concerns submitted by mail or testimony at meetings, contrasting past practices where comments were aggregated.
- There was an acknowledgment of the significant volume of comments, with approximately 1,099 pages of material to review, creating challenges in data accessibility.
- The need for better visibility and analysis of specific comments, particularly those aggregated under row 59, was emphasized. A request was made by Chair Eklund for the concerns from row 59 to be broken out for a clearer representation in future reports and updated pie charts.

Action Items

- Request Bailey to break out the comments aggregated in row 59 for a more detailed analysis in future reports. Bailey noted that it may be extremely time consuming to locate each individual complaint in the BCTT report. He committed to having the information compiled by the January 2025 meeting.
- Update the pie chart based on the newly provided data from row 59 once it has been analyzed.

Next Steps

- Members will review the detailed comments once they are broken out, and further discussions will follow on how to integrate this feedback into future reports.
- Bailey was tasked with reviewing the BCTT report for relevant comments and compiling this data for the next meeting.
    - Timeline set for completion by the January meeting, depending on the ease of data extraction.

9. Request for Agenda Items

Landfill Monitoring Concerns

- David Hackleman will also investigate the security measures at the landfill and provide a report at the next meeting.
- Emphasis on ensuring worker safety and prevention of potential vandalism, which is of personal concern due to past incidents. David Hackleman raised concerns regarding potential damage to materials and property at the landfill site. He highlighted that trespassers could affect the workers' safety and environment.
- Further investigation into the monitoring of landfill operations and worker safety is needed.

Permit Notification Requirements

- DSAC Members reminded Ian about the state law requiring DSAC to be notified about any permit changes from the landfill.
- Action Item: Ensure DSAC receives a copy of the conditional use permit when resubmitted.

EPA Enforcement Alerts

- A member reported two enforcement alerts from the EPA regarding municipal solid waste landfills dated September 25, 2023:

        - Non-compliance in monitoring and maintenance of gas collection systems.
        - Underreporting of emissions due to inadequate waste sampling.
    - Members will conduct research on these alerts and discuss findings in future meetings.
    - An EPA hearing on using remote sensing for landfills will take place later this month.

PFAS Gasification Technology

- Concerns about PFAS (per- and polyfluoroalkyl substances) were raised, especially regarding the potential treatment technologies available for biosolids.
- Next steps: Request a summary of PFAS data and sources, especially regarding groundwater monitoring.
- Invite Republic Services to present on groundwater data related to PFAS.

Leachate Monitoring

- Questions were raised about leachate monitoring, especially regarding its content and potential groundwater impacts.
- DSAC discussed the possibility of a presentation on leachate disposition as part of the annual report next year.

10. Adjournment

- Motion to Adjourn: Rachel moved to adjourn the meeting; Charlene seconded the motion. The motion was approved unanimously.

Next Meeting: Wednesday, November 13, 2024
Minutes Prepared by: Bailey Payne

Draft meeting minutes from 7/11/2022 - 10/25/2023

Bailey asked if multiple DSAC meetings can be approved by the new DSAC members all at once. Petra's response:

Yes. The 11th edition of Robert's Rules of Order, Newly Revised states: 41:11 "It should be noted that a member's absence from the meeting for which minutes are being approved does not prevent the member from participating in their correction or approval." By voting to approve a set of minutes, you are not attesting that you were in attendance during that meeting. Rather, you are voting to approve the minutes based on the trusted accounts of your counterparts and your review of the formatting of those minutes. Therefore, you are absolutely permitted to vote in favor of approving minutes for a meeting even if you were not in attendance. Furthermore, a member should not recuse themselves from a vote on the basis they did not attend a meeting. Recusal should be reserved for issues such as real conflict of interest.

48:12 Exceptions to the rule that minutes are approved at the next regular meeting (or at the next meeting within the session) arise when the next meeting will not be held within a quarterly time interval, when the term of a specified portion of the membership will expire before the start of the next meeting, or when, as at the final meeting of a convention, the assembly will be dissolved at the close of the present meeting. In any of these cases, minutes that have not been approved previously should be approved before final adjournment, or the assembly should authorize the executive board or a special committee to approve the minutes. The fact that the minutes are not read for approval at the next meeting does not prevent a member from having a relevant excerpt read for information; nor does it prevent the assembly in such a case from making additional corrections…

Benton County OREGON

Petra Schuetz
Interim Community Development Director

Phone: 541-766-3556

Email: petra.schuetz@bentoncountyor.gov

DSAC Meeting Minutes	Recording Available?	Status
2022.07.11 DSAC Minutes DRAFT	Yes - Link	Drafted
2022.07.27 DSAC revised Minutes	Yes - Link	Drafted
2022.08.24 DSAC DRAFT Minutes Updated	Yes – Link	Drafted
2022.10.26 SWAC DSAC Joint Work Session DRAFT Minutes	Yes - Link	Drafted
2022.11.16 SWAC DSAC Joint Work Session DRAFT Minutes	Yes - Link	Drafted
2022.12.07 SWAC DSAC Joint Work Session DRAFT Minutes	Yes - Link	Drafted
2023.01.18 SWAC DSAC Joint Work Session DRAFT Minutes	Yes - Link	Drafted
2023.02.08 SWAC DSAC Joint Work Session DRAFT Minutes	Yes - Link	Drafted
2023.03.15 SWAC DSAC Joint Work Session DRAFT Minutes	Yes - Link	Drafted
2023.10.25 DSAC DRAFT Minutes	Yes - Link	Drafted

COMMUNITY DEVELOPMENT DEPARTMENT
360 SW Avery Avenue
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BENTON COUNTY
Solid Waste Advisory Council (SWAC) & Disposal Site Advisory Committee (DSAC)
Joint Work Session
December 7, 2022 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Joel Geier, Chuck Gilbert, Marge Popp, Brent Pawlowski, John McEvoy, and Mark Yeager
Republic Services: Absent
Staff Present: Daniel Redick
Public Present: Debbie Palmer
Location: Virtual

Call to Order/Introductions

Chair Ken Eklund called the meeting to order at 6:06 pm.

Acknowledge receipt of public input

Chair Eklund mentioned who had provided some of the comments received in the meeting packet.

Benton County Talks Trash Workgroup: Ambassadors' Liaison

Marge discussed the Subcommittee E progress, regarding the County's effectiveness communicating with the community through various methods, including newspaper, mail, and email. Various subcommittee E members are addressing different aspects of the subcommittee report. Joel and Marge discussed including Polk County perspectives in BCTT. Joel and Marge also discussed the communications relating to the timing of future landfill CUP applications.

Chair Eklund said the Landfill Size, Capacity, and Longevity is moving along and following a report outline. He discussed the "quarry problem" where airspace is occupied by un-quarried rock. He said that he is working on factors that can potentially influence the landfill outside of physical parameters (legislation, activism, etc). Knife River and Republic Services are reportedly discussing the rate of quarry excavation, and the plans have not been shared with the subcommittee. Chuck shared that the subcommittee detailed landfill acreage and is working on maps for context.

Mark discussed a letter he had shared in November, explaining that Republic Services' contracts for incoming waste are largely not with Benton County, and the agreements are with other parties, and asked what rational options outside of landfilling are available. Chuck discussed the costs and benefits related to a regional planning approach.

Joel reported on the Sustainable Materials Management Plan subcommittee, and the group is drafting an plan outline, which will address many topics, including alternatives to

landfilling. There is a December 9th deadline for subcommittee to provide ideas for topics. Marge explained the 2040 Thriving Communities Initiative core values, and their potential role in a future request for proposals and sustainable materials management plan. Chair Eklund mentioned the subcommittee compiled topics from other management plans in Oregon.
Mark discussed the land use compliance subcommittee, which is meeting regularly and working on a document that lists landfill land use actions and associated conditions of approval.
Chair Eklund said that the Sustainable Materials Management Plan consultants would be able to use the kind of information addressed with the landfill size, capacity, longevity work. He expressed concern that the plan and consultant will not be relevant enough to the County and environmental challenges. Debi said that a plan using templates from previous plans will help prevent recreating the wheel.
Debi asked if the BOC has provided any direction regarding the status of meetings, and Daniel shared that the BOC has not provided any additional direction to SWAC.
Brent asked about the RFP timeline, and the group expressed that there is not a timeline that has been communicated, and that the plan will long term guidance beyond just the landfill details, and the County will determine the time scope.

Schedule next meeting, Wrap Up/Adjourn

Chair Eklund adjourned the meeting at 7:05pm.

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(541) 766-6821
FAX (541) 766-6891

BENTON COUNTY
Disposal Site Advisory Committee (DSAC)
Special Meeting
July 11, 2022 Minutes DRAFT

Members Present: Ken Eklund, John McEvoy, Deborah Gile, Mark Yeager
Republic Services: Absent
Staff Present: Daniel Redick (Benton County Solid Waste and Water Quality Coordinator)

Call to Order/Introductions

Chair Ken Eklund called the meeting to order at 3:13 pm.

DSAC Bylaws: Discuss / Decide on Options for Wording Changes

- Ken shared Mark's comment that the use of "permittee" is odd in article 2, and that the landfill operator is not a "permittee" of the County, but rather a "permittee" of the State. Mark recommended clarifying that the operator is issued a permit by DEQ. The group suggested the language "franchisee", "Oregon DEQ permittee", or "operator", and chose to use "Oregon DEQ permittee" in this instance.
- Ken shared Mark's comment in article 3 that it would be helpful to clarify "a person holding a permit" to match the language in Chapter 23. That language was removed because the last sentence satisfies the purpose.
- Debi said article 3, section 2 references "Solid Waste Advisory Council", and Daniel explained that this is where the DSAC and SWAC bylaws intentionally reference one-another.
- The group recommended striking the phrase in article 4: "However, in the event the Chair's vote shall create a tie vote, the Chair shall refrain from voting".
- Article 5, Ken included reworded language for the last sentence, explaining quorum rules for public meeting laws.
- Article 7, section 2: the group changed the 24 hours notification to three days. The group decided to remove the language refraining the chair from voting in section 4.
- Article 7, section 7: the group changed the three day notice to seven days notice.
- Article 7, section 8: the group wants to include language about maintaining recordings.
- Article 10: Ken asked if conflict of interest can be explained better. Mark recommended finding and including the statutory rule due to the complexity. Daniel will work on finding that reference and sending it to Ken to include on the final draft. The group agreed that Ken will work on the final draft, and Daniel will send it out to the group at least seven days prior to the next meeting.

Other items

Daniel said the County received the 2021 landfill annual report, and it is available on the website.

Mark made a MOTION to adjourn the meeting at 3:46 pm, seconded by Debi the MOTION passed unanimously.

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BENTON COUNTY
Disposal Site Advisory Committee (DSAC)
July 27, 2022 Draft Minutes

Members Present: Ken Eklund, John McEvoy, Deborah (Debi) Gile, Joel Geier, Marge Popp, Chuck Gilbert, and Mark Yeager
Republic Services Present: Broc Keinholz, Ian McNab, and Julie Jackson
Staff Present: Daniel Redick (Benton County Solid Waste and Water Quality Coordinator)

Call to Order/Introductions

Chair Ken Eklund called the meeting to order at 6:00 pm.

Approval of Minutes

John made a **MOTION** to approve the April 27th, 2022 minutes. Seconded by Mark, the **MOTION** was approved 7-0.

Community Member Comments

- Joel reported that a community comment came into him personally about the Heron Rookery (colony) near the landfill. The colony had many nests active through May 14th but was apparently abandoned two weeks later, which raises concern. He asked if the landfill monitored the bird population this year, and if so, have the results been reported to ODFW. He also noted that neighbors noticed equipment operating just west of the rookery, to haul fill dirt from a stockpile. He asked if the company kept any log of these or other activities in the heron buffer zone that was recommended by ODFW.

  Ian McNab (Republic Services) responded that these are normal operations and there has been no other change in that area for quite some time. A biologist has been monitoring the eastern and western rookeries starting this year. Results will not be reported by the biologist until the end of a three-year period and no data is available at this time. Joel made a **MOTION** to request that Republic Services provide any information they have regarding the monitoring of the heron colonies this past spring and present it at the next DSAC meeting. Seconded by Marge, the **MOTION** was approved 6-1, 1 abstained (John)
- Kevin Kenaga attended the recent BOC meeting and learned about the budget for the facilitated work group that is being formed. He requested that DSAC request that some of that funding for the work group process goes towards environmental impacts.

- Mark requested that DSAC/SWAC meetings be combined and confirmed it would be allowable based on Oregon law. Members asked Daniel to explore reasons why DSAC and SWAC were separate meetings in the past and what options there are for combining groups into one in the future. This topic will be discussed at the August SWAC meeting.

Work Group

Joel and Marge both expressed interest in joining the Solid Waste Process work group that has been implemented by the Board of Commissioners per the Oregon Consensus Assessment. The BOC requested that two representatives from the council join the work group. Mark made a **MOTION** to nominate both Joel and Marge to the facilitated work group. Seconded by Debi, the **MOTION** passed 7-0. Joel suggested an alternate member and Chuck expressed his interest in joining the work group if needed.

Group Priorities & Intentions

Ken asked SWAC members to send him an email on their suggestions for agenda items and the order of priority and intention.

DSAC BYLAWS

Mark made a **MOTION** to approve the proposed edits to the DSAC Bylaws that were discussed at the July 11, 2022 work session and to send them on to the Board of Commissioners for review. Seconded by Joel, the **MOTION** was approved 6-1, Chuck voted no.

Republic Services 2021 Annual Report

Ian presented the 2021 Republic Services Annual Report. There were concerns from several members on the report:

- A significant discrepancy on the order of 100,000 tons in the reported numbers
- The report still references the Benton County Health Department rather than the Planning Division.
- High arsenic levels in monitoring wells
- Data regarding runoff from the PRC is not included in the annual report.

Committee members chose not to approve the annual report to be sent on to the Board of Commissioners at this time.

Agenda Items

Mark raised concern that the independent audit of intake at the landfill (which he previously requested) is on the DSAC agenda that meets quarterly. He emphasized that this information needs to be available sooner than the next DSAC meeting. Ken suggested an additional meeting be scheduled for DSAC that would be dedicated to cover items such as this and other topics that have not been discussed at regular DSAC meetings. The

committee decided to schedule a regular DSAC meeting (not a work session) for August 24th along with SWAC.

Mark made a **MOTION** to adjourn the meeting. Seconded by Debi, the **MOTION** was approved and meeting adjourned at 8:33.

COMMUNITY DEVELOPMENT DEPARTMENT
360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819

BENTON COUNTY
Disposal Site Advisory Committee (DSAC)
August 24, 2022 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Joel Geier, Marge Popp, Chuck Gilbert, and Mark Yeager
Republic Services Present: absent
Staff Present: Daniel Redick (Benton County Solid Waste and Water Quality Coordinator), Linda Ray (Community Development Administrative Specialist)
Public present: John Deuel, Ed Pitera, Nancy Whitcombe, Jay Simpkins, Debbie Palmer, Paul Nietfeld

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Call to Order/Introductions
Chair Ken Eklund called the meeting to order at 6:02 pm.

Approval of Minutes
Edits to the July 27, 2022 minutes are as follows;

- Change Ken Eklund's title to Chair instead of Vice Chair in the "call to order"
- In the sentence referring to the discussion on heron's, needs clarification that biologists have just started the project so there is no report. Request to strike through "3-year process and reporting to ODFW". There is no data at this time.
- DSAC bylaws needs changes in the wording from SWAC to DSAC
- Republic Services Annual Report – the committee would like more discussion captured on that topic and members will send suggested edits to Linda Ray.

Committee members decided to wait on approving the minutes until these edits are made.

Community Member Comments

- Paul Nietfeld reported his findings on the topic of methane gas and an assessment performed at the landfill. He urged the committee to request an independent assessment made by the county on this matter.

Heron Rookery Inquiry
Members asked that the minutes reflect that Republic Service representatives were not in attendance at this meeting and they would like more information on this year's observations of the Heron Rookery. Daniel asked Republic Services for that information following the group's request, and the email exchange is included as attachment A.

Landfill/Recycling Center Annual Report 2021
Chair Eklund requested that the minutes reflect his perspective that there is a serious discrepancy in the reported capacity of the landfill, and that the volume reported in the

annual report is dependent on removal of quarry rock, so that airspace is not currently available. He also noted that the annual tonnage estimates used in landfill capacity calculations (750,000 tons/year), is lower than the tonnage accepted since 2016. Chuck discussed the 2021 Site Development Plan document available to the group on the County's website document library.

Community Member Presentation – Nancy Whitcombe

Nancy presented the Annual Report by Republic Services and requested that they add two new columns and additional data to the report:

- Classify commercial vehicles to capture the class of vehicles frequenting the landfill.
- Classification for private vehicles and the contents of their loads
- Number of trucks carrying leachate, volume
- Number of gravel trucks, weight
- Number of Covanta Ash trucks, weight
- Number of vehicles carrying compost to and from the landfill, weight
- Vehicle weight (as used in current scale data)
- Vehicle data for those travelling to and from the PRC

After discussion from the committee on requesting more data from Republic Services on their annual report, Daniel will take the comments from DSAC members and present them at the BOC meeting scheduled for October 18th. Mark made a **MOTION** that DSAC would not approve the 2021 Republic Services Annual Report as submitted due to discrepancies. The MOTION also requests that the BOC add data in the 2022 report that includes capacity details and consistency in numbers. The MOTION was seconded by Marge. Chuck amended the MOTION to include an exhibit compiled by staff and the Chair, agreed to by Mark and Marge. The **MOTION** was unanimously approved.

Chuck made a **MOTION** that DSAC look at the class of vehicles and type of lading transported in and out of Coffin Butte to be reflected in the landfill annual report. The MOTION was seconded by Mark. Daniel recommended that the MOTION be amended to replace "look at" with "recommends to the Board of Commissioners". Chuck amended the MOTION, Mark approved. Joel amended the MOTION to include a request that Republic Services include data on vehicles traveling from PRC and include leachate hauling. Supported by Chuck and Mark, the amended **MOTION** passed unanimously.

Joel suggested adding issues with report in their individual public comments regarding the minutes not capturing enough of the discussion.

Independent Landfill Data Verification

After discussion on the amount of methane emissions and methane capture from the landfill, Joel made a **MOTION** to recommend that the BOC seek to obtain aerial or satellite measurements of total methane emissions from the landfill independent of ground-based measurements as part of their goal of investigating methane as a community priority. Seconded by Marge, the **MOTION** passed unanimously.

Independent Audit into Landfill Waste

Mark requested that an independent audit of the waste going into the landfill by hiring a third party consultant to inspect loads as they arrive at the landfill. Chuck recommended that recyclables be included in the audit.

Mark made a MOTION to ask the BOC to fund this long-term random third-party independent audit of the materials being brought to the landfill, including recyclables, in order to characterize the materials. Seconded by Joel. The MOTION passed unanimously.
The audit would take place over 12-18 months (2-3 times a month) in order to understand the potential variability of waste.

Member Requests

Debi requested information from Republic Services on composting food from outdoor community events. Daniel will follow up with Ian on this request.
Ken requested that the DSAC meetings be moved to use the "Zoom" platform.

Agenda Items

Mark requested that DSAC/SWAC be combined into one instead of having two separate meetings. Daniel will prepare a memo for the DSAC on this request.
Joel requested more information on the County of origin of waste materials, and that an item regarding committee requests from Republic Services (Annual Report additions and information on the Heron Rookeries.

Joel made a MOTION to adjourn the meeting at 8:59 pm, seconded by Mark the MOTION passed unanimously.

Attachment A: Heron Rookery Inquiry Email Exchange

From: REDICK Daniel
To: CRONEY Vance M; "Jackson, Julie"
Subject: RE: SWAC/DSAC
Date: Tuesday, August 23, 2022 9:35:32 AM

Thank you, Julie.

Yes, I let Chair Eklund know that you and Ian would not be providing more information about wildlife at the upcoming meeting. I will let them know that you and Ian will not be able to attend the meeting as well.

Best,

Daniel

From: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Sent: Monday, August 22, 2022 1:40 PM
To: 'Jackson, Julie' <JJackson6@republicservices.com>; REDICK Daniel <daniel.redick@Co.Benton.OR.US>
Subject: RE: SWAC/DSAC

Thanks Julie. Vance.

From: Jackson, Julie <JJackson6@republicservices.com>
Sent: Monday, August 22, 2022 1:18 PM
To: REDICK Daniel <daniel.redick@Co.Benton.OR.US>
Cc: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Subject: SWAC/DSAC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Daniel,
I just wanted to let you know that neither Ian or I are able to attend the SWAC or DSAC meetings this week. I know they have us on the agenda for a rookery report, but as I let you know earlier, we do not have anything to report.
Thanks,
Julie

Julie Jackson
Municipal Manager

110 NE Walnut Blvd
Corvallis, Oregon
e jjackson6@republicservices.com
o 541-286-3313
c 541-936-1334

COMMUNITY DEVELOPMENT DEPARTMENT
360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819

BENTON COUNTY
Solid Waste Advisory Council (SWAC) & Disposal Site Advisory Committee (DSAC)
Joint Work Session
October 26, 2022 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Joel Geier, Marge Popp, Chuck Gilbert, and Mark Yeager
Republic Services: Absent
Staff Present: Daniel Redick
Public Present: Debbie Palmer
Location: Virtual

Call to Order/Introductions
Chair Ken Eklund called the meeting to order at 6:07 pm.

Acknowledge receipt of public input
Accepting written comments from the public. Chair Eklund provided an overview of the comments received since August. Written comments available in the public comment packet.

Benton County Talks Trash Workgroup: Ambassadors' Liaison
The group discussed the priorities for the liaison discussion, and the process for providing feedback between the SWAC/DSAC members involved in BCTT and the rest of the SWAC/DSAC membership. The group then discussed the various BCTT subcommittees and the topics addressed, the scope of the BCTT work, concerns and opportunities for improvement in the process, valuable aspects of the process, general thoughts about the process so far.

The topic of complaint-driven enforcement was discussed, along with concerns about that process. The group also discussed SWAC/DSAC's role in addressing complaints, while the SWAC/DSAC meetings are limited to BCTT liaison opportunities at the BOC's direction. The group then discussed concerns about the BOC's direction limiting SWAC/DSAC meetings to BCTT liaison opportunities. Chair Eklund asked if the group would like to appeal the BOC's direction limiting SWAC/DSAC meetings to BCTT liaison opportunities, and the discussion was deferred to the next meeting.

Schedule next meeting, Wrap Up/Adjourn
Chair Eklund decided that scheduling the next meeting would take place through an online poll. Chair Eklund adjourned the meeting at 7:02 pm.

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360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819

BENTON COUNTY
Solid Waste Advisory Council (SWAC) & Disposal Site Advisory Committee (DSAC)
Joint Work Session
November 16, 2022 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Marge Popp, Chuck Gilbert, Brent Pawlowski, and Mark Yeager
Republic Services: Absent
Staff Present: Daniel Redick
Public Present: Debbie Palmer, Kevin Kenaga
Location: Virtual

Call to Order/Introductions
Chair Ken Eklund called the meeting to order at 6:00 pm.

Acknowledge receipt of public input
Accepting written comments from the public. Verbal public comment is currently unavailable. Chair Eklund mentioned who had provided some of the comments received since August. Written comments available in the public comment packet. Marge was concerned that the bookmarks were not available to navigate the comment packet.

Chair Eklund asked new member Brent Pawlowski to introduce themselves, and Brent provided some background information and their interest in SWAC/DSAC. Chair Eklund communicated that SWAC and DSAC are currently in a challenging time, driven by the Benton County Talks Trash Workgroup, and the BOC's direction limiting SWAC/DSAC meetings to BCTT liaison opportunities. Chair Eklund then explained the top priorities for SWAC/DSAC, and Daniel clarified that DSAC does not have a role in handling or responding to community member complaints, and that DSAC meetings are a forum for community member comments.

Benton County Talks Trash Workgroup: Ambassadors' Liaison
Chair Eklund discussed their concerns about Oregon public meeting laws as it relates to limiting DSAC member's participation (in quorum numbers) in BCTT workgroup subcommittees. Marge discussed these concerns related to their own participation in the BCTT workgroup subcommittees, and explained concerns in the BCTT process. Chair Eklund explained that they were concerned about the fairness of Oregon public meeting law requirements in the process and the County's interpretation of the laws. Because quorum numbers of DSAC members may not participate in BCTT subcommittees at one time, Chair Eklund proposed the DSAC chose members at random that should not participate in the

BCTT subcommittees, and that Marge volunteering to not participate in BCTT subcommittee work to meet public meeting law requirements is an unacceptable process. Marge believes the policy is wrong, and the use of the law is an attempt to control and constrain the public involvement process. Chuck was not sure why Marge was not able to participate in a BCTT subcommittee as member of the public if there was a quorum of DSAC members present. Daniel recommended that members with concerns or questions about this speak with County Counsel, and that it is not acceptable to knowingly violate public meeting laws regardless of enforcement expectations. Mark asked if the group can attend, listen, or participate in BCTT meetings in quorum numbers, and Daniel recommended that they ask County Counsel. Mark recommended that the group have a special meeting with County Counsel, and Daniel offered to reach out to County Counsel to ask about how to proceed.

The group then discussed concerns with the BCTT process, including the process of subcommittee work, BCTT webpage communications, the number of subcommittee meetings. Debi requested that the group discuss the BCTT subcommittee work in progress, and the group discussed the subcommittee work in progress as well as the work to be done moving forward. Daniel will send out links to all subcommittee webpages to the group.

Chair Eklund called for a December meeting to work on the DSAC Community Concerns Annual Report. Daniel explained that the BOC's direction limiting SWAC/DSAC meetings to BCTT liaison opportunities will prevent the group from working on other topics, and that the DSAC Community Concerns Annual Report does not have a specific due date to Oregon DEQ. Chair Eklund asked for the County Counsel to explain any limitations to DSAC's work.

Schedule next meeting, Wrap Up/Adjourn

Mark made a **MOTION** to adjourn the meeting. Seconded by Marge, the **MOTION** was unanimously approved, and meeting adjourned at 7:03pm.

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360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819

BENTON COUNTY
Solid Waste Advisory Council (SWAC) & Disposal Site Advisory Committee (DSAC)
Joint Work Session
January 18, 2023 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Marge Popp, Chuck Gilbert, Joel Geier, Brent Pawlowski, and Mark Yeager
Republic Services: Ian Macnab Absent
Members Excused:
Staff Present: Daniel Redick, Greg Verret
Public Present: Sam Imperati (ICM Resolutions), Rebecca Geier
Location: Virtual

Call to Order/Introductions
Chair Ken Eklund called the meeting to order at 6:00 pm.

Acknowledge receipt of public input
Written feedback from the public has been received, and it will be reviewed further when SWAC and DSAC address regular business.

Acknowledge service on John McEvoy
Chair Eklund acknowledged John McEvoy's service, as his term has ended.

Benton County Talks Trash Workgroup: Ambassadors' Liaison
Marge said that the upcoming BCTT meeting will have the group review the most recent draft material from each subcommittee, and proposed SWAC and DSAC subcommittees to work on the material from BCTT subcommittees. Sam confirmed his intention is for SWAC and DSAC will review current draft material from each subcommittee in the upcoming SWAC/DSAC Joint Work Session (February 8th). Joel Geier asks for his December 6th comment to the Board to be included in the SWAC/DSAC packet, and Daniel confirmed that it was included in the packet. Chair Eklund said that he had not received a notification for this meeting, and Daniel confirmed that Chair Eklund was included in the meeting notice, and other members confirmed receipt of that notification. Marge said she had a hard time finding meeting information on the webpage. Marge expressed concern that the meeting packet includes comments going back to August 2022, and that Subcommittee E is working on public communications issues with processes like those regarding SWAC/DSAC communications. Mark asked if County staff, when receiving written comments from the public for SWAC/DSAC, inform commentor that SWAC/DSAC is not typically discussing written public comments during current meetings. Daniel said that Staff do not typically

communicate details about current limitations to SWAC/DSAC meeting agendas, but that it is something that staff can communicate in the future. Mark recommended that staff provide the public with more detail about SWAC/DSAC's current BCTT focus. Chair Eklund asked for SWAC/DSAC members to forward him written comments on the draft BCTT report ahead of the next SWAC/DSAC meeting on February 8th, which will be a two hour meeting from 6pm-8pm.

The group then discussed subcommittee work. Marge provided an overview of Subcommittee E's charge, which revolves around history and communication patterns. She said they researched newspaper archives, and found readily accessible information regarding SWAC meetings in the past. She also noted that she is not able to see public comments for BCTT, and that the webpage should be updated. Sam shared that SWAC and DSAC will have access to a word document and PDF version of the BCTT report draft #3 for comments, and Daniel confirmed that they would be available via links.

Mark Discussed the Land Use Subcommittee work and described the group's charge. They worked their way through many conditions of approval, and are developing key findings, and Republic Services staff are working on providing feedback on the subcommittee draft.

Chair Eklund discussed the Sustainable Materials Management Plan (SMMP) Subcommittee work and described focus areas and the work process so far. The group is preparing a table of contents and a list of questions to cover important topics they would like to have included in the SMMP, including circular economy concepts.

Chair Eklund discussed the A1 subcommittee (Landfill Size, Capacity and Longevity) charge, and complexities associated with determining landfill size and longevity. Chair Eklund reported that Republic Services is in discussion with Knife River about the quarry timeline for Cell 6, which impacts landfill operations. He also mentioned that Republic Services accepted more waste than expected starting in 2017, and the expansion of the landfill was not approved, leading to challenges with landfill size, capacity, and longevity. Chuck discussed the engineering design of the landfill.

Daniel informed the group that the next BCTT report draft will be released on 1/25/23, and that he will reach out to the group with guidance on how to provide comments.

Wrap Up/Adjourn

Chair Ken Eklund adjourned the meeting at 7:02pm.

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360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819

BENTON COUNTY
Solid Waste Advisory Council (SWAC) & Disposal Site Advisory Committee (DSAC) Joint Work Session
February 8, 2023 Draft Minutes

Members Present: Ken Eklund, Marge Popp, Chuck Gilbert, Joel Geier, Brent Pawlowski and Mark Yeager
Republic Services: Ginger Richardson, Ian Macnab Absent
Members Excused: Deborah Gile
Staff Present: Daniel Redick, Greg Verret, Darren Nichols
Public Present:
Location: Virtual

Call to Order/Introductions

Chair Ken Eklund called the meeting to order at 6:00 pm.

BCTT Work Group: Draft Report Review

The group discussed the draft of the BCTT report. Joel and Ken discussed that the document is not a mature document, and that it is in process. The draft version includes notes, comments, and proposed edits. Ken requested that the group send him feedback on the report after the meeting, so that he can send the Work Group feedback. Marge requested that Ken read Debi Gile's comments that Debi shared ahead of the meeting, and Ken said that comments will not identify the contributing member, and that he would not share Debi's comments. He then provided a higher-level overview about the type of comments that Debi provided.

The group then discussed the following sections of the report, which can be found here - PDF Format; History Document:

a) A3-B1 Subcommittee (Legal): pp. 40–47; pp. 393–456.
    a. Topics discussed include rights and obligations associated with future expansion applications, SWAC's roles, the 2002 MOU interpretation about prior conditions of approval, clarifying the scope of sustainable materials management vs. solid waste management, wetland regulation and inventories/significance determination.
b) C1 Subcommittee (SMMP): pp. 60–66; pp. 193–235
    a. Topics discussed include the improved version of this subcommittee report, expression of sustainability and environmental core values, circular economy and full lifecycle approach, the priority level of SMMP work related to the rest of the report, subcommittee report development process, the scope and detail

of the draft report, fidelity of the report compared to subcommittee conversations, concerns with the SMMP subcommittee process and overall BCTT process, existing resources and alternatives, best practices (in Oregon, nationally, and internationally), standards of public outreach, regional management perspectives.

c) E1 Subcommittee (Community Education): pp. 67–73; pp. 457–474
    a. Topics discussed include the cooperation between the group members and staff, SWAC and community influence over solid waste processes, advertisements for community feedback, value of the history component, communications/notification radii.
d) A2 Subcommittee (Past Land Use): pp. 48–55; pp. 236–392
    a. Topics discussed include the volume of work completed and in progress, status of introductory paragraph, resolution for determining compliance status of various conditions of approval, 2002 MOU implications on compliance status, determination of cell/landfill closure, monitoring and enforcement of conditions of approval, use of franchise fees, compliant process, view and screening of landfills, applicability and context of previous conditions.
e) A1 Subcommittee (Landfill Size/Life): pp. 56–60; pp. 105–192
    a. Topics discussed include the complexities of longevity estimation, complexities of size and capacity, closure and "capped" terminology, future factors that have landfill longevity implications, waste recovery technologies, the A1 section's relationship with the SMMP section, variability on waste inflow as it relates to landfill business contracts and airspace budget, and how various perspectives are included. Chuck mentioned the importance of drawing on subject matter expertise when lacking knowledge on a topic, while Chair Eklund disagreed and said he instead relies on imagination.
f) History section
    a. Topics discussed include the timeline of landfill site history, inaccuracies, site compliance, emphasis on Soap Creek Valley and the variety of communities near the landfill, the time constraints of addressing concerns in this section, concerns about the accuracy of neighborhood tour minutes, missing leachate incidents, inclusion of a decommissioned well, and updates not included in this version and the evolving nature of the document.

Comments from SWAC/DSAC are due in written form to the Workgroup by February 10, 2023. Chair Eklund said that both general and specific comments are valuable and encouraged referencing page numbers. Director Nichols reminded SWAC that emails regarding SWAC decision-making must be publicly available, and Chair Eklund said that emails will come directly to him from members, and members should include staff of that email as well.

Wrap Up/Adjourn

Chair Ken Eklund adjourned the meeting at 8:03pm.

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360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819

BENTON COUNTY
Solid Waste Advisory Council (SWAC) & Disposal Site Advisory Committee (DSAC)
Joint Work Session
March 15, 2023 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Marge Popp, Chuck Gilbert, Joel Geier and Mark Yeager
Republic Services: Absent
Staff Present: Daniel Redick, Greg Verret
Public Present:
Location: Virtual

Call to Order/Introductions
Chair Ken Eklund called the meeting to order at 5:02 pm.

Acknowledge receipt of public input
Chair Eklund acknowledged that SWAC/DSAC has received written comments from the public. Verbal public comment is currently unavailable, as the Board of Commissioners directed the group to focus on Benton County Talks Trash (BCTT) during liaison opportunities, which are limited to one hour.

Benton County Talks Trash Workgroup: Ambassadors' Liaison
Chair Eklund asked for comments about the BCTT draft report and process. The group then reported on their work with the various BCTT subcommittees, and shared information about the workgroup process. Chair Eklund said the A.1. subcommittee process was a horrific process, that they received significant pushback, that they did not feel listened to, that the process was not inclusive, and that there were abuses of the process. Marge said that they were happy with the outcome, and Chuck agreed that the process resulted in clarity. The group discussed SWAC and DSAC role in the Sustainable Materials Management planning process. Debi asked if there were links available to the most recent draft reports, and Daniel confirmed that they will send it out to the group. The group then discussed the upcoming polling process, and the workgroup representatives (Marge and Chuck) asked for SWAC/DSAC members to reach out to them with any questions. The group then discussed the next steps for the report, and possible outcomes, including a discussion of the process for a future conditional use permit (CUP) application from Coffin Butte Landfill, and a potential timeline and scope for a Sustainable Materials Management Plan (SMMP). The group then discussed if Republic Services would wait until an SMMP is completed before filing a CUP application. Chair Eklund expressed concerns about the BCTT process generally, regarding difficulty of information coming forward.

Discussion about the packet/backlog

Chair Eklund asked if Daniel has requested that the BOC direct SWAC/DSAC to resume regular meetings. Daniel explained that the BOC is aware of the request, and will direct SWAC/DSAC when they are to resume regular meetings. Chair Eklund said that he would send in a request to the BOC to resume regular SWAC/DSAC meetings.

The group then discussed Republic Services and Knife River's excavation of the quarry area of the landfill. Chuck will look into it further.

Schedule next meeting, Wrap Up/Adjourn

Chair Ken Eklund adjourned the meeting at 6:05pm.

COMMUNITY DEVELOPMENT DEPARTMENT
4500 SW Research Way
Corvallis, OR 97333

BENTON COUNTY
Disposal Site Advisory Committee (DSAC)
October 25, 2023 Draft Minutes

Members Present: Ken Eklund, Deborah Gile, Marge Popp, Chuck Gilbert, Brent Pawlowski, Joel Geier and Mark Yeager
Republic Services: Absent
Staff Present: Daniel Redick, Darren Nichols and Linda Ray
Public Present: Scott Lesko, Fay Yoshihara, Debbie Palmer, Christopher Jacobs, Elizabeth Patte, Ed Pitera, Nancy Whitcombe, Kevin Kenaga, Jeff Morrell, Becky Merja, Bernie Cummings, Patricia Haggerty, Robert Orton, JB Jensen, and Josh Dodson
Location: Virtual

Meeting Agenda
Chair Eklund objected the meeting agenda presented by county staff. Several DSAC members gave feedback supporting the chair's request to proceed with the meeting agenda he provided. Mark made a **MOTION** to adopt Chair Eklund's agenda as the operating agenda for the meeting. Seconded by Marge, the vote was 4-3 and the **MOTION** passed. (Chuck, Debi, and Brent abstained.)

Call to Order/Introductions
Chair Ken Eklund called the meeting to order at 6:15 pm.

EPA Report on methane leaks at the landfill
Commented [LR1]: Need more info
Mark requested that county staff obtain a copy of the EPA report on methane leaks at the landfill (that was referenced in a recent article in the Salem Statesman Journal written by Tracy Loew) and distribute it to DSAC members. A member also suggested that the report be added to the DSAC website.

County Records Request
DSAC has requested several sets of documents from county staff:
1. Email communication between county staff regarding the recent decision to include language on the DSAC webpage stating that "written comments would no longer be accepted" in preparation for DSAC meetings.
2. On the same topic, a record request has been made for staff to provide documentation on how the decision to include that verbiage on the website was a "miscommunication".
3. DSAC has requested official records of all community concerns that were reported for

the 2021 DEQ community concerns annual report.
4. DSAC has requested official records of all community concerns that were reported for the 2022 DEQ community concerns annual report.

Re-ground the Committee
DSAC members expressed their dissatisfaction with the decision made by the Board of Commissioners to summarily dissolve the Solid Waste Advisory Council (SWAC) against county code without notification or discussion, and without any provision for its functions, about review of landfill expansion applications, which also against code requirements. The **MOTION** passed unanimously.

Commented [LR2]: This is what Ken wrote on screen as the motion. There was no second. Should I still capture it as a motion?

Chair Eklund will follow up with a letter to the BOC stating DSAC's motion.

Community Member Comments

- **Robert Orton** is a heavy equipment mechanic at the Coffin Butte Landfill. He expressed concerns about unsafe working conditions at the landfill. Jacob Stallings, attorney for the landfill union sent an email statement to county staff which was included in the meeting packet.
- **Nancy Whitcombe**, neighbor of the landfill suggested that DSAC consider making a recommendation to the Planning Commission and Board of Commissioners to re-evaluate the zoning of the landfill. Ms. Whitcombe will bring back her suggestions at the next DSAC meeting that may address some of the compliance issues in the past.
- **Kevin Kenaga**, concerned community member expressed gratitude to DSAC members for their service. He also expressed concerns about county staff response time to requests made by DSAC members.

Edit and approve county website language.
DSAC members expressed concern over language on the DSAC home page, specifically the sentence "To file a solid waste complaint, please call 541.766.6819".
DSAC members requested the following changes:

- Request to clarify that solid waste complaints may be submitted in writing.
- Process where the committee members can get complaints directly.
- Request that submitted comments from community members be sent to DSAC unscreened by county staff.

In conclusion, Mark stated that he would work with Ken to finalize the edits to the language included on the website and would submit those changes to Daniel.
Website edits made by county staff will be presented to the committee at the next DSAC meeting.

Community Concerns Annual Report
Two requests were made of county staff by DSAC members:

- A copy of the 2021 & 2022 community concerns report (that was sent to DEQ) be provided at the next DSAC meeting.
- An email sent to DSAC members on the status of those reports.

Agenda items for next meeting

- Establish a regular meeting time.
- Summarize items to be included in the minutes.
- Approval of meeting minutes (may be moved out to next month)
- Member Requests
- Website edits on the DSAC homepage
- Discussion of the SMMP Ad Hoc Committee and request that DSAC members be included on that committee that will be appointed by the BOC.

Marge made a **MOTION** to adjourn the meeting. Seconded by Mark, the meeting adjourned at 8:17 pm.

Commented [LR3]: I have this in my notes but don't remember the discussion or hear it in the recording.

Fire Safety Report

20 September, 2024 Revised 18 October, 2024
Draft Letter to be considered by Benton County (Oregon) Disposal Site Advisory Committee
Composed by request of BCDSAC during meeting of 19 September, 2024. David Hackleman, author.

To: BCC (Benton County Commissioners)

Cc: BCDSAC (Benton County Disposal Site Advisory Committee
Ian McNab, Republic Representative, Republic Coffin Butte Landfill Site

Regarding: Republic Coffin Butte Landfill Site Fire safety and preparedness.

At the 11 September, 2024 meeting of BCDSAC, Mr. McNab and others provided a summary of the safety and preparedness which Republic representatives, colleagues, contractors and staff provide at the Coffin Butte Landfill site in Benton County, Oregon. In addition, officials from the Adair Rural Fire department responsible for this region in Benton County and BCDSAC members commented.

Safety and preparedness summary: The effectiveness and preparedness varies per the following:

Condition One: During the hours of operation, the procedures and processes which Republic and its resources apply have demonstrated themselves as generally effective in discovery and abatement of fire incidents that have taken place within the confines of the Landfill site. Several such events have taken place during the operations based on commentary by Republic representatives, usually caused by "hot loads" (material undergoing combustion within a load being disposed into the landfill. One example is charcoal briquettes.)Republic has also effectively dealt with hot loads in refuse acquisition vehicles prior to arrival at the landfill.

Condition Two: During hours of closure, generally from 6PM through 6AM daily and on any and all holiday/closed days (the equivalent of at least 211 days a year), these procedures and processes are ineffective as they rely solely upon observation and action by employees of the operations. Hence fire safety and preparedness is based on external observers discovering an event and notifying the appropriate authorities, usually through a call to 911. The Adair Rural Fire Department has responded to extinguish observed significant, potentially calamitous[1] fires that were identified by random public observers during hours of closure of the landfill operations. There are Republic employees accessible by telephone by the Adair Rural Fire Department. They reside in the Monmouth area (~10 miles north) and arrive promptly after contact. While voluntary reporting of fires is greatly appreciated by all concerned, it is inadequate and inappropriate to rely upon such for a site known to have fire generation during normal operations and potential for fire emergence beyond such operations periods based on the nature of the operation and historical records. As an example, at least one of these events was due to the reappearance of a fire that was thought to have been quenched during open hours.

Request to Commissioners: In light of these findings:

- it is recommended to pursue this inquiry regarding fire safety and in particular encourage the installation of continuous fire monitoring/alert systems which do not rely upon random public observers. (A suggestion of a system is provided below.)

Suggestion**:** For the extent of the Coffin Butte Landfill and all area properties owned, maintained, leased and/or utilized by the operations and subsidiary operations under the auspices of Republic for this site, it is requested that a continuous fire detection and alert system[2] be implemented and approved by the Adair Rural Fire Department and the Benton County Oregon Fire Marshal.

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[1] Any fire that expands beyond the boundaries of the landfill region would likely have grown from the feed-stock in the area to the level that a multiplicity of fire departments including forest fire personnel would be required. To the immediate North and South of the landfill are dense forests. Several private residences exist in these regions. To the immediate East and also directly across HWY 99W from the landfill is the E.E. Wilson Wildlife area with attending dense brush areas and to the immediate West is a dense brush riparian zone area along Soap Creek which travels in a primarily North-South direction up Soap Creek and down to the Luckiamute River. Were a fire to get beyond the landfill perimeter and into any of these regions, it would be difficult to mitigate and could quickly spread miles beyond the site.

[2] One example of an automated system for this purpose is available via the company Torch Systems (www.torchsystems.com). There are many other options, some include security and emissions monitoring and reporting. This system has not been vetted by BCDSAC.

Fire Safety Letter Addendum: 10/26/2024 DH

- During the preparation of the fire safety letter of 10/10/2024, the members of the Benton County Disposal Site Advisory Committee have been reviewing the permits for the Coffin Butte Landfill. This process continued past the generation of the letter and during the editing period. During this process, one of the members discovered the following section in the DEQ permit for the Coffin Butte Landfill Site:

  > *9.17 Fire protection and reporting*
  > *The permittee must provide complete and sufficient protection equipment and facilities in accordance with DEQ-approved Operations Plan. Arrangements must be made with the local fire control agency to immediately acquire their services when needed. The permittee must implement preventative measures to ensure adequate on-site fire control, as determined by the local fire control agency. Fires must be immediately and thoroughly extinguished. Fires shall be reported to DEQ within 24 hours.*

  Our committee has not investigated fully whether or not element 9.17 has been adequately followed by the current permitee, however the verbal testimony from the local fire control agency (Adair Rural Fire Department) seem to indicate that immediate access has not been the case in the events during 2023 and 2024. Secondly, that same communication from the ARFD suggests that measures in place today at the Coffin Butte facility are not at a level considered “adequate control”. As for whether the DEA has been notified within 24 hours of the events, our committee has not requested commentary nor communications records to confirm such activities from the permittee.

- We have also learned that at least one transfer station in Oregon has installed a system called “Fire Rover”. While the system they selected was evidently in the $1M price range, apparently the particular site for the transfer station warranted such an expense. Fire Rover (www.firerover.com) offers a multiplicity of systems from detection and alert progressing through fully autonomous mobile or stationary fire detection and extinguishing systems. Hence this company's products are another option to be considered for implementation at the Coffin Butte Landfill to satisfy the expectations of the DEQ and fire departments.

Fire Incident Reports from Adair Village Rural Fire Department

Bailey,

The following lists 2023/2024 fire calls to the landfill locations or initiated by the methane burn off stacks. The list does not include medical calls to landfill locations or motor vehicle collisions in the landfill vicinity.

Date	Run#	Location	Type
12/24/2023	23-154	Hiway 99 & Coffin Butte	Fire
1/7/2024	24-01	Hiway 99 & Coffin Butte	Fire
1/11/2024	24-06	Hiway 99 & Coffin Butte	Fire
2/22/2024	24-19	MP75 Hiway 99	Fire
5/18/2024	24-63	29175 Coffin Butte Road	Fire
7/24/2024	24-110	26160 Coffin Butte Road	Fire
9/23/2024	24-148	29969 Camp Adair Road PRC	Fire
9/29/2024	24-154	29969 Camp Adair Road PRC	Fire

Attached are in associated incident reports.

Thank you.

Mike Larkin, EMT
LT/Staff Officer

Email: MikeL@adair-rural-fire.com
Phone: 541-745-7212
Mobile: 541-286-0186

6021 NE Marcus Harris Ave,
Adair Village, OR 97330

INCIDENT

Incident Number: 00002401
Incident Date: 01/07/2024
NFIRS Number: 0000001
Incident Type: (700) - False alarm or false call, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: STRUCTURE FIRE

Alarms:
Working Fire?: No
COVID-19 was a factor: No, COVID-19 was not a factor
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (86) - Investigate

AID

Aid Given/Received: (2) - Automatic aid received

Aided Agency:
Their Incident Number:

Aiding Agencies: Albany Fire Department, Corvallis FIre Department, Polk County Fire District No1

LOCATION

Location Type: (1) - Street address

Address: 38699 HWY 99W, , CORVALLIS, Oregon, 97330

Cross Street, USNG, or Directions: COFFIN BUTTE RD
Latitude: 44.69956000
Longitude: -123.22088000
Census Tract:

Detector Alerted Occupant:

Property Use: (500) - Mercantile, business, other
Mixed Use:

TIMES

PSAP Received: 22:09:23, 01/07/2024
Alarm Time: 22:09:23, 01/07/2024

TIMES

Arrival Time: 22:21:52, 01/07/2024
Water on Fire Time:
At Patient Time:
Loss Stop Time:
Controlled Time:
Last Unit Cleared Time: 22:29:40, 01/07/2024
Total On Scene Time: 0 hrs 7 mins 48 sec
Total Incident Time: 0 hrs 20 mins 17 sec

COUNTS

Counts Include Aid Received?: No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
1	3	0	0	1	1

PERSON/OWNER

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
HARRIS, AARON	7424		01/07/2024

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
HARRIS, AARON	7424		01/07/2024

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

Dispatched to reported structure fire west of 99 on Coffin Butte Road. 1405 responded in 1472 arriving on scene first approaching from the west on Coffin Butte Road. UTL a structure fire, only the methane burn-off stacks. 1405 continued to the tracks on Camp Adair Road investigating. UTL. 1431 approached from the south also UTL at the dispatched location. 1431 continued north to the county line. UTL. Both units returned to the the vicinity of the burn off stacks and cleared the call.

Created By: HARRIS, AARON

Unit Reports

W1431

Use: (1) - Suppression
Responding From:
Priority: Emergent
Response Delays:

Dispatch Time: 22:19:09, 01/07/2024
Enroute Time: 22:19:09, 01/07/2024
Arrival Time: 22:23:04, 01/07/2024

W1431

At Patient Time	Clear Time	In District Time
	22:29:40, 01/07/2024	

Actions Taken:

Person 1: Aman, Robert

Patient Contact?	Medical PPE Worn
No	None

Fire Products Exposed To: None

PPE Worn During Incident: None

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth

Decontamination Procedures Completed

Person 2: HOFFMAN, MARK

Patient Contact?	Medical PPE Worn
No	None

Fire Products Exposed To: None

PPE Worn During Incident: None

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth

Decontamination Procedures Completed

Person 3: LARKIN, MICHAEL

Patient Contact?	Medical PPE Worn
No	None

Fire Products Exposed To: None

PPE Worn During Incident: None

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth

Decontamination Procedures Completed

W1405

Use: (0) - Other

Responding From:

Priority: Emergent

Response Delays:

Dispatch Time: 22:14:56, 01/07/2024

Enroute Time: 22:14:56, 01/07/2024

Arrival Time: 22:21:52, 01/07/2024

At Patient Time:

Clear Time: 22:26:36, 01/07/2024

In District Time:

Actions Taken:

Person 1: HARRIS, AARON

Patient Contact?: No

Medical PPE Worn: None

Fire Products Exposed To: None

PPE Worn During Incident: None

PPE Malfunction?:

Barrier Breach:

Black Soot Around Nose:

Black Soot Around Mouth:

Decontamination Procedures Completed:

INCIDENT

Incident Number: 00002419
Incident Date: 02/22/2024
NFIRS Number: 0000030
Incident Type: (700) - False alarm or false call, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: Structure Fire

Alarms:
Working Fire?: No
COVID-19 was a factor: No, COVID-19 was not a factor
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (86) - Investigate

AID

Aid Given/Received: (2) - Automatic aid received

Aided Agency:
Their Incident Number:

Aiding Agencies: Corvallis Fire Department

LOCATION

Location Type: (1) - Street address

Address: 75 Hwy 99 Highway, Corvallis, Oregon, 97330

Cross Street, USNG, or Directions:
Latitude:
Longitude:
Census Tract:

Detector Alerted Occupant:

Property Use: (961) - Highway or divided highway
Mixed Use:

TIMES

PSAP Received:
Alarm Time: 01:26:00, 02/22/2024

TIMES

Arrival Time: 01:35:00, 02/22/2024
Water on Fire Time:
At Patient Time:
Loss Stop Time:
Controlled Time:
Last Unit Cleared Time: 01:50:00, 02/22/2024
Total On Scene Time: 0 hrs 15 mins 0 sec
Total Incident Time: 0 hrs 24 mins 0 sec

COUNTS

Counts Include Aid Received?: No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
1	3	0	0	1	1

LOSS

Property:

Estimated Property Losses: $None
Estimated Property Value: $None

Content:

Estimated Content Losses: $None
Estimated Content Value: $None

PERSON/OWNER

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
LARKIN, MICHAEL	38675	Officer	02/22/2024

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
LARKIN, MICHAEL	38675	Officer	02/22/2024

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

1411 first in the area POV, declared UTL, instructed 1431 to continue investigating. CFD second in the area of MP 75. 1431 20 seconds behind. 1431 coordinated investigation w/ CFD north to Coffin Butte Road checking both west on Coffin Butte and east on Camp Adair. UTL a structure fire. Flame source: landfill methane burn off stacks.

Created By: LARKIN, MICHAEL

Unit Reports

W1431

Use: (1) - Suppression

Responding From:

Priority: Emergent

Response Delays: None/No Delay

Dispatch Time: 01:26:00, 02/22/2024

Enroute Time: 01:33:00, 02/22/2024

Arrival Time: 01:35:00, 02/22/2024

At Patient Time:

Clear Time: 01:50:00, 02/22/2024

In District Time:

Actions Taken:

Person 1: Aman, Robert

Patient Contact?: No

Medical PPE Worn: None

Fire Products Exposed To: None

PPE Worn During Incident: Pant, Coat, Boots

PPE Malfunction?: No

Barrier Breach: No

Black Soot Around Nose: No

Black Soot Around Mouth: No

Decontamination Procedures Completed: None

Person 2: Howes, Jeremy

Patient Contact?: No

Medical PPE Worn: None

Fire Products Exposed To: None

PPE Worn During Incident: Pant, Boots, Coat

PPE Malfunction?: No

Barrier Breach: No

Black Soot Around Nose: No

Black Soot Around Mouth: No

Decontamination Procedures Completed: None

Person 3: LARKIN, MICHAEL

Patient Contact?: No

Medical PPE Worn: None

Fire Products Exposed To: None

PPE Worn During Incident: Coat, Pant, Boots

Person 3: LARKIN, MICHAEL

PPE Malfunction?: No
Barrier Breach: No
Black Soot Around Nose: No
Black Soot Around Mouth: No

Decontamination Procedures Completed: None

W1411

Use: (0) - Other
Responding From: Other: Mobile In District
Priority: Non-Emergent

Response Delays: None/No Delay

Dispatch Time: 01:26:00, 02/22/2024
Enroute Time: 01:28:00, 02/22/2024
Arrival Time: 01:35:00, 02/22/2024

At Patient Time:
Clear Time: 01:50:00, 02/22/2024
In District Time:

Actions Taken: Investigate

Person 1: JONES, THOMAS

Patient Contact?: No
Medical PPE Worn: None

Fire Products Exposed To: None

PPE Worn During Incident: None

PPE Malfunction?:
Barrier Breach:
Black Soot Around Nose:
Black Soot Around Mouth:

Decontamination Procedures Completed: None

INCIDENT

Incident Number: 00002406
Incident Date: 01/11/2024
NFIRS Number: 0000007
Incident Type: (700) - False alarm or false call, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: WIRE DOWN

Alarms:
Working Fire?:
COVID-19 was a factor:
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (86) - Investigate

AID

Aid Given/Received: (N) - None

LOCATION

Location Type: (1) - Street address

Address: 29199 COFFIN BUTTE Road, , CORVALLIS, Oregon, 97361

Cross Street, USNG, or Directions: HWY 99W
Latitude: 44.69960000
Longitude: -123.22096000
Census Tract:

Detector Alerted Occupant:

Property Use: (963) - Street or road in commercial area
Mixed Use:

TIMES

PSAP Received: 17:52:33, 01/11/2024
Alarm Time: 17:52:33, 01/11/2024

Arrival Time: 18:09:30, 01/11/2024
Water on Fire Time:
At Patient Time:

Loss Stop Time:
Controlled Time:
Last Unit Cleared Time: 18:19:21, 01/11/2024

TIMES

Total On Scene Time: 0 hrs 9 mins 51 sec

Total Incident Time: 0 hrs 26 mins 48 sec

COUNTS

Counts Include Aid Received? No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
1	2	0	0	1	2

LOSS

Property:

Estimated Property Losses: $None

Estimated Property Value: $

Content:

Estimated Content Losses: $None

Estimated Content Value: $

PERSON/OWNER

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
HOFFMAN, MARK	38236		01/11/2024

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
HOFFMAN, MARK	38236		01/11/2024

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

Report of wires down or fire at address. Both units UTL.

Created By: HOFFMAN, MARK

Unit Reports

W1431

Use: (1) - Suppression

Responding From:

Priority: Emergent

Response Delays:

Dispatch Time	Enroute Time	Arrival Time
18:02:46, 01/11/2024	18:02:46, 01/11/2024	18:09:30, 01/11/2024

W1431

At Patient Time

Clear Time: 18:19:21, 01/11/2024

In District Time

Actions Taken:

Person 1: Aman, Robert

Fire Products Exposed To: None

PPE Worn During Incident

PPE Malfunction?

Barrier Breach

Black Soot Around Nose

Black Soot Around Mouth

Decontamination Procedures Completed

Person 2: HOFFMAN, MARK

Fire Products Exposed To: None

PPE Worn During Incident

PPE Malfunction?

Barrier Breach

Black Soot Around Nose

Black Soot Around Mouth

Decontamination Procedures Completed

W1405

Use: (0) - Other

Responding From

Priority: Emergent

Response Delays

Dispatch Time: 18:01:42, 01/11/2024

Enroute Time: 18:08:56, 01/11/2024

Arrival Time: 18:11:56, 01/11/2024

At Patient Time

Clear Time: 18:19:11, 01/11/2024

In District Time

Actions Taken:

Person 1: HARRIS, AARON

Fire Products Exposed To: None

PPE Worn During Incident

Person 1: HARRIS, AARON

PPE Malfunction?

Barrier Breach

Black Soot Around Nose

Black Soot Around Mouth

Decontamination Procedures Completed

Person 2: LARKIN, MICHAEL

Fire Products Exposed To

None

PPE Worn During Incident

PPE Malfunction?

Barrier Breach

Black Soot Around Nose

Black Soot Around Mouth

Decontamination Procedures Completed

INCIDENT

Incident Number: 000023154
Incident Date: 12/24/2023
NFIRS Number: 0000223
Incident Type: (700) - False alarm or false call, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: FLUE FIRE

Alarms:
Working Fire?: No
COVID-19 was a factor: No, COVID-19 was not a factor
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement: None

Hazardous Materials Released:

Action Taken 1: (86) - Investigate

AID

Aid Given/Received: (N) - None

LOCATION

Location Type: (1) - Street address

Address: 38699 HWY 99W, , CORVALLIS, Oregon, 97330

Cross Street, USNG, or Directions: COFFIN BUTTE RD
Latitude: 44.69956000
Longitude: -123.22088000
Census Tract:

Detector Alerted Occupant:

Property Use: (648) - Sanitation utility
Mixed Use:

TIMES

PSAP Received: 06:21:07, 12/24/2023
Dispatch Notified Time: 06:21:07, 12/24/2023
Alarm Time: 06:21:07, 12/24/2023

Arrival Time: 06:40:00, 12/24/2023
Water on Fire Time:
At Patient Time:

Loss Stop Time:
Controlled Time:
Last Unit Cleared Time: 06:45:52, 12/24/2023

TIMES

Total On Scene Time: 0 hrs 5 mins 52 sec

Total Incident Time: 0 hrs 24 mins 45 sec

COUNTS

Counts Include Aid Received? No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
1	4	0	0	0	0

PERSON/OWNER

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
LARKIN, MICHAEL	38675	Officer	12/24/2023

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
LARKIN, MICHAEL	38675		12/24/2023

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

Dispatched to Flue Fire reported by passer-by south of Coffin Butte Road, West of 99, North of Adair. Crew of 4 in 1431proceeded to scene, investigated, drove the loop around suspected property and confirmed the fire was the methane burn off stacks at the dump. Reported findings to dispatch, no furhter action taken.

Created By: LARKIN, MICHAEL

Unit Reports

W1431

Use: (1) - Suppression

Responding From:

Priority: Emergent

Response Delays: None/No Delay

Dispatch Time	Enroute Time	Arrival Time
06:33:42, 12/24/2023	06:33:42, 12/24/2023	06:40:00, 12/24/2023

At Patient Time	Clear Time	In District Time
	06:45:52, 12/24/2023	

Actions Taken:

Person 1: Aman, Robert

Patient Contact?: No
Medical PPE Worn: None
Fire Products Exposed To: None
PPE Worn During Incident: Pant, Boots, Coat
PPE Malfunction?: No
Barrier Breach:
Black Soot Around Nose: No
Black Soot Around Mouth: No
Decontamination Procedures Completed:

Person 2: Howes, Jeremy

Patient Contact?: No
Medical PPE Worn:
Fire Products Exposed To: None
PPE Worn During Incident: Coat, Boots, Pant
PPE Malfunction?: No
Barrier Breach: No
Black Soot Around Nose:
Black Soot Around Mouth: No
Decontamination Procedures Completed:

Person 3: JONES, THOMAS

Patient Contact?: No
Medical PPE Worn:
Fire Products Exposed To: None
PPE Worn During Incident: Pant, Boots, Coat
PPE Malfunction?: No
Barrier Breach: No
Black Soot Around Nose:
Black Soot Around Mouth: No
Decontamination Procedures Completed:

Person 4: LARKIN, MICHAEL

Patient Contact?: No
Medical PPE Worn:
Fire Products Exposed To: None
PPE Worn During Incident: Coat, Pant, Boots

Person 4: LARKIN, MICHAEL

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth
No	No		No

Decontamination Procedures Completed

INCIDENT

Incident Number: 000024110
Incident Date: 07/24/2024
NFIRS Number: 0000135
Incident Type: (140) - Natural vegetation fire, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: SMALL NATURAL COVER FIRE

Alarms:
Working Fire?:
COVID-19 was a factor:
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (10) - Fire control or extinguishment, other

AID

Aid Given/Received: (1) - Mutual aid received

Aided Agency:
Their Incident Number:

Aiding Agencies: Corvallis Fire Department

LOCATION

Location Type: (5) - Adjacent to

Address: 29160 COFFIN BUTTE Road, , CORVALLIS, Oregon, 97330

Cross Street, USNG, or Directions:
Latitude: 44.69747000
Longitude: -123.22340000
Census Tract:

Detector Alerted Occupant:

Property Use: (600) - Ind., utility, defense, agriculture, mining, other
Mixed Use:

TIMES

PSAP Received: 19:51:00, 07/24/2024
Alarm Time: 19:51:00, 07/24/2024

TIMES

Arrival Time: 19:59:12, 07/24/2024
Water on Fire Time: 20:02:00, 07/24/2024
At Patient Time:
Loss Stop Time:
Controlled Time: 20:20:00, 07/24/2024
Last Unit Cleared Time: 21:09:10, 07/24/2024
Total On Scene Time: 1 hrs 9 mins 58 sec
Total Incident Time: 1 hrs 18 mins 10 sec

COUNTS

Counts Include Aid Received?: No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
2	6	0	0	0	0

LOSS

Property:
Estimated Property Losses: $0
Estimated Property Value: $

Content:
Estimated Content Losses: $50000
Estimated Content Value: $50000

PERSON/OWNER

Person:
Name:
Business Name:
Phone:
Address:

Name:
Business Name:
Phone:
Address:

AUTHORIZATION

Report Writer:
Name: JONES, THOMAS
Employee Number: 32604
Assignment: Lieutenant
Authorization Date: 08/27/2024

Officer in Charge:
Name: JONES, THOMAS
Employee Number: 32604
Assignment: Lieutenant
Authorization Date: 08/27/2024

Quality Control:
Name:
Authorization Date:

INCIDENT NARRATIVE

1462 responded to a grass fire reported behind the Methane Gas Burn Off facility adjacent to the Coffin Butte Landfill. Upon arrival, Lt. Jones saw that there was a grass fire along the South fence line on the West side of the property. The prevailing winds was pushing the fire to the East. The grass was mostly on the outside of the fence, but it was visible that some of the fire was in the inside of the fence line and starting to impinge on some miscellaneous store materials including a pressurized tanks, small gas generator, and a valve and actuator stored on a pallet. 1462 crew initially extinguished the grass fire in the area of these materials. The next priority was moving to the head of the fire on the East end of the South fence line and to extinguish the fire that appeared to be threatening an antenna. The facility was unattended and there was no one who witness the start of the fire. The fire was spotted by pedestrians driving by.

Lt. Jones called for additional resources from CFD. CFD sent a Brush Truck, Tender, BC, and had a type 1 Engine en route. When the CFD BC arrived on site the fire was under control and the Type 1 Engine was canceled. The BC cleared the call and left their Brush Truck and Tender on site for mop up.

Representatives from the Gas Generation facility (Bill Biegel) and Republic Services (Broc Kienholz) arrived on scene to provide access to inside the fenced facility for continued mop up and investigation. Both representatives agreed that the source of the fire must have been the flair. Mr. Biegel indicated there were work crews working in the area earlier in the day, but there was no evidence that the fire was due to their activities.

The ignition source of the fire is assumed to be the Methane Burn-Off Stack on site. The condition of the flair appeared to be corroded that it might have been possible for burning material to come loose and ignite the dry grass field. No defined ignition source located in post incident investigation.

The on-site material that were impinged on appeared to be mostly undamaged with the exception of a stored valve and actuator. The estimated value of this valve and actuator is $50,000.

Created By: JONES, THOMAS

Unit Reports

W1462

Use	Responding From	Priority
(1) - Suppression		Emergent

Response Delays

Dispatch Time	Enroute Time	Arrival Time
19:55:45, 07/24/2024	19:55:45, 07/24/2024	19:59:12, 07/24/2024

At Patient Time	Clear Time	In District Time
	21:08:53, 07/24/2024	

Actions Taken:
Extinguishment by fire service personnel

Personnel
MICHAEL BOWMAN, Cody Aichele, Jeremy Howes, THOMAS JONES

W1463

Use	Responding From	Priority
(1) - Suppression		Emergent

Response Delays

Dispatch Time	Enroute Time	Arrival Time
20:04:35, 07/24/2024	20:09:09, 07/24/2024	20:12:57, 07/24/2024

At Patient Time	Clear Time	In District Time
	21:09:10, 07/24/2024	

W1463

Actions Taken:
Salvage & overhaul

Personnel
CHARLES HARRIS, Robert Aman

Fire Module

SITE INFO

Alarms	Acres Burned	Resident Units In Bldg	Buildings Involved
		Not residential	None

Hydrant Identifier	Estimated Water Usage

ON-SITE MATERIALS

Material ID 1	Storage Use ID 1
(130) - Agriculture, other	(2) - Processing or manufacturing

IGNITION

Area of Origin
(90) - Outside area, other

Heat Source
(11) - Spark, ember, or flame from operating equipment

Item First Ignited	Fire Confined to Item?
(72) - Light vegetation - not crop, including grass	

Type of Material First Ignited

Cause of Ignition
(U) - Cause undetermined after investigation

Factors Contributing to Ignition 1
(UU) - Undetermined

Human Factors Contributing to Ignition
(N) - None

Est. Age of Person Involved	Gender of Person Involved

EQUIPMENT

Equipment Involved in Ignition
(300) - Shop tools and industrial equipment, other

Equipment Power Source	Equipment Portability
(21) - Natural gas or other lighter-than-air gas	(2) - Stationary

Brand	Model	Serial Number	Year

STRUCTURE

Structure Type

Stories Above Grade | Stories Below Grade | Building Status

Length | Width | Total Square Feet | Story of Fire Origin

Fire Spread

Item Contributing Most to Flame Spread | Type of Material

Number of Stories with Damage

Minor Damage | Significant Damage | Heavy Damage | Extreme Damage | Total Stories

PROTECTIVE SYSTEMS

Presence of Detector | Detector Type

Power Supply | Detector Operations

Effectiveness (/Failure Reason)

Presence of Auto Extinguishing System | System Type

System Operation | # of Sprinklers | Reason for System Failure

INCIDENT

Incident Number: 00002463
Incident Date: 05/18/2024
NFIRS Number: 0000083
Incident Type: (155) - Outside stationary compactor/compacted trash fire

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: SMOKE INVESTIGATION

Alarms:
Working Fire?:
COVID-19 was a factor:
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (11) - Extinguishment by fire service personnel

Action Taken 2: (81) - Incident command

AID

Aid Given/Received: (1) - Mutual aid received

Aided Agency:
Their Incident Number:

Aiding Agencies: Corvallis FIre Department

LOCATION

Location Type: (1) - Street address

Address: 29175 COFFIN BUTTE Road, , CORVALLIS, Oregon, 97330

Cross Street, USNG, or Directions:
Latitude: 44.69958000
Longitude: -123.22630000
Census Tract:

Detector Alerted Occupant:

Property Use: (919) - Dump, sanitary landfill
Mixed Use:

TIMES

PSAP Received: 19:03:50, 05/18/2024
Alarm Time: 19:03:50, 05/18/2024
Arrival Time: 19:13:13, 05/18/2024
Water on Fire Time: 19:21:00, 05/18/2024
At Patient Time:
Loss Stop Time:
Controlled Time: 19:45:00, 05/18/2024
Last Unit Cleared Time: 20:28:55, 05/18/2024
Total On Scene Time: 1 hrs 15 mins 42 sec
Total Incident Time: 1 hrs 25 mins 5 sec

COUNTS

Counts Include Aid Received?: No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
4	7	0	0	0	0

LOSS

Property:

Estimated Property Losses: $10000
Estimated Property Value: $

Content:

Estimated Content Losses: $None
Estimated Content Value: $

PERSON/OWNER

Person:

Name:
Business Name:
Phone:
Address:

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
HARRIS, AARON	7424		05/18/2024

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
HARRIS, AARON	7424		05/18/2024

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

1405 Could see black smoke from 1 mile away. 1405 called for Mutual Aid Tender and Engine. 1405 arrived to two hydraulic trash lifters on fire. 1405 assumed Coffin Butte command. Coffin Butte staff arrived at the same time as 1405 and started putting water on the fire from one of their water tenders. Upon 1431 arrival they were assigned fire attack and told to extinguish the lifters. Upon 1461 and 1463 arrival they were attached to 1431s crew. Upon 141 arrival they supplied water to 1431. 131 was assigned to the eastern lifter and told to help extinguish the trash on fire. During extinguishment two more workers showed up and started using dozers to help extinguish the fire. Fire out, command terminated and all units cleared. Landfill staff still on site working to cover the exposed garbage.

Created By: HARRIS, AARON

Unit Reports

W1405

Use: (1) - Suppression

Responding From:

Priority: Emergent

Response Delays: None/No Delay

Dispatch Time: 19:07:12, 05/18/2024

Enroute Time: 19:07:54, 05/18/2024

Arrival Time: 19:13:13, 05/18/2024

At Patient Time:

Clear Time: 19:13:38, 05/18/2024

In District Time:

Actions Taken: Incident command

Person 1: HARRIS, AARON

Fire Products Exposed To: None

PPE Worn During Incident: Structure Firefighting Helmet, Pant, Boots, Firefighting Gloves, Coat

PPE Malfunction?

Barrier Breach

Black Soot Around Nose

Black Soot Around Mouth

Decontamination Procedures Completed

Unit Narrative

First on scene. Size up and command.

Created By: HARRIS, AARON

W1431

Use: (1) - Suppression

Responding From:

Priority: Emergent

Response Delays: None/No Delay

Dispatch Time: 19:13:05, 05/18/2024

Enroute Time: 19:13:05, 05/18/2024

Arrival Time: 19:19:44, 05/18/2024

W1431

At Patient Time	Clear Time	In District Time
	20:28:33, 05/18/2024	

Actions Taken:
Extinguishment by fire service personnel

Person 1: Aichele, Cody

Fire Products Exposed To
Smoke, Heat, Fire, Gases/CO

PPE Worn During Incident
Hood, SCBA, Boots, Structure Firefighting Helmet, Pant, Firefighting Gloves, Coat, Mask

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth
No	No	No	No

Decontamination Procedures Completed
Wet brush gear without soap

Person 2: BOWMAN, MICHAEL

Fire Products Exposed To
Heat, Smoke, Gases/CO, Fire

PPE Worn During Incident
Coat, Structure Firefighting Helmet, Firefighting Gloves, Boots, Pant, Hood, Mask, SCBA

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth
No	No	No	No

Decontamination Procedures Completed
Wet brush gear without soap

Person 3: JONES, THOMAS

Fire Products Exposed To
None

PPE Worn During Incident

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth

Decontamination Procedures Completed

Person 4: LARKIN, MICHAEL

Fire Products Exposed To
Smoke, Gases/CO

PPE Worn During Incident
Structure Firefighting Helmet, Pant, Firefighting Gloves, Hood, Mask, Boots, Coat

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth
No	No	No	No

Person 4: LARKIN, MICHAEL

Decontamination Procedures Completed
Wet brush gear without soap

Unit Narrative

Initial attack with both preconnects.

Created By: HARRIS, AARON

W1461

Use
(1) - Suppression

Responding From

Priority
Emergent

Response Delays
None/No Delay

Dispatch Time
19:14:04, 05/18/2024

Enroute Time
19:14:04, 05/18/2024

Arrival Time
19:21:00, 05/18/2024

At Patient Time

Clear Time
20:28:55, 05/18/2024

In District Time

Actions Taken:
Extinguishment by fire service personnel

Person 1: MACDONALD, ROBERT

Fire Products Exposed To
Smoke, Heat, Fire, Gases/CO

PPE Worn During Incident
Coat, Firefighting Gloves, Structure Firefighting Helmet, Mask, Pant, Boots, SCBA, Hood

PPE Malfunction?
No

Barrier Breach
No

Black Soot Around Nose
No

Black Soot Around Mouth
No

Decontamination Procedures Completed
Wet brush gear without soap

Unit Narrative

assigned to help 1431 crew with IA.

Created By: HARRIS, AARON

W1463

Use
(1) - Suppression

Responding From

Priority
Emergent

Response Delays
Distance

Dispatch Time
19:30:09, 05/18/2024

Enroute Time
19:30:09, 05/18/2024

Arrival Time
19:35:00, 05/18/2024

At Patient Time

Clear Time
20:28:55, 05/18/2024

In District Time

W1463

Actions Taken:
Extinguishment by fire service personnel

Person 1: HOFFMAN, MARK

Fire Products Exposed To
Smoke, Heat, Fire, Gases/CO

PPE Worn During Incident
Pant, Hood, Coat, Mask, Boots, Firefighting Gloves, Structure Firefighting Helmet, SCBA

PPE Malfunction?	Barrier Breach	Black Soot Around Nose	Black Soot Around Mouth
No	No	No	No

Decontamination Procedures Completed
Wet brush gear without soap

Unit Narrative

assigned to 1431 crew to assist with IA.

Created By: HARRIS, AARON

INCIDENT

Incident Number: 000024148
Incident Date: 09/23/2024
NFIRS Number: 0000191
Incident Type: (150) - Outside rubbish fire, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: SMOKE INVESTIGATION

Alarms:
Working Fire?: No
COVID-19 was a factor: No, COVID-19 was not a factor
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (86) - Investigate

Action Taken 2: (81) - Incident command

AID

Aid Given/Received: (N) - None

LOCATION

Location Type: (1) - Street address

Address: 29969 CAMP ADAIR Road, MONMOUTH, Oregon, 97361

Cross Street, USNG, or Directions:
Latitude: 44.69991000
Longitude: -123.19559000
Census Tract:

Detector Alerted Occupant:

Property Use: (919) - Dump, sanitary landfill
Mixed Use:

TIMES

PSAP Received: 19:44:52, 09/23/2024
Alarm Time: 19:44:52, 09/23/2024

Arrival Time: 19:57:25, 09/23/2024
Water on Fire Time:
At Patient Time:

TIMES

Loss Stop Time	Controlled Time	Last Unit Cleared Time
		20:51:52, 09/23/2024

Total On Scene Time	Total Incident Time
0 hrs 54 mins 27 sec	1 hrs 7 mins 0 sec

COUNTS

Counts Include Aid Received?: No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
1	4	0	0	1	1

LOSS

Property:	Content:
Estimated Property Losses: $0	Estimated Content Losses: $0
Estimated Property Value: $	Estimated Content Value: $

PERSON/OWNER

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
HARRIS, AARON	7424		09/23/2024

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
HARRIS, AARON	7424		09/23/2024

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

1410 arrived to find a very large (150'x400'x 40') pile of compostable material with fire on it in multiple spots. A company employee of the Landfill happened to be in the area and arrived on scene shortly after 1431. Talking with the employee, we devised a plan to pull out the burning areas with an excavator and spread out the material to potentially wet it down. It was during these conversations when the PRC manager arrived and further conversations where had about not using water to put out the fire because of the further harm it would cause when you wet the composting material. The manager and 1410 decided the employees would pull out the burning material spreading it into a thin layer and apply dirt to it. 1431 and 1410 clear returning.

Created By: HARRIS, AARON

Unit Reports

W1410

Use: (0) - Other
Responding From:
Priority: Emergent

Response Delays: None/No Delay

Dispatch Time: 19:48:11, 09/23/2024
Enroute Time: 19:48:11, 09/23/2024
Arrival Time: 19:57:25, 09/23/2024

At Patient Time:
Clear Time: 20:51:52, 09/23/2024
In District Time:

Actions Taken: Incident command, Investigate

Person 1: HARRIS, AARON

Fire Products Exposed To: Smoke, Heat

PPE Worn During Incident: Coat, Mask, Pant, Structure Firefighting Helmet, Boots, Firefighting Gloves, Hood

PPE Malfunction?: No
Barrier Breach: No
Black Soot Around Nose: No
Black Soot Around Mouth: No

Decontamination Procedures Completed: None

W1431

Use: (1) - Suppression
Responding From:
Priority: Non-Emergent

Response Delays: None/No Delay

Dispatch Time: 19:53:43, 09/23/2024
Enroute Time: 19:53:43, 09/23/2024
Arrival Time: 20:00:07, 09/23/2024

At Patient Time:
Clear Time: 20:51:47, 09/23/2024
In District Time:

Actions Taken: Investigate

Person 1: Aman, Robert

Fire Products Exposed To: None

PPE Worn During Incident:

PPE Malfunction?:
Barrier Breach:
Black Soot Around Nose:
Black Soot Around Mouth:

Decontamination Procedures Completed:

Person 2: HOFFMAN, MARK

Fire Products Exposed To
None

PPE Worn During Incident

PPE Malfunction? | Barrier Breach | Black Soot Around Nose | Black Soot Around Mouth

Decontamination Procedures Completed

Person 3: LARKIN, MICHAEL

Fire Products Exposed To
None

PPE Worn During Incident

PPE Malfunction? | Barrier Breach | Black Soot Around Nose | Black Soot Around Mouth

Decontamination Procedures Completed

Person 4: MACDONALD, ROBERT

Fire Products Exposed To
None

PPE Worn During Incident

PPE Malfunction? | Barrier Breach | Black Soot Around Nose | Black Soot Around Mouth

Decontamination Procedures Completed

Fire Module

SITE INFO

Alarms | Acres Burned | Resident Units In Bldg | Buildings Involved

Hydrant Identifier | Estimated Water Usage

IGNITION

Area of Origin
(90) - Outside area, other

Heat Source
(60) - Heat from other open flame or smoking materials, other

IGNITION

Item First Ignited: (70) - Organic materials, other

Fire Confined to Item?: No

Type of Material First Ignited:

Cause of Ignition: (2) - Unintentional

Factors Contributing to Ignition 1: (NN) - None

Human Factors Contributing to Ignition: (N) - None

Est. Age of Person Involved:

Gender of Person Involved:

STRUCTURE

Structure Type:

Stories Above Grade:

Stories Below Grade:

Building Status:

Length:

Width:

Total Square Feet:

Story of Fire Origin:

Fire Spread:

Item Contributing Most to Flame Spread:

Type of Material:

Number of Stories with Damage

Minor Damage:

Significant Damage:

Heavy Damage:

Extreme Damage:

Total Stories:

PROTECTIVE SYSTEMS

Presence of Detector:

Detector Type:

Power Supply:

Detector Operations:

Effectiveness (/Failure Reason):

Presence of Auto Extinguishing System:

System Type:

System Operation:

# of Sprinklers:

Reason for System Failure:

INCIDENT

Incident Number: 000024154
Incident Date: 09/29/2024
NFIRS Number: 0000197
Incident Type: (160) - Special outside fire, other

FDID: 00001
Station: Main Station 1401
Shift:
District: Adair Rural Fire Protection District

Initial Dispatch Code: SMALL MISC FIRE

Alarms:
Working Fire?: No
COVID-19 was a factor: No, COVID-19 was not a factor
Critical Incident:
Critical Incident Team:

Temporary Resident Involvement:

Hazardous Materials Released:

Action Taken 1: (84) - Refer to proper authority

AID

Aid Given/Received: (N) - None

LOCATION

Location Type: (1) - Street address

Address: 29969 CAMP ADAIR Road, MONMOUTH, Oregon, 97330

Cross Street, USNG, or Directions:
Latitude: 44.69991000
Longitude: -123.19559000
Census Tract:

Detector Alerted Occupant:

Property Use: (648) - Sanitation utility
Mixed Use:

TIMES

PSAP Received: 09:42:19, 09/29/2024
Alarm Time: 09:42:19, 09/29/2024

Arrival Time: 10:04:14, 09/29/2024
Water on Fire Time:
At Patient Time:

Loss Stop Time:
Controlled Time:
Last Unit Cleared Time: 10:14:47, 09/29/2024

TIMES

Total On Scene Time: 0 hrs 10 mins 33 sec

Total Incident Time: 0 hrs 32 mins 28 sec

COUNTS

Counts Include Aid Received? No

Suppression:		EMS:		Other:	
Apparatus	Personnel	Apparatus	Personnel	Apparatus	Personnel
1	2	0	0	0	0

LOSS

Property:

Estimated Property Losses: $None

Estimated Property Value: $

Content:

Estimated Content Losses: $None

Estimated Content Value: $

PERSON/OWNER

Owner:

Name

Business Name

Phone

Total Insurance Amount

Address

AUTHORIZATION

Report Writer:

Name	Employee Number	Assignment	Authorization Date
MACDONALD, ROBERT	34901		10/22/2024

Officer in Charge:

Name	Employee Number	Assignment	Authorization Date
MACDONALD, ROBERT	34901		10/22/2024

Quality Control:

Name	Authorization Date

INCIDENT NARRATIVE

Arrived on scene and met with PRC personnel (manager). He stated he did not want water on the compost piles and he would get PRC personnel on scene to spread the smoldering piles of compost out. Verifying he did not need assistance, we returned to 1401.

Created By: MACDONALD, ROBERT

Unit Reports

W1431

Use: (1) - Suppression
Responding From:
Priority: Emergent
Response Delays: None/No Delay
Dispatch Time: 09:53:19, 09/29/2024
Enroute Time: 09:53:19, 09/29/2024
Arrival Time: 10:04:14, 09/29/2024
At Patient Time:
Clear Time: 10:14:47, 09/29/2024
In District Time:
Actions Taken: Refer to proper authority

Person 1: Aman, Robert

Patient Contact?: No
Medical PPE Worn: None

Person 2: MACDONALD, ROBERT

Unit Narrative

Arrived on scene and met with PRC personnel (manager). He stated he did not want water on the compost piles and he would get PRC personnel on scene to spread the smoldering piles of compost out. Verifying he did not need assistance, we returned to 1401.

Created By: MACDONALD, ROBERT

Fire Module

SITE INFO

Alarms:
Acres Burned:
Resident Units In Bldg:
Buildings Involved:
Hydrant Identifier:
Estimated Water Usage:

ON-SITE MATERIALS

Material ID 1: (962) - Recyclable materials
Storage Use ID 1: (2) - Processing or manufacturing

IGNITION

Area of Origin: (40) - Storage area, other
Heat Source: (72) - Spontaneous combustion, chemical reaction
Item First Ignited: (70) - Organic materials, other
Fire Confined to Item?: Yes
Type of Material First Ignited:
Cause of Ignition: (2) - Unintentional

IGNITION

Factors Contributing to Ignition 1
(60) - Natural condition, other

Human Factors Contributing to Ignition
(N) - None

Est. Age of Person Involved

Gender of Person Involved

STRUCTURE

Structure Type

Stories Above Grade

Stories Below Grade

Building Status

Length

Width

Total Square Feet

Story of Fire Origin

Fire Spread

Item Contributing Most to Flame Spread

Type of Material

Number of Stories with Damage

Minor Damage

Significant Damage

Heavy Damage

Extreme Damage

Total Stories

PROTECTIVE SYSTEMS

Presence of Detector

Detector Type

Power Supply

Detector Operations

Effectiveness (/Failure Reason)

Presence of Auto Extinguishing System

System Type

System Operation

# of Sprinklers

Reason for System Failure

Community concerns received since last meeting

2 miles NW of Coffin Butte	19-Nov	I live approximately 2 miles northwest of Coffin Butte Landfill. In the early hours of morning today there was a nauseatingly strong methane odor emanating from Coffin Butte landfill. When I went outside tonight at approximately 8:15, the odor was again strong enough to force me back into the filtered air of my home. The frequency and intensity of the methane pollution is increasing. This methane pollution is more than a nuisance to those living within range of the smell. I believe Coffin Butte Landfill poses serious environmental and public health hazards. I further believe Republic Services should be held accountable for what I see as crimes against the local environment and its inhabitants, be they human or otherwise. Below is a forwarded email with a similar report I made dating from the week of November 8th. For the record, remnants of the insulation spill I mention in that report can still be seen along Camp Adair Road today. It is important that Benton County Commissioners read that complaint since they were not included in the original email. Thank you for your consideration and support in this matter. Your constituents are trusting that our elected officials will act with integrity to protect the public from the bad-faith practices of Coffin Butte Landfill and Republic Services.

2 miles NW of Coffin Butte	8-Nov	I am writing to report alarming air quality violations that occurred this week originating from Coffin Butte Landfill. On the evenings of Monday November 4th and Wednesday November 6th, I was exposed to concerning levels of methane while commuting home from work. My route takes me onto Camp Adair Road from the Independence Highway, then north on Highway 99 and onto Robison Road where my residence is located approximately 1.5 to 2 miles northwest of Coffin Butte. The timeframe of my commute has me driving through the area at approximately 5:30 to 5:45. The methane scent became noticeable as soon as I turned off Independence Highway onto Camp Adair Road, increasing in strength so that by the time I was driving past the landfill on Highway 99, the methane concentration was strong enough to give me a headache. The methane was still discernable when I parked my car at my residence approximately two miles northwest of the landfill. It is a huge inconvenience to have to write this email, and I want you to understand that there have been many more times when I should have made similar reports, but just didn't have the energy or time. This evening I could smell methane when doing chores outside my home, so I knew I had to take the time to report what has been occurring. In addition to the air pollution, Tuesday night Camp Adair Road was largely covered by hazardous masses of pink fiberglass insulation that I believe were part of an uncovered load heading to the landfill. In addition to posing danger to drivers along the road that evening, the insulation migrated to the vegetation where it is now scattered for hundreds of yards along the roadside ditches. This has to pose an environmental hazard for flora and fauna in the surrounding farmlands and the E.E. Wilson Wildlife Area. The quantity of landfill-related waste littering the local roadways and roadsides is deplorable, and Republic Services should be required to provide litter clean up every day. The ongoing collateral damage of the landfill is both alarming and saddening to those of us who are exposed to it on a daily basis. In my opinion, Republic Services does not deserve to do business in Oregon because they are a persistently irresponsible organization posing many hazards to the health and well-being of residents living in the vicinity of the landfill, as well as to the surrounding farmlands and their nonhuman inhabitants. Less waste is the answer we require for a healthy future, not more landfills. My neighbors, my family and I therefore thank you for everything you can do to hold Republic Services accountable for their egregious behavior toward the local environment, and for any assistance you can offer to protect your constituents from future landfill expansion
Writsman Creek	26-Nov	Heavy duty dump stench this morning. Starting at about 9:30am… still hanging in the air.
Soap Creek, immediately south of CBL	1-Dec	Putrid, nose burning, eye irritating odor from landfill ocurring weekly. Very strong (distinct and pervasive) Odor Offensiveness: How disagreeable was the odor? Highly offensive
Coffin Butte Landfill	20-Sep	Complaint about exceptionally long line at Coffin Butte with 25-30 commercial trucks slowing the line down. Waited 45 min. before getting to the scale house.
4064 NW Oak Grove Dr., Albany, OR	5-Nov	Resident sent a letter with newspaper clippings about Coffin Butte. Concerns included accepting waste beyond Linn and Benton Counties and resulting truck impact on roads.

#1

Please read these clippings it tells you how people feel about the landfill. This started for Benton + Linn Counties and has grown into a monster. Truck teams on road torn up so other counties can bring their garbage here. How about a dump for every county Fair is Fair. Trash up the road from trash being hauled in. Yesterday a Junction City garbage truck tried to run over me as he was hauling ass through Corvallis in downtown going south probably to get another load - Enough is Enough - Stop bringing everyone trash here. Kathy

...ill Expan-

...: Did the toxic ... Covanta's Marion ... incinerator, containing ...ioxin and heavy metals, used as daily cover at the landfill, contribute to toxicity of the leachate? I didn't get an answer.

Leachate is already a toxic cocktail that includes per- and polyfluoroalkyl substances (PFAs are known as forever chemicals — they don't break down easily in the environment or in our bodies), dioxin, heavy metals, etc. Some of these are known cancer-causing chemicals.

In 2021, the landfill produced 31 million gallons of this toxic brew. Much of this ended up in our water supply.

We don't know at this time what levels of these chemicals in our drinking water are considered safe. The Environmental Protection Agency recently finalized rules that set limits on six PFAs in public drinking water. That's good news; however, the EPA has documented more than 14,000 PFAs.

These regulations will be implemented over a five-year period, and eventually we'll be able to see what amounts of those PFAs we have in our water. (For more about PFAs, read "The Breakdown on PFAs: What to Know about 'Forever Chemicals' in Nutrition Action" — a publication by The Center for Science in the Public Interest.)

We don't know the impact of toxic fly ash, and we don't know what levels of PFAs and other chemicals are safe in our drinking water — isn't it time Republic Services answered these questions before considering a landfill expansion?

Joanna Stockslager
Albany

The exterior of Covanta Marion, Inc. in Brooks, Ore. on Dec. 5. The Energy-from-Waste facility processes on average 550 tons per day of municip solid waste (MSW) from Marion County. STATESMAN JOURNAL/FILE

Reworld

Continued from Page 1A

"Waste disposal rates currently are higher in Marion County, where trash is incinerated, than it is in Polk County. West Salem, for example, pays significantly less to send their refuse to a landfill than the rest of Salem pays for disposal. Incineration is expensive," Patterson said.

"This form of waste disposal may also be dangerous to our community's health. It was unclear what toxins were being emitted through incineration at this particular facility. Not only was municipal waste being burned, but industrial waste and medical waste was also processed there," she said. "Currently, Reworld is the country's fourth largest medical waste incinerator by volume due to a loophole in our law."

Beginning in January, about 100,000 tons per year of waste that would have gone to the incinerator instead will be taken to Re:Source, a transfer station managed by a consortium of eight Marion County garba haulers, Zink said.

Re:Source, also located in Brool previously was known as the Mari Resource Recovery Facility, or MRRF

The facility already takes abe 70,000 tons per year of the count trash. From there, the waste is reload into trucks and hauled to Coffin Bu Landfill near Adair, just north of Corv lis.

Reworld's decision affects more than municipal garbage rates

The incinerator also takes local c mercial medical waste, includin Salem Hospital. That has a si higher disposal cost, and other local options, Zink

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nty officials seem to place this revenue and the company's interests foremost.

The Benton County Talks Trash report, which was re-

ment and other reven result.

Benton County offi should take a cue fro County regarding the

When it comes to landfill, take cue from Linn

Republic Services may soon seek to expand the Coffin Butte Landfill.

Benton County citizens must carefully consider whether the facility's benefits outweigh its costs and risks. We should not consider opposition to the expansion as mere NIMBYism. This is our place, our home.

We are still discovering new problems related to the landfill, such as previously unrecognized methane emissions.

Meanwhile, Benton County officials seem more concerned with business arrangements than the ongoing and unending impacts of the facility. By contrast, neighboring Linn County officials listened and responded to their residents in a similar situation.

MARK HENKELS

There is not enough room in a year's worth of this newspaper to fully explore the costs, risks and benefits. The "Benton County Talks Trash" final report's historical section, particularly pages 21 and 22, provides a useful perspective on how we got to this point. This report is available through the county's website.

Ultimately, Benton County residents bear the costs vis-à-vis property values, road conditions and litter cleanup related to waste transportation, as well as the risks associated with liquid and gas leakage, the management of leachate, and possible fires (as happened in the past here) — and earthquakes.

In exchange, Benton County government receives fees from Republic Services, between $2.5 million to $3.5 million per year. County officials seem to place this revenue and the company's interests foremost.

The Benton County Talks Trash report, which was reviewed by Republic Services and county staff, states: "The 2020 franchise agreement over landfill operations enhanced the financial incentive for the county to support increased solid waste intake" (page 37). County staff justified these

billion, or 11.2% of revenue.

The focus here should be on the interests of Benton County residents. Criticizing the opposition to expansion as simply NIMBYism is a distraction, and minimizes the current and permanent costs and risks the landfill poses.

Benton County's elected officials and staff should prioritize citizen interests before those of Republic Services or the refuse needs of the Metro area. We need to develop responsible policies regarding our waste, about 12% of the content placed in Coffin Butte.

We should work in collaboration with regional governments to reduce and properly dispose of local waste. Our recent contract with Republic Services that raised the limit to 1.1 million tons per year does not reflect local or regional demands, but Republic Services' opportunities to expand its market.

Meanwhile, Linn County official responded strongly to the concerns of local farmers regarding how specific corporate poultry farms could destroy their quality of life and, possibly, their economic livelihood.

As this newspaper reported on Dec. 13, Linn County officials respected the NIMBY interests of their residents. Linn County legislators pushed state legislation enabling local governments to require setbacks on confined animal feeding operations.

Then Linn County commissioners passed a 1-mile setback requirement, effectively killing the current Foster Farms proposals and greatly limiting future ones. Linn County officials placed the interests of their citizens ahead of those of Foster Farms. The county will forego some property taxes, employment and other revenues as a result.

Benton County officials should take a cue from Linn County regarding their priorities. Let's extricate ourselves from a pattern of waste disposal that undervalues Coffin Butte Landfill's present and permanent local environmental impacts and risks, and the associated reduced property values.

Relevant news articles since last meeting

10/11/2024	Statesman Journal	https://www.statesmanjournal.com/story/news/local/2024/10/11/brooks-oregon-reworld-incinerator-end-waste-garbage-services/75616055007/	Covanta	Brooks incinerator to stop taking Marion County's trash
10/12/2024	Gazette Times	https://gazettetimes.com/eedition/page-a8/page_db7ffa7b-c78e-547c-8b33-db15c6a894b3.html	Coffin Butte	Canan against the landfil expansion
10/24/2024	Gazette Times	https://gazettetimes.com/no-more-chemical-soup-from-landfill/article_fe3442db-9e76-508c-9558-c0d355e0c2d9.html	Coffin Butte - Leachate	No more chemical soup from landfill
10/31/2024	KMTR	https://nbc16.com/news/local/coffin-butte-landfill-seeks-benton-county-approval-for-expansion-again	Coffin Butte - Expansion	Coffin Butte Landfill seeks Benton County approval for expansion again
11/16/2024	Gazette Times	https://gazettetimes.com/eedition/page-a1/page_a9a04c6a-a180-5534-b050-7ad6d8855019.html	Coffin Butte	What's new with landfill expansion
11/29/2024	Corvallis Advocate	https://www.corvallisadvocate.com/2024/government-catchup-black-friday-and-the-benton-landfill-expansion-city-fee-increases-flag-freakout-imagining-a-civic-campus/	Coffin Butte - Expansion	Government Catchup: Black Friday and the Benton Landfill Expansion
9/14/2024	Gazette Times	https://gazettetimes.com/news/local/column-coffin-butte-landfill-follow-money/article_e9dd7a05-1c59-5fa8-9171-6d46e3aacc8b.html	Coffin Butte	As I See It: Coffin Butte Landfill, follow the money
9/17/2024	Gazette Times	https://gazettetimes.com/eedition/page-a7/page_37bbdcba-dba1-5da5-a9fd-1cec476cba73.html?utm_medium=social&utm_source=email&utm_campaign=user-share	DSAC	Come to a landfill committee meeting

City of Corvallis – Accepting Leachate at the Corvallis Wastewater Reclamation Facility

TO: City Council for October 21, 2024, City Council Meeting

FROM: Jeff Blaine, P.E. Public Works Director

DATE: October 15, 2024

THROUGH: Mark W. Shepard, P.E., City Manager

SUBJECT: Accepting Leachate at Corvallis Wastewater Reclamation Facility

Action Requested:

No action required. This memorandum is for information only.

Strategic Operational Plan Priority:

N/A

Discussion:

The City has accepted leachate from Republic Services (DBA: Valley Landfills, Inc.) since 1997. Leachate is accepted through a permit from the City that imposes discharge limits and data collection requirements. Only a portion of the landfill's leachate comes to Corvallis. As we approached Republic Service's last permit renewal, the City expressed concern about continuing to accept leachate. Concerns ranged from potential impacts on plant operations to future permitting requirements, and conversations have been ongoing.

The City and Republic Services have a long history of positive partnerships and have enjoyed the ability to collaborate constructively; our ongoing discussions regarding leachate have been no different. Republic Services recently informed staff that they intend to transport leachate to a different facility with potentially larger capacity to allow for efficiencies and durable solutions for leachate disposal. As part of this transition, Republic Services has also indicated they intend to ramp down their discharge to Corvallis between now and December 31, 2025, however, the parameters for such a ramp down have not yet been solidified. Regardless, leachate discharges will not continue past 2025.

Republic Services requests that the City remain open to considering accepting leachate during times of emergency, such as a natural disaster, that prevent leachate being taken to other locations. Republic Services is not seeking a guarantee, rather they are asking that the City be open to considering a request should the need arise. Staff views this as a reasonable request with the decision to accept leachate in response to an emergency ultimately being a policy decision not made at a staff level. If staff determined it was technically feasible at the time such a request is made, staff would bring the request to the City Council for deliberations and a decision.

Accepting leachate has allowed the City to keep City Services Fees lower than they would have otherwise been. Over the last three fiscal years, the City has received approximately $900K, $600K, and $750K in revenue. For planning purposes, $600K in annual leachate revenue has been assumed. Filling the revenue gap will require an increase in wastewater charges between 5% to 6%. An increase that would need to be in addition to routine inflationary increases and the adjustments needed to meet capital targets. How/when to fill the revenue gap will be a subject of future conversation with Council.

Budget Impact:

A meaningful impact to the current budget is not anticipated. Future budgets will be impacted as discussed above.

cc. Julie Jackson, Republic Services

Coffin Butte Title V Air Quality Permit Application

Public Hearing About Coffin Butte Landfill's Proposed Air Quality Permit on Dec. 17 and Request for Public Comment

HOW TO PROVIDE PUBLIC COMMENT

Facility name: Coffin Butte Landfill
Permit type: Title V air quality permit
Hearing details: 6 p.m. Dec. 17, 2024

Register for virtual public hearing on Zoom
Webinar ID: 849 7952 2769 Passcode: 655846
Call-in: 888-475-4499 or 877-853-5257

Submit written comments:

By mail: Oregon DEQ
Western Region Air Quality Permit Coordinator
4026 Fairview Industrial Drive SE, Salem, OR 97302
By email: wraqpermits@deq.oregon.gov

Comments due by: 5 p.m. Dec. 30, 2024

The Oregon Department of Environmental Quality invites the public to attend a virtual public hearing and to comment on Coffin Butte Landfill's proposed air quality permit, known officially as a Title V permit.

Summary

This is a renewal of an air quality permit for Valley Landfills Inc., which operates Coffin Butte Landfill north of Corvallis along Highway 99W. Coffin Butte is a regional solid waste landfill. This permit action also includes modifications for changes in emissions from an increase of waste in the landfill and for replacement of the flares, which the landfill uses to burn landfill gas. The emissions increase triggered New Source Review for several pollutants and required an air quality analysis.

The proposed permit includes new stricter federal and state rules intended to reduce methane and other greenhouse gas emissions from the landfill. Some pollutant emission limits are increased in this proposed permit due to continued accumulation of waste in the landfill; however, emissions were modeled and showed compliance with the national ambient air quality standards.

About the facility

An air quality permit renewal is proposed for Valley Landfills' Coffin Butte Landfill at 28972 Coffin Butte Road, Corvallis. DEQ issued the previous permit on Oct. 30, 2009, and the permit was scheduled to expire on Oct. 1, 2014. The facility submitted a timely and complete renewal application on Sept. 30, 2013, per our rules the current permit remains in effect until DEQ makes a decision about the renewal application.

Coffin Butte Landfill accepts municipal solid waste and asbestos-containing materials for disposal, petroleum contaminated soils, non-hazardous industrial waste, and recyclable materials for storage and transfer. The major activities at the facility include the receipt, disposal and management of municipal solid waste.

What air pollutants does the permit regulate?
This permit regulates emissions of the pollutants listed in the table at the end of this document.

How does DEQ determine permit requirements?
DEQ evaluates types and amounts of pollutants and the facility's location, and determines permit requirements according to state and federal regulations.

What special conditions are in this permit?
The permit adds conditions that incorporate state regulations to minimize greenhouse gas emissions of methane from landfills, with surface emission monitoring and source testing of the flare. The permit adds quarterly sulfur sampling of the landfill gas to adequately characterize sulfur compound emissions. In addition, the permit adds work practice requirements for control of particulate matter from onsite paved and unpaved roads.

How does DEQ monitor compliance with the permit requirements?
This permit would require the facility to monitor pollutants using federally approved monitoring practices and standards.

The permittee is subject to state and Federal requirements for municipal solid waste landfills, with requirements for operation and monitoring of the landfill gas collection and control system, surface emission monitoring, quarterly landfill gas sulfur analysis, and annual testing of the flare emissions.

What happens after the hearing?

DEQ considers and responds to all comments received and may modify the proposed permit based on comments. If a facility meets all applicable requirements, DEQ will issue the facility's air quality permit.

After the public comment period, DEQ sends the proposed permit to EPA. EPA has 45 days to review it and submit objections to DEQ. If EPA has no objections, anyone may petition EPA with an objection during the following 60 days. A petition may be based only on objections already raised during the public comment period, unless the person submitting the petition can demonstrate it was impossible or impractical to do so, or that new information is now available to justify a new objection.

Where can I get more information?

Find out more and view the air quality permit at ordeq.org/PublicNotices, or contact the Western Region Air Quality Permit Coordinator using the following contact information:

Phone: 503-378-8240 or toll-free: 800-349-7677

Email: WRAQPermits@deq.oregon.gov

View the air quality permit and related documents below or in person at the DEQ office in Salem. For a review appointment, call the Salem office at 503-378-8240.

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. Visit DEQ's Civil Rights and Environmental Justice page.

Emissions limits

Criteria Pollutants and Greenhouse Gases: Table 1 below presents maximum allowable emissions of criteria pollutants and greenhouse gases for the facility. The current emission limit reflects maximum emissions the facility can emit under the existing permit. The proposed emission limit reflects maximum emissions the facility would be able to emit under the proposed permit. Typically, a facility's actual emissions are less than maximum limits established in a permit; however, actual emissions can increase up to the permitted limit.

Table 1

Criteria Pollutant	Current Limit (tons per year)	Proposed Limit (tons per year)
Particulate matter	24	70
Small particulate matter (PM_{10})	14	25
Fine particulate matter ($PM_{2.5}$)	NA	11
Nitrogen oxides	39	28
Sulfur dioxide	39	42
Carbon monoxide	99	92
Volatile organic compounds	39	30
Non-methane organic compounds	49	72
Total Reduced Sulfur	NA	13
Hydrogen Sulfide	NA	11
Greenhouse Gases	377,410	282,500

For more information about criteria pollutants, visit the U.S. Environmental Protection Agency's Criteria Air Pollutant web page.

Hazardous air pollutants:

Coffin Butte Landfill is not a major source of hazardous air pollutants, however EPA has determined that businesses similar to this facility, as a group, emit enough hazardous air pollutants to warrant regulation. Therefore, this source is subject to the following National Emission Standard for Hazardous Air Pollutants: AAAA, ZZZZ. Table 2 summarizes the hazardous air pollutants which the source emits. More detailed information can be found in the review report.

Table 2

Hazardous Air Pollutants	Potential Emissions (tons per year)
Toluene	4.8
Hydrogen Chloride	3.5
Xylene	1.7
Dichloromethane	1.5

For more information about hazardous air pollutants, visit EPA's Health Effects Notebook for Hazardous Air Pollutants.

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
OREGON TITLE V OPERATING PERMIT

Western Region-Salem Office
4026 Fairview Industrial Drive SE
Salem, OR 97302
Telephone (503) 378-8240

Issued in accordance with the provisions of ORS 468A.040
and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

INFORMATION RELIED UPON:

Application Number:	27490 & 34684 & 35161
Received:	09/30/13, 2/21/23, 12/1/13 Updated 10/8/2018 & 6/12/2024

PLANT SITE LOCATION:

Coffin Butte Landfill
Highway 99 & Coffin Butte Road
Corvallis, OR 97330

LAND USE COMPATIBILITY STATEMENT:

Issued by:	Benton County
Dated:	03/06/1997

ISSUED BY THE DEPARTEMENT OF ENVIRONMENTAL QUALITY

_____ _____

Zachary J. Loboy, Western Region Air Quality Manager Date

Nature of Business: Municipal Solid Waste Landfill

SIC: 4953

RESPONSIBLE OFFICIAL

Title:	General Manager
Alternate:	Vice President

FACILITY CONTACT PERSON

Name:	Bret Davis
Title:	General Manager
Phone:	(541) 286-3311

TABLE OF CONTENTS

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit
Act	Federal Clean Air Act
ASTM	American Society of Testing and Materials
AQMA	Air Quality Maintenance Area
Btu	British thermal unit
Calendar year	The 12-month period beginning January 1st and ending December 31st
CAO	Cleaner Air Oregon
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO_2e	carbon dioxide equivalent
CPMS	Continuous parameter monitoring system
DEQ	Oregon Department of Environmental Quality
dscf	Dry standard cubic feet
EF	Emission factor
EPA	US Environmental Protection Agency
EU	Emissions unit
FCAA	Federal Clean Air Act
FSA	Fuel sampling and analysis
Gal	gallon(s)
GDF	gasoline dispensing facility
GHG	greenhouse gas
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040
HCFC	Halogenated Chloro-Fluoro-Carbons
H_2S	Hydrogen sulfide
I&M	inspection and maintenance
ID	Identification number or label
lb	pound(s)
LFG	landfill gas
MMBtu	million British thermal units
NA	Not applicable
NESHAP	National Emission Standard for Hazardous Air Pollutants
NMOC	Nonmethane organic compounds
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution control device
PM	Particulate matter
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
ppm	Parts per million
PSD	Prevention of Significant Deterioration
PSEL	Plant Site Emission Limit
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
Scf	standard cubic foot
SER	Significant Emission Rate
SERP	source emission reduction plan
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	Sulfur dioxide
Special Control Area	as defined in OAR 340-204-0070
SSM	Startup, shutdown, malfunction
ST	Source test
TACT	Typically Achievable Control Technology
VE	Visible emissions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
year	A period consisting of any 12-consecutive calendar months

PERMITTED ACTIVITIES

1. Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from those processes and activities directly related to or associated with air contaminant source(s) in accordance with the requirements, limitations, and conditions of this permit. [OAR 340-218-0010 and 340-218-0120(2)]

2. All conditions in this permit are federally enforceable, meaning that they are enforceable by DEQ, EPA, and citizens under the Clean Air Act, except Conditions 8, 9, 10, 11, 12, 14 14, 15, 126.e, G5, and G9 (OAR 340-248-0005 through 340-248-0180) are only enforceable by the state. [OAR 340-218-0060]

3. Conditions 105 through 115 (NESHAP Subpart M, Asbestos rule) are federally enforceable only.

EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

4. The emissions units regulated by this permit are the following [OAR 340-218-0040(3)]:

Table 1. EU and PCD IDENTIFICATION

Emission Unit Description	EU ID	Pollution Control Device Description	PCD ID
Municipal solid waste landfill	LF	Landfill gas collection and extraction system	LFGCES-1
		Enclosed Flare-(3390 scfm max.)	ENCLFL
Municipal solid waste landfill fugitives	LF fug	None	NA
Vehicle traffic on paved roads	PIR	Water application	NA
Vehicle traffic on unpaved roads (public vehicles)	UPR-1	Chemical suppressant and water application	NA
Industrial Vehicle traffic on unpaved roads	UPR-2	Chemical suppressant and water application, 15 mph speed	NA
Tipper 2	TIP-2	Tier 3 Engine	NA
Tipper 3	TIP-3	Tier 4 Engine	NA
Petroleum contaminated soils	PCS	None	NA
Aggregate Insignificant activities:	AI		
Cell development, operation, and closing		None	NA
Tipping and dump truck drops		None	NA
Leachate collection and wastewater treatment		None	NA
Portable light plant		None	NA
Trash pumps		None	NA
Categorically insignificant activity:			
Emergency generator	EGEN	None	NA

OPERATION OF POLLUTION CONTROL DEVICES AND PROCESSES

5. The permittee must operate and ensure proper functioning of all air pollution control devices and components at all times when the associated emission source is operating. [OAR 340-226-0120]

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING REQUIREMENTS

The following tables and conditions contain the applicable requirements along with the testing, monitoring, and recordkeeping requirements for the emissions units to which those requirements apply.

Facility-wide Requirements

Table 2. Facility wide emission limits and standards

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0210(2)	6	Fugitive emissions	Minimize	NA	NA	7
340-208-0300	8	Air contaminants	No nuisance	NA	NA	10
340-208-0450	9	PM >250μ	No fallout	NA	NA	10
340-248-0280(10)	11	Asbestos disposal	Handling procedures	Recordkeeping	NA	12, 13
340-248-0280(11)	14	Asbestos cover	Maintain cover	Recordkeeping	NA	15

Fugitive Emissions

6. Applicable Requirement: The permittee must not allow or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions must include, but not be limited to the following: [OAR 340-208-0210(1)]

   6.a. use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
   6.b. application of water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
   6.c. full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;
   6.d. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
   6.e. adequate containment during sandblasting or other similar operations; and,
   6.f. covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne.
   6.g. Prompt removal from paved streets of earth or other material that does or may become airborne.

7. Monitoring Requirement: At least once each week for a minimum period of 30 minutes, the permittee must visually survey the plant for any sources of excess fugitive emissions. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions that leave the plant site boundaries for more than 18 seconds in a six-minute period. The person conducting the observation must follow the procedures of EPA Method 22. If sources of visible emissions are identified, the permittee must:
   7.a. Immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Condition 6; or
   7.b. Develop a DEQ approved fugitive emission control plan upon request by DEQ and implement the plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period. [OAR 340-218-0050(3)(a)]
   7.c. Recordkeeping: The permittee must maintain records of the fugitive emissions surveys, corrective actions (if necessary), and/or the results of any EPA Method 22 tests.

Nuisance Conditions

8. Applicable Requirement: The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel. [OAR 340-208-0300] This condition is enforceable only by the State.

9. Applicable Requirement: The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon

the real property of another person. [OAR 340-208-0450] This condition is enforceable only by the State.

10. Monitoring Requirement: The permittee must maintain a log of each air quality complaint received by the permittee during the operation of the facility and must provide the DEQ Western Region-Salem with written notification within 5 days of all nuisance complaints regarding fugitive dust, odors, or particulate deposition received. Documentation shall include date of contact, time of observed nuisance condition, description of nuisance condition, location of receptor, status of plant operation during the observed period, and time of response to complainant. A plant representative must immediately investigate the condition following the receipt of the nuisance complaint and a plant representative must provide a response to the complainant within 24 hours, if possible. This condition is only enforceable by the State. [OAR 340-218-0050(3)(a)]

Asbestos Disposal and Cover

11. Applicable Requirement: The permittee must meet the asbestos-containing material handling and disposal requirements and procedures specified below for active waste disposal sites. [OAR340-248-0280(10)] This condition is only enforceable by the state.

11.a. Ensure that off-loading of asbestos-containing waste material is done under the direction and supervision of the landfill operator or their authorized agent and is accomplished in a manner that prevents the leak-tight transfer containers from rupturing and prevents visible emissions to the air. [OAR 340-248-0280(10)(a)(A)]

11.b. If visible emissions are observed, the permittee must take immediate measures to suppress emissions. Such measures include, but are not limited to, wetting the source of emissions or covering the source of emissions with soil.

11.c. Ensure that off-loading of asbestos-containing waste material occurs at the immediate location where the waste is to be buried, and restrict public access to the off-loading area until the waste is covered. [OAR 340-248-0280(10)(a)(B)]

11.d. Select the asbestos waste burial site in an area of minimal work activity that is not subject to future excavation. [OAR 340-248-0280(10)(a)(G)]

11.e. Cover all asbestos-containing waste material deposited at the disposal site with at least 12 inches of soil or six inches of soil plus 12 inches of other waste before compacting equipment runs over it, but not later than the end of the operating day. [OAR 340-248-0280(10)(a)(H)]

12. Monitoring Requirement: The permittee must monitor the asbestos-containing material handling and disposal procedures, provide notifications, and record the information required as specified below for active waste disposal sites. [OAR340-248-0280(10)] This condition is only enforceable by the State.

12.a. Immediately notify the Department by telephone, followed by a written report the following working day, of the presence of improperly enclosed or uncovered waste. Submit a copy of the signed asbestos waste shipment record along with the report. [OAR 340-248-0280(10)(a)(D)]

12.b. Send a copy of the signed asbestos waste shipment record to the asbestos waste generator as soon as possible, but not longer than 30 days after receipt of the waste. [OAR 340-248-0280(10)(a)(E)]

12.c. Upon discovering a discrepancy between the quantity of waste designated on the asbestos waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the asbestos waste generator. If the discrepancy cannot be reconciled, the permittee must report the discrepancy and reconciliation attempts in writing to the Department within the 15th day after receiving the waste. A copy of the asbestos waste shipment record with the Department assigned asbestos project number shall be submitted with the report. [OAR 340-248-0280(10)(a)(F)]

13. Recordkeeping Requirements: The permittee shall maintain the following records:

13.a. A copy of asbestos waste shipment records must be maintained for at least two years and ensure all information on the Department form regarding waste disposal has been supplied. [OAR 340-248-0280(10)(a)(C)]

13.b. A log of visual observations taken during unloading of asbestos-containing waste. [OAR 340-248-0280(10)(a)(A)]

13.c. A record of the location, depth and area, and quantity in cubic yards of asbestos containing waste material within the disposal site on a map or diagram of the disposal area must be maintained until landfill closure. [OAR 340-248- 0280(10)(b)] These conditions are enforceable only by the state.

14. Applicable Requirement: The permittee must meet the asbestos-containing material disposal and cover standards specified in OAR 340-248-0280(11) for inactive waste disposal sites that accepted asbestos containing materials. [OAR340-248-0280] This condition is only enforceable by the State.

14.a. Maintain a cover of at least two feet of soil or one foot of soil plus one foot of other waste;

14.b. Grow and maintain a cover of vegetation on the area to prevent erosion of the nonasbestos-containing cover of soil or other waste materials. In desert areas where vegetation would be difficult to maintain, a layer of at least three inches of well-graded, nonasbestos crushed rock may be placed and maintained on top of the final cover instead of vegetation;

14.c. For inactive disposal sites with asbestos-containing tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used and maintained to achieve the requirements of Conditions 14.a and 14.b, provided the prior written approval of DEQ is obtained;

14.d. Excavating or disturbing the inactive disposal site is an asbestos abatement project, requiring notification according to OAR 340-248-0260 and 340-248-0280(11)(d).

15. Notification Requirement: The permittee must provide notifications as specified in OAR 340-248-0280(11) for excavating or disturbing inactive waste disposal sites. [OAR340-248-0280] This condition is only enforceable by the State.

Accidental Release Prevention/Risk Management Plan

16. Applicable Requirement: Should this stationary source become subject to the accidental release prevention regulations in 40 CFR Part 68, then the permittee must submit a risk management plan (RMP) by the date specified in 40 CFR 68.10 and comply with the plan and all other applicable Part 68 requirements. [40 CFR Part 68]

Municipal Solid Waste Landfill (EU LF-1)

Table 3. Summary of Requirements for Municipal Solid Waste Landfill (LF-1):

Applicable Requirement(s)	Condition Number	Pollutant/ Parameter	Limit/Standard	Testing Requirement	Monitoring Conditions(s)
OAR 340-208-0110(3)(a)	17	Visible emissions	20% opacity in 6 min block average	N/A	N/A
OAR 340-226-0210(2)(c)	18	PM	0.14 gr/dscf, avg	N/A	N/A
OAR 340-218-0050(3)(a)(C)	19	NO_x	Verify NO_x emission rate used in modeling	19.a-19.d	N/A
OAR 340-236-0500 40 CFR Part 60 Subpart Cf 40 CFR Part 63 Subpart AAAA	20-29, 33	LFG/ NMOC	Operate and maintain landfills and associated air pollution control and monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions. Operate a collection system that complies with §60.33f(b). Route all the collected gas to a control system that complies with the requirements in one of the following: (1) A non-enclosed flare designed and operated in accordance with §60.18 except as noted in §60.37f(d);	30	31-67

Applicable Requirement(s)	Condition Number	Pollutant/ Parameter	Limit/Standard	Testing Requirement	Monitoring Conditions(s)
			(2) A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. (3) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use.		
OAR 340 Division 239	68- 78	Greenhouse gases, LFG, CH_4	Landfill gas collection and control requirements. (1) 500 ppmv methane surface monitoring; (2) 25 ppmv integrated methane surface monitoring; (3) Route all collected landfill gas to a control device with a minimum of 99% methane reduction.	70	81-97
OAR 340-218-0050(3)(a)(C)	98	TRS	Quarterly sampling of LFG for reduced sulfur compounds	98	NA

VISIBLE EMISSIONS

17. The permittee must comply with the following visible emission limits from ENCL-FL: [OAR 340-208-0110(3)(a)]

17.a. Any visible emissions may not equal or exceed an average of 20 percent opacity; and

17.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 17.b.ii, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

17.b.i. EPA Method 9; or

17.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR Part 60; or

17.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

17.c. Because visible emissions are unlikely to occur, no visible emissions monitoring is required.

Particulate Matter

18. The permittee may not emit particulate matter emissions in excess of 0.10 grains per dry standard cubic foot from ENCL-FL. [OAR 340-226-0210(2)(c)]

NAAQS Compliance Requirements

19. Testing Requirement(s): The permittee must conduct a source test for NO_x emissions to verify the emissions used in the 2024 air quality analysis on ENCL-FL using the following methods: [OAR-340-218-0050(3)(a)(C)]

19.a. The permittee must use EPA Method 7E to determine the NOx emission rate, reported as lbs/hr and lb/MCF of LFG burned.

19.b. This test can be conducted concurrently with the test in Condition 70.e and must follow the same test frequency as that listed in Condition 70.e.

19.c. If the NO_x emission rate for ENCL-FL exceeds that used in the 2024 air quality analysis, DEQ may require the permittee to re-run the model to demonstrate compliance with the NAAQS.

19.d. The initial source test must be conducted within 12 months of permit issuance.

EMISSION STANDARDS FOR MUNICIPAL SOLID WASTE LANDFILLS – OAR 340-236-0500, 40 CFR PART 60 Cf AND PART 63 SUBPART AAAA

20. The Permittee must comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in OAR 340-236-0500, "Emission Standards for Municipal Solid Waste Landfills" [OAR 340-236-0500(1)(a)]

21. Physical or operational changes made to an existing municipal solid waste landfill solely to comply with the landfill gas control requirements in this permit are not considered a modification or reconstruction and would not subject an existing municipal solid waste landfill to the requirements of a standard of performance for new municipal solid waste landfills. [OAR 340-236-0500(1)(b)]

22. Startup, Shutdown and Malfunction: The provisions of this condition apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the permittee must operate the gas collection system such that all collected gases are vented to a control system designed and operated in compliance with Condition 28.b. In the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating. [OAR 340-236-0500(3)]

23. General and Continuing Compliance Requirements: The permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if the requirements of 40 CFR Part 63 Subpart AAAA have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to DEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1955(c)]

24. Emissions: The permittee of a municipal solid waste landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must either install a collection and control system as provided in Condition 26 or calculate an initial NMOC emission rate for the landfill using the procedures specified in 40 C.F.R. 60.35f(a). The NMOC emission rate must be recalculated annually, except as provided in 40 C.F.R. 60.38f(c)(3). [OAR 340-236-0500(5)]

24.a. Note: The permittee has an NMOC emission rate greater than 34 megagrams per year, and is operating a collection and control system to meet the requirements of 40 CFR 60.33f(b) and (c).

25. Removal criteria: The collection and control system may be capped, removed, or decommissioned if the following criteria are met: [OAR 340-236-0500(6) and 40 CFR 63.1957(b)]

25.a. The landfill is a closed landfill (as defined in 40 C.F.R. 60.41f and 63.1990). A closure report must be submitted to DEQ as provided in 40 C.F.R. 60.38f(f) and 63.1981(f).

25.b. The collection and control system has been in operation a minimum of 15 years or the permittee demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow.

25.c. Following the procedures specified in 40 C.F.R. 60.35f(b) and 63.1959(c), the calculated NMOC emission rate at the landfill is less than 34 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.

25.d. For the closed landfill subcategory (as defined in 40 C.F.R. 60.41f), following the procedures specified in 40 C.F.R. 60.35f(b), the calculated NMOC emission rate at the landfill is less than 50 megagrams per

year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. For the closed landfill subcategory (as defined in 40 C.F.R. 60.41f), the landfill may comply with this subsection in place of Condition 25.c but must still comply with Conditions 25.a and 25.b. [OAR 340-236-0500(6)(d)]

26. Emission standards: The permittee must comply with the requirements in 40 C.F.R. 60.33f(b) (collection system requirement) and 40 CFR 60.33f(c) (control system requirement) and 40 CFR 63.1958, 63.1960 and 63.1961, as described in Conditions 27 through 45. [OAR 340-236-0500(7) and 40 CFR 63.1957(a)]]

27. Operational standards for collection and control systems: The permittee must comply with the following operational standards: [OAR 340-236-500(8), 40 CFR 60.33f(b)& (c), 60.34f and 63.1958]

27.a. Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:
- 27.a.i. Five (5) years or more if active; or
- 27.a.ii. Two (2) years or more if closed or at final grade.

27.b. Operate the collection system with negative pressure at each wellhead except under the following conditions:
- 27.b.i. A fire or increased well temperature. The permittee must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the annual reports as provided in 40 CFR 60.38f(h)(1) and 63.1981(h).
- 27.b.ii. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits in the design plan.
- 27.b.iii. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes must be approved by the Administrator as specified in 40 CFR 60.38f(d) and 63.1981(d)(2).

27.c. Operate each interior wellhead in the collection system as specified in 40 CFR 60.753(c), until the permittee elects to meet the operational standard for temperature in Condition 27.c.i. [40 CFR 63.1958(c)]
- 27.c.i. Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).
- 27.c.ii. The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable)

27.d. Operate the collection system so that the methane concentration is less than 500 parts per million (ppm) above background at the surface of the landfill. To determine if this level is exceeded, the permittee must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. The permittee must: [40 CFR 63.1958(d)]
- 27.d.i. Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 63.1960(d).
- 27.d.ii. Conduct surface testing at all cover penetrations. Thus, the permittee must monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas

collection system is required.

27.d.iii. Determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

27.e. Operate the system such that all collected gasses are vented to a control system designed and operated in compliance with Condition 28.b. In the event the collection or control system is not operating: [40 CFR 63.1958(e)]

27.e.i. The gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating; and

27.e.ii. Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation.

27.f. Operate the control system at all times when the collected gas is routed to the system.[40 CFR 63.1958(f)]

27.g. If monitoring demonstrates that the operational requirements in Conditions 27.b are not met, corrective action must be taken as specified in §63.1960(a)(3) and (5) or (c). If corrective actions are taken as specified in §63.1960, the monitored exceedance is not a violation of the operational requirements in this Condition. [OAR 340-236-500(8), 40 CFR 60.34f(g), 40 CFR 63.1958(g)]

28. The collection and control system must meet the requirements in Condition 28.a and 28.b. [40 CFR 63.1959(b)(2)(ii) and (iii)]

28.a. Collection system. The collection and control system must capture the gas generated within the landfill as required by Conditions 28.a or 28.a.v and 28.b. An active collection system must:

28.a.i. Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment;

28.a.ii. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade;

28.a.iii. Collect gas at a sufficient extraction rate; and

28.a.iv. Be designed to minimize off-site migration of subsurface gas.

28.a.v. A passive collection system must:

28.a.v.A. Comply with the provisions specified in Conditions 28.a.i, 28.a.ii, and 28.a.iii; and

28.a.v.B. Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under 40 CFR 258.40.

28.b. Control system. All the collected gas must be routed to a control system that complies with the requirements in either Condition 28.b.i or 28.b.ii.

28.b.i. A non-enclosed flare designed and operated in accordance with the parameters established in 40 CFR 63.11(b) except as noted in 40 CFR 63.1959(e); or

28.b.ii. A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3-percent oxygen.

28.b.iii. The control device must be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §§ 63.1961(b) through (e);

29. Specifications for active collection systems: The permittee seeking to comply with the collection system requirements of 40 C.F.R. 60.33f(b) and 63.1959(b)(2)(i) must meet the following:
[OAR 340-236-500(9), 40 CFR 60.40f(a) and 63.1962(a)]

29.a. The active collection well, horizontal collector, surface collector, or other extraction device must meet the following requirements unless alternative procedures have been approved by the Administrator.
[OAR 340-236-500(9)(a), 40 CFR 60.40f(a)]

29.a.i. The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.

29.a.ii. The sufficient density of gas collection devices determined in Condition 29.a.i must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

29.a.iii. The placement of gas collection devices determined in Condition 29.a.i must control all gas producing areas, except as provided by the following paragraphs:

29.a.iii.A. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under §§60.39f(d) and 63.1983(d). The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and must be provided to the Administrator upon request.

29.a.iii.B. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Administrator upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill.

29.a.iii.C. The NMOC emissions from each section proposed for exclusion must be computed using Equation 1:

$$Qi = 2kLoMi(e^{-kti})(CNMOC)(3.6 \times 10^{-9}) \quad \textit{(Eq.1)}$$

Where:

Q_i = NMOC emission rate from the i^{th} section, megagrams per year.
k = Methane generation rate constant, $year^{-1}$.
L_o = Methane generation potential, cubic meters per megagram solid waste.
M_i = Mass of the degradable solid waste in the i^{th} section, megagram.
t_i = Age of the solid waste in the i^{th} section, years.
C_{NMOC} = Concentration of NMOC, parts per million by volume.
3.6×10^{-9} = Conversion factor.

29.a.iii.D. If the permittee is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (e.g., separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area must be computed using either Equation 3 in §§60.35f and

63.1959(c) or Equation 1 above.

29.a.iii.E. The values for k and CNMOC determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, Lo, and CNMOC provided in §§ 60.35f and 63.1959(a)(1) or the alternative values from §60.35f or §63.1959(a)(5) must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in Condition 29.a.iii.A.

29.b. The permittee seeking to comply with Condition 28.a must construct the gas collection devices using the following equipment or procedures: [OAR 340-236-0500(9)(b), 40 CFR 63,1962(b) and 40 CFR 60.40f(b)]

29.b.i. The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration.

29.b.ii. Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

29.b.iii. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

29.c. The permittee seeking to comply with Condition 28.b must convey the landfill gas to a control system in compliance with 28.b through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: [40 CFR 63.1962(c) and OAR 340-236-0500(9)(c)]

29.c.i. For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exists, the procedures in Condition 29.c.ii must be used.

29.c.ii. For new collection systems, the maximum flow rate must be in accordance with § 63.1960(a)(1).

30. Test methods and procedures: The permittee must calculate the landfill NMOC emission rate or conduct a surface emission monitoring demonstration in accordance with 40 C.F.R. 60.35f. [OAR 340-236-500(10)]

30.a. The permittee must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in § 60.33f(f), using Equation 2: [40 CFR 63.1959(c)]

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC} \quad (Eq.2)$$

Where: M_{NMOC} = Mass emission rate of NMOC, megagrams per year.
Q_{LFG} = Flow rate of landfill gas, cubic meters per minute.
C_{NMOC} = NMOC concentration, parts per million by volume as hexane.

30.a.i. The flow rate of landfill gas, QLFG, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of section 10 of Method 2E of appendix A of 40 CFR Part 60.

30.a.ii. The average NMOC concentration, CNMOC, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25 or Method 25C of appendix A of 40 CFR Part 60. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The permittee must divide the NMOC concentration from Method 25 or Method 25C by six to convert from CNMOC as carbon to CNMOC as hexane.

30.a.iii. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

30.a.iii.A. Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped or removed, the permittee must submit the results according to § 60.38f(j)(2) and 40 CFR 63.1981(l)(1).

30.b. When calculating emissions for Prevention of Significant Deterioration purposes, the permittee must estimate the NMOC emission rate for comparison to the Prevention of Significant Deterioration major source and significance levels in § 51.166 or § 52.21 of this chapter using Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42) or other approved measurement procedures. [40 CFR 60.35f(c)]

30.c. For the performance test required in Condition 28.b.i, the net heating value of the combusted landfill gas as determined in § 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under § 60.18(f)(4). [40 CFR 60.35f(d)]

Within 60 days after the date of completing each performance test (as defined in § 60.8), the permittee must submit the results of the performance tests required, including any associated fuel analyses, according to § 60.38f(j)(1).

30.d. For the performance test required in Condition 28.b.ii, Method 25 or 25C (Method 25C may be used at the inlet only) of appendix A of 40 CFR Part 60 must be used to determine compliance with the 98 weight-percent efficiency or the 20 parts per million by volume outlet NMOC concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by § 60.38f(d)(2). Method 3, 3A, or 3C must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. Method 18 may be used in conjunction with Method 25A on a limited basis (compound specific, *e.g.*, methane) or Method 3C may be used to determine methane. The methane as carbon should be subtracted from the Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The landfill permittee must divide the NMOC concentration as carbon by 6 to convert the C_{NMOC} as carbon to C_{NMOC} as hexane. Equation 3 must be used to calculate efficiency: [40 CFR 60.35f(e)]

$$Control\ Efficiency = (NMOC_{in} - NMOC_{out})/(NMOC_{in}) \quad (Eq.\ 3)$$

Where:

$NMOC_{in}$ = Mass of NMOC entering control device.
$NMOC_{out}$ = Mass of NMOC exiting control device.

Within 60 days after the date of completing each performance test (as defined in § 60.8), the permittee must submit the results of the performance tests, including any associated fuel analyses, according to § 60.38f(j)(1).

Compliance provisions:

31. The permittee must meet the compliance provisions of 40 CFR 60.36f, as applicable. [OAR 340-236-0500(11)]

32. Except as provided in § 60.38f(d)(2), the permittee must use the specified methods in 32.a through 32.d to determine whether the gas collection system is in compliance with § 60.33f(b)(2). [40 CFR 60.36f(a) and 63.1960]

32.a. For the purposes of determining sufficient density of gas collectors for compliance with Condition 28.a.ii, the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 63.1960(a)(2)]

32.b. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Condition 28.a.iii, the permittee must measure gauge pressure in the gas collection header applied to each individual well monthly. Any attempted corrective measure must not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. If a positive pressure exists, follow the procedures as specified in § 60.755(a)(3), except: [40 CFR 63.1960(a)(3)]

32.b.i.A. If a positive pressure exists, action must be initiated to correct the exceedance within 5 days, except for the three conditions allowed under § 63.1958(b).

32.b.i.B. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. The permittee must keep records according to §§ 60.39f(e)(3) and 63.1983(e)(3).

32.b.i.C. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The permittee must submit the items listed in § 63.1981(h)(7) as part of the next semi-annual report. The permittee must keep records according to § 63.1983(e)(4).

32.b.i.D. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 60.38f(h)(7) and (k) and § 63.1981(j). The permittee must keep records according to § 60.39f(e)(5) and § 63.1983(e)(5).

32.c. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee

must monitor each well monthly for temperature as provided in Condition 27.c. If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within 5 calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

32.c.i. If a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The permittee must keep records according to §§ 60.39f(e)(3) and 63.1983(e)(3).

32.c.ii. If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The permittee must submit the items listed in §§ 60.38f(h)(7) and 63.1981(h)(7) as part of the next semi-annual report. The permittee must keep records according to §§ 60.39f(e)(4) and 63.1983(e)(4).

32.c.iii. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to §§ 60.38f(h)(7) and (k) and 63.1981(h)(7) and (j). The permittee must keep records according to §§ 60.39f(e)(5) and 63.1983(e)(5).

32.c.iv. If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in § 63.1961(a)(5)(vi) is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.

[40 CFR 63.1960(a)(4)]

32.d. A permittee seeking to demonstrate compliance with Condition 28.a.iv through the use of a collection system not conforming to the specifications provided in §§ 60.40f and 63.1962 must provide information satisfactory to the Administrator as specified in §§ 60.38f(d)(3) and 63.1981(d)(3) demonstrating that off-site migration is being controlled. [40 CFR 63.1960(a)(5)]

33. For purposes of compliance with Condition 27.a, the permittee must place each well or design component as specified in the approved design plan as provided in § 60.38f(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: [40 CFR 60.36f(b) and 63.1960(b)]

33.a. Five (5) years or more if active; or

33.b. Two (2) years or more if closed or at final grade.

34. The permittee must use the following procedures for compliance with the surface methane operational standard : [40 CFR 60.36f(c), 60.34f(d), 63.1958(d) and 63.1960(c)]

34.a. After installation and startup of the gas collection system, the permittee must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in Condition 35.

34.b. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

34.c. Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of 40 CFR Part 60 Appendix A-7, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.

34.d. Any reading of 500 parts per million or more above background at any location must be recorded as a monitored exceedance and the actions specified in Conditions 34.d.i through 34.d.v be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §§ 60.34f(d) and 63.1958(d).

34.d.i. The location of each monitored exceedance must be marked and the location and concentration recorded. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

34.d.ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance.

34.d.iii. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in Condition 34.d.v must be taken, and no further monitoring of that location is required until the action specified in Condition 34.d.v has been taken.

34.d.iv. Any location that initially showed an exceedance but has a methane concentration less than 500 parts per million methane above background at the 10-day re-monitoring specified in Condition 34.d.ii or 34.d.iii must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in Condition 34.d.iii or 34.d.v must be taken.

34.d.v. For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

34.e. The permittee must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

35. A permittee seeking to comply with Condition 34 or § 60.35f(a)(6) must comply with the following instrumentation specifications and procedures for surface emission monitoring devices: [40 CFR 60.36f(d) and 63.1960(d)]

35.a. The portable analyzer must meet the instrument specifications provided in section 6 of Method 21 of 40 CFR Part 60 Appendix A, except that “methane” replaces all references to “VOC”.

35.b. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air.

35.c. To meet the performance evaluation requirements in section 8.1 of Method 21 of 40 CFR Part 60 Appendix A, the instrument evaluation procedures of section 8.1 of Method 21 must be used.

35.d. The calibration procedures provided in sections 8 and 10 of Method 21 of 40 CFR Part 60 Appendix A

must be followed immediately before commencing a surface monitoring survey.

36. The conditions of this permit apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the permittee must comply with the work practice specified in §§ 60.34f(e) and 63.1958(e) in lieu of the compliance provisions in §§ 60.36f and 63.1960. [40 CFR 60.36f(e) and 63.1960(e)]

Monitoring of Operations:

37. The permittee must meet the monitoring requirements of 40 CFR 60.37f, except as provided in §60.38f(d)(2). [OAR 340-236-0500(12)]

38. The permittee must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and: [40 CFR 60.37f(a) and 63.1961(a)]

38.a. Measure the gauge pressure in the gas collection header on a monthly basis as provided in §§ 60.36f(a)(3) and 63.1960(a)(3); and

38.b. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

38.b.i. The nitrogen level must be determined using EPA Method 3C of appendix A-2 to part 60, unless an alternative test method is established as allowed by §§ 60.38f(d)(2) and 63.1981(d)(2).

38.b.ii. Unless an alternative test method is established as allowed by §§ 60.38f(d)(2) and 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A, 3C to part 60, or ASTM D6522-11 (incorporated by reference, see § 60.17 or §63.14). Determine the oxygen level by an oxygen meter using EPA Method 3A or 3C of appendix A-2 to part 60, or ASTM D6522-11 (if the sample location is prior to combustion) except that:

38.b.ii.A. The span must be set between 10 and 12 percent oxygen;

38.b.ii.B. A data recorder is not required;

38.b.ii.C. Only two calibration gases are required, a zero and span;

38.b.ii.D. A calibration error check is not required; and

38.b.ii.E. The allowable sample bias, zero drift, and calibration drift are ±10 percent.

38.b.iii. A portable gas composition analyzer may be used to monitor the oxygen levels provided:

38.b.iii.A. The analyzer is calibrated; and

38.b.iii.B. The analyzer meets all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to part 60 or ASTM D6522-11 (incorporated by reference, see § 60.17 or §63.14).

38.c. Monitor temperature of the landfill gas on a monthly basis as provided in § 60.36f(a)(5) and §63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to part 60 of this chapter. Keep records specified in § 63.1983(e).

38.d. Where a permittee seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), unless a higher operating temperature value has been approved by the Administrator under OAR 340-236-0500 or 40 CFR Part 63 Subpart AAAA, the permittee must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows:

38.d.i. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well.

38.d.ii. Monitor oxygen concentration as provided in Condition 38.b;

38.d.iii. Monitor temperature of the landfill gas at the wellhead as provided in Condition 38.c.

38.d.iv. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in

Condition 38.e.

38.d.v. Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to part 60, EPA Method 18 of appendix A-6 to part 60 of this chapter, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18.

38.d.vi. Monitor carbon monoxide concentrations, as follows:

38.d.vi.A. Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10 of appendix A-4 to part 60 of this chapter, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; or

38.d.vi.B. Collect and analyze the sample from the wellhead using EPA Method 10 of appendix A-4 to part 60 to measure carbon monoxide concentrations;

38.d.vi.C. When sampling directly from the wellhead, you must sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five 1-minute averages are then averaged to give you the carbon monoxide reading at the wellhead.

38.d.vi.D. When collecting samples in a passivated canister or multi-layer foil sampling bag, you must sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive, 1-minute samples during the analysis of the canister or bag contents, but no less than 5 minutes plus twice the response time of the analyzer. The five (5) consecutive, 1-minute averages are then averaged together to give you a carbon monoxide value from the wellhead.

38.d.vii. The enhanced monitoring described in Condition 38.d must begin 7 calendar days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and

38.d.viii. The enhanced monitoring must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring.

38.d.ix. The enhanced monitoring can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit).

38.e. For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer, or using temporary or permanent thermocouples installed in the well.

39. A permittee seeking to comply with Condition 28.b using an enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment: [40 CFR 60.37f(b) and 63.1961(b)]

39.a. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

39.b. A device that records flow to the control device and bypass of the control device (if applicable). The permittee must:

39.b.i. Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; and

39.b.ii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

40. A permittee seeking to demonstrate compliance Condition 28.b using a device other than a non-enclosed flare or an enclosed combustor or a treatment system must provide information satisfactory to the Administrator as provided in §§ 60.38f(d)(2) and 63.1981(d)(2) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator must review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures. [40 CFR 60.37f(d) and 63.1961(d)]

41. A permittee seeking to install a collection system that does not meet the specifications in §§ 60.40f and 63.1962 or seeking to monitor alternative parameters to those required by §§ 60.34f through 60.37f or §§ 63.1958 through 63.1961 must provide information satisfactory to the Administrator as provided in § 60.38f(d)(2) and (3) and in §63.1981(d)(2) and (3) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures. [40 CFR 60.37f(e) and 63.1961(e)]

42. A permittee seeking to demonstrate compliance with the 500 parts per million surface methane operational standard in Condition 27.d must monitor surface concentrations of methane according to the procedures provided in Condition 34 and the instrument specifications in Condition 35. If the permittee is complying with the 500-ppm surface methane operational standard in Condition 27.d, for location, the permittee must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters and the coordinates must be in decimal degrees with at least five decimal places. In the semi-annual report in Condition 51, the permittee must report the location of each exceedance of the 500-ppm methane concentration as provided in Condition 27.d.iii and the concentration recorded at each location for which an exceedance was recorded in the previous month. [40 CFR 60.37f(f) and 63.1961(f)]

43. The monitoring requirements of Conditions 38-42 apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The permittee must complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. [40 CFR 60.37f(h) and 63.1961(g)]

43.a. Compliance is determined using performance testing, collection system monitoring, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected under § 63.1961(b)(1), (c)(1), and (d) are used to demonstrate compliance with the operating standards for control systems. If a deviation occurs, the permittee has failed to meet the control device operating standards and have deviated from the requirements of 40 CFR Part 63 Subpart AAAA. Compliance with the emissions standards and the operating standards of 40 CFR 63.1958 is required at all times. [40 CFR 63.1964]

44. For the purposes of the landfill monitoring, deviations include the items in Conditions 44.a and 44.b. [40 CFR 63.1965]

44.a. A deviation occurs when the control device operating parameter boundaries described in § 63.1983(c)(1) are exceeded.

44.b. A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

45. To demonstrate compliance with the 3 hour block average combustion temperature, averages are calculated according to §§ 63.1983(b)(2)(i) for average combustion temperature and 63.1983(c)(1)(i) for 3-hour average combustion temperature for enclosed combustors, except that the data collected during monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments are not to be included in any average computed under 40 CFR Part 63 Subpart AAAA. [40 CFR 63.1975]

Reporting Requirements:

46. The permittee must meet the reporting requirements of 40 CFR 60.38f, as applicable [OAR 340-236-0500(15)]

47. *Design capacity report.* The permittee must submit the initial design capacity report no later than 90 days after the effective date of EPA approval of the state's plan under section 111(d) of the Clean Air Act. The initial design capacity report must contain the information specified in following: [40 CFR 60.38f(a) and 63.1981(a)]

47.a. A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the state, local, or tribal agency responsible for regulating the landfill.

47.b. The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the state, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity must be calculated using good engineering practices. The calculations must be provided, along with the relevant parameters as part of the report. The landfill may calculate design capacity in either Mg or m^3 for comparison with the exemption values. If the permittee chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million Mg or 2.5 million m^3, the calculation must include a site-specific density, which must be recalculated annually. Any density conversions must be documented and submitted with the design capacity report. The state, tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

48. Revised design plan. The permittee must submit a revised design plan to the Administrator for approval as follows: [40 CFR 60.38f(e) and 63.1981(d)]

48.a. At least 90 days before expanding operations to an area not covered by the previously approved design plan.

48.b. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Administrator.

49. Closure report. The permittee must submit a closure report to the Administrator within 30 days of ceasing waste acceptance. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under §§ 60.7(a)(4) and 63.9(b). [40 CFR 60.38f(f) and 63.1981(f)]

50. *Equipment removal report.* The permittee must submit an equipment removal report as provided in 40 CFR

60.757(e). The removal report must be submitted 30 days prior to removal or cessation of operation of the control equipment. [40 CFR 60.38f(g) and 63.1981(g)]

50.a. The equipment removal report must contain the following items:

50.a.i. A copy of the closure report submitted in accordance with Condition 49; and

50.a.ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, or information that demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and

50.a.iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year, If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports; or

50.b. The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in §§ 60.33f(f) and 63.1957(b) have been met.

51. *Semi-a*nnual report. A permittee seeking to comply with Condition 28 using an active collection system designed in accordance with Condition 28.a must submit to the Administrator semi-annual reports. The permittee must submit the report, following the procedure specified in Condition 52. For enclosed combustion devices and flares, reportable exceedances are defined under § 63.1983(c). The semi-annual reports must contain the information in Conditions 51.a through 51.h. [40 CFR 60.38f(h) and 63.1981(h)]

51.a. Number of times that applicable parameters monitored under Conditions 27.b, 27.c, and 27.d were exceeded and when the gas collection and control system was not operating under § 63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance.

51.a.i. To demonstrate compliance with the operational standard for temperature in Condition 27.c.i, the permittee must provide a statement of the wellhead operational standard for temperature and oxygen the permittee is complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under § 63.1961(a)(4) were exceeded. For each instance, report the date, time, and duration of each exceedance.

51.b. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under § 63.1961.

51.c. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

51.d. All periods when the collection system was not operating.

51.e. The location of each exceedance of the 500 parts per million methane concentration as provided in Condition 27.d.iii and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, the permittee must record the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

51.f. The date of installation and the location of each well or collection system expansion added pursuant to § 63.1960(a)(3) and (4), (b), and (c)(4).

51.g. For any corrective action analysis for which corrective actions are required in § 63.1960(a)(3)(i) or (a)(5)

and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

51.h. The permittee required to conduct enhanced monitoring in §§ 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.

51.h.i. For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide.

51.h.ii. Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide.

51.h.iii. Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event.

52. *Electronic reporting.* The permittee must submit reports electronically according to Conditions 52.a and 52.b. [40 CFR 60.38f(j) and 63.1981(l)]

52.a. Within 60 days after the date of completing each performance test (as defined in § 60.8), the permittee must submit the results of each performance test according to the following procedures:

52.a.i. For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

52.a.ii. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 60.4.

52.b. The permittee must submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (https://www3.epa.gov/ttn/chief/cedri/index.html). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the appropriate address listed in § 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.

53. *Claims of EPA system outage.* The permittee may assert a claim of EPA system outage for failure to comply timely with the reporting requirement. To assert a claim of EPA system outage, the permittee must

meet the following requirements: [40 CFR 63.1981(m)]

53.a. Have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

53.b. The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

53.c. The outage may be planned or unplanned.

53.d. The permittee must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

53.e. The permittee must provide to the Administrator a written description identifying:

53.e.i. The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

53.e.ii. A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

53.e.iii. Measures taken or to be taken to minimize the delay in reporting; and

53.e.iv. The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

53.f. The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

53.g. In any circumstance, the permittee must submit the report electronically as soon as possible after the outage is resolved.

54. *Claims of force majeure.* The permittee may assert a claim of force majeure for failure to comply timely with the reporting requirement. To assert a claim of force majeure, The permittee must meet the following requirements: [40 CFR 63.1981(n)]

54.a. Claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g., hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (e.g., large scale power outage).

54.b. The permittee must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

54.c. The permittee must provide to the Administrator:

54.c.i. A written description of the force majeure event;

54.c.ii. A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

54.c.iii. Measures taken or to be taken to minimize the delay in reporting; and

54.c.iv. The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

54.d. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

54.e. In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

55. *Corrective action and the corresponding timeline*. The permittee must submit information regarding corrective actions according to Conditions 55.a and 55.b. [40 CFR 60.38f(k) and 63.1981(j)]

55.a. For corrective action that is required according to § 63.1960(a)(3) or (4) and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

55.b. For corrective action that is required according to § 63.1960(a)(3) or (4) and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above. The Administrator must approve the plan for corrective action and the corresponding timeline.

56. *24-hour high temperature report.* Where the permittee seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, then the permittee must report the date, time, well identifier, temperature and carbon monoxide reading via email to the Administrator within 24 hours of the measurement unless a higher operating temperature value has been approved by the Administrator for the well under 40 CFR part 63, subpart AAAA or under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or OAR 340-236-0500 that implements 40 CFR part 60, subpart Cf. [40 CFR 60.38f(n) and 63.1981(k)]

57. *Liquids addition.* The permittee that has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, part 258) within the last 10 years must submit to the Administrator, annually, following the procedure specified in Condition 52.b of this section, the following information: [40 CFR 60.38f(l)]

57.a. Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates).

57.b. Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates).

57.c. Surface area (acres) over which the leachate is recirculated (or otherwise applied).

57.d. Surface area (acres) over which any other liquids are applied.

57.e. The total waste disposed (megagrams) in the areas with recirculated leachate and/or added liquids based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates.

57.f. The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate and/or added liquids, based on on-site records to the extent data are available, or engineering estimates.

57.g. Annual reports must contain items in Conditions 57.a and 57.f for the 365-day period following the 365-day period included in the previous annual report, and the report must be submitted no later than 365 days after the date the previous report was submitted.

57.h. Landfills in the closed landfill subcategory are exempt from reporting requirements contained in in Conditions 57.a and 57.f

57.i. Landfills may cease annual reporting of items in Conditions 57.a and 57.f once they have submitted the closure report in § 60.38f(f).

Recordkeeping:

58. The permittee must meet the recordkeeping requirements of 40 CFR 60.39f, as applicable. The permittee must also keep records as specified in the general provisions of 40 CFR part 63 as shown in Table to subpart AAAA. [OAR 340-236-0500(15) and 40 CFR 63.1983]

59. Except as provided in §§ 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered § 60.33f(e) and 63.1959(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. [40 CFR 60.39f(a) and 63.1983(a)]

60. Except as provided in §§ 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in Conditions 60.a and 60.b as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal. [40 CFR 60.39f(b) and 63.1983(b)]

60.a. Where the permittee seeks to demonstrate compliance with Condition 28.a

60.a.i. The maximum expected gas generation flow rate as calculated in §§ 60.36f(a)(1) and 63.1960(a)(1).

60.a.ii. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §§ 60.40f(a)(1) and 63.1962(a)(1) and (2).

60.b. Where the permittee seeks to demonstrate compliance with Condition 28.b through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

60.b.i. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

60.b.ii. The percent reduction of NMOC determined as specified in Condition 28.b.ii achieved by the control device.

61. Except as provided in §§ 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in §§ 60.37f and 63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. [40 CFR 60.39f(c) and 40 CFR 63.1983(c)]

61.a. The following constitute exceedances that must be recorded and reported under § 60.38f and 63.1981(h). For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (50 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with Condition 28.b was determined.

61.b. The permittee must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §§ 60.37f, 63.1961(b)(2)(ii), (c)(2)(ii), and (g)(2).

61.c. A permittee seeking to comply with Condition 28 using an active collection system designed in accordance with Condition 28.a must keep records of periods when the collection system or control device is not operating.

61.d. Where a permittee seeks to demonstrate compliance with the operational standard in § 63.1958(e)(1), the date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

61.e. Where a permittee seeks to demonstrate compliance with the operational standard in § 63.1958(e)(1), in the event that an affected unit fails to meet an applicable standard, record the information below in this paragraph:

61.e.i. For each failure record the date, time and duration of each failure and the cause of such events (including unknown cause, if applicable).

61.e.ii. For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment.

61.e.iii. Record actions taken to minimize emissions in accordance with the general duty of § 63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

61.f. In lieu of the requirements specified in § 63.8(d)(3) of subpart A, the permittee must keep the written procedures required by § 63.8(d)(2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR Part 63 Subpart AAAA, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

62. Except as provided in §§ 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label on each collector that matches the labeling on the plot map. [40 CFR 60.39f(d) and 40 CFR 63.1983(d)]

62.a. The permittee must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under §§ 60.36f(b) and 63.1960(b).

62.b. The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in § 60.40f(a)(3)(i) and 63.1962(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §§ 60.40f(a)(3)(ii) and 63.1962(a)(3)(ii).

63. Except as provided in § 63.1981(d)(2), each permittee must keep for at least 5 years up-to-date, readily accessible records of the following:

63.a. All collection and control system exceedances of the operational standards in § 63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

63.b. Each owner or operator subject to the control provisions of this subpart must keep records of each wellhead temperature monitoring value of greater than 55 degrees Celsius (131 degrees Fahrenheit), each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent, except:

63.b.i. Each permittee required to conduct the enhanced monitoring provisions in § 63.1961(a)(5), must also keep records of all enhanced monitoring activities.

63.b.ii. Each permittee required to submit the 24-hour high temperature report in § 63.1981(k), must also keep a record of the email transmission.

63.c. For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(A) or (a)(4)(i)(A), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

63.d. For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(B) or (a)(4)(i)(B), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

63.e. For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(C) or (a)(4)(i)(C), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Administrator.

64. Except as provided in §§ 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in §§ 60.37f(a)(1), (2),(3) and 63.1961(a)(1) through (6). [40 CFR 60.39f(h) and 40 CFR 63.1983(g)]

65. Where the permittee seeks to demonstrate compliance with the operational standard for temperature in Condition 27.c, you must keep the following records. [40 CFR 63.1983(h)]

65.a. Records of the landfill gas temperature on a monthly basis as monitored in § 63.1960(a)(4).

65.b. Records of enhanced monitoring data at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as gathered in § 63.1961(a)(5) and (6). Any records required to be maintained by this subpart that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

66. Any records required to be maintained by this subpart that are submitted electronically via the EPA's CDX may be maintained in electronic format. [40 CFR 60.39f(i)]

67. The permittee reporting leachate or other liquids addition under § 60.38f(l) must keep records of any engineering calculations or company records used to estimate the quantities of leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied. [40 CFR 60.39f(j)]

OREGON ADMINISTRATIVE RULE CHAPTER 340 DIVISION 239 – LANDFILL GAS EMISSIONS

68. The permittee must comply with the requirements of OAR 340-239-0110 through 340-239-0800. [OAR 340-239-0100(7)]

<u>Gas Collection and Control System Requirements</u>

69. *Design Plan and Installation:*

69.a. If the permittee proposes to modify the existing gas collection and control system, they must submit an amended Design Plan to DEQ that includes any necessary updates or addenda, in accordance with OAR 340-239-0700(3)(j). The amended Design Plan must satisfy the requirements described in Condition

69.b. [OAR 340-239-0110(1)(b)]

69.b. At a minimum, the Design Plan must meet all of the following requirements:

69.b.i. Be prepared and certified by a professional engineer. The following issues must be addressed in the design: Depths of solid waste, solid waste gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the solid waste decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.

69.b.ii. Provide for the control of the collected gas through the use of a gas collection and control system meeting the requirements of OAR 340-239-0110(2) or an alternative method approved pursuant to OAR 340-239-0500.

69.b.iii. Demonstrate that the gas collection and control system is designed to handle the maximum expected gas generation flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment. The maximum expected gas generation flow rate must be calculated using the method in OAR 340-239-0800(5) or an alternative method approved pursuant to OAR 340-239-0500.

69.b.iv. Include any proposed alternatives to the requirements, justification for the need for any proposed alternatives, test methods, procedures, compliance measures, monitoring, and recordkeeping or reporting requirements pursuant to OAR 340-239-0500.

69.b.v. Include a description of potential mitigation measures to be used to prevent the release of methane or other pollutants into the atmosphere during the installation or preparation of wells, piping, or other equipment; during repairs or the temporary shutdown of gas collection system components; or, when solid waste is to be excavated and moved.

69.b.vi. For active landfills, identify areas of the landfill that are closed or inactive.

69.b.vii. The gas collection and control system must be designed to collect gas at an extraction rate to comply with the surface methane emission limits in OAR 340-239-0200, component leak standard in OAR 340-239-0600(2)(c), and be sufficient to meet all operational and performance standards in this permit. The expected gas generation flow rate from the landfill must be calculated pursuant to OAR 340-239-0800(5).

69.b.viii. The gas collection and control system must be designed to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions.

69.b.ix. Any areas of the landfill that contain only asbestos-containing waste, or non-decomposable solid waste may be excluded from collection provided that the permittee submits documentation to DEQ containing the nature of the waste, date of deposition, location and amount of asbestos or non-decomposable solid waste deposited in the area. This documentation may be included as part of the Design Plan.

69.b.x. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices necessary to achieve compliance with Condition 70 of this permit.

[OAR 340-239-0110(1)(c)]

69.c. The permittee must place each well or design component as specified in the approved Design Plan. Following initial construction, the permittee must install each new component no later than 60 days after the date on which the area controlled by the well is required to be controlled pursuant the DEQ Design Plan. [OAR 340-239-0110(1)(e)]

69.d. The permittee must operate, maintain and expand the gas collection system in accordance with the procedures and schedules in the approved Design Plan. [OAR 340-239-0110(1)(f)]

70. *Gas Collection and Control System Operational Standards:*

70.a. The permittee must satisfy all of the following requirements when operating a gas collection and control

system:

70.a.i. Route all collected gas to a gas control device or devices, and operate the gas collection and control system continuously except as provided in conditions 72 and 73.

70.a.ii. Operate the gas collection and control system to comply with 69.b.vii.

70.a.iii. Design and operate the gas collection system to draw all the gas toward the gas control device or devices.

70.a.iv. Design and operate the gas collection system to minimize off-site and on-site migration of subsurface gas in compliance with OAR chapter 340, divisions 093, 094, and 095.

70.a.v. In the event the collection or control system is inoperable, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within one hour of the collection or control system not operating.

70.a.vi. Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation.

70.a.vii. Install all passive collection systems with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under 40 C.F.R. § 258.40.

70.a.viii. Any area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than one percent (1%) of the total amount of methane emissions from the landfill. The amount, location, and age of the material must be documented and provided to DEQ. If data on actual amounts and age is not available, the permittee must estimate based on known information and provide all documentation used to make the estimates. A separate methane emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the methane emissions estimate for the entire landfill, and all calculations, data and documentation used to perform the calculations must be submitted to DEQ. The methane emissions from each section proposed for exclusion must be computed using the methods provided in OAR 340-239-0800(5).

70.a.ix. The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration.

70.a.x. Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting of air into the cover, into the solid waste, into the collection system, or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

70.a.xi. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

70.a.xii. Landfill gas must be conveyed to a control system in compliance with Condition 70 through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving

equipment using the following procedures:

70.a.xii.A. For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exists, the procedures in Condition 70.a.xii.B must be used; or

70.a.xii.B. For new collection systems, the maximum flow rate must be determined in accordance with OAR 340-239-0800(5).

[OAR 340-239-0110(2)(a)]

70.b. *Requirements for Enclosed Flares.* The permittee must route the collected gas to an enclosed flare that meets all of the following requirements:

70.b.i. Achieves a methane destruction efficiency of at least 99 percent by weight.

70.b.ii. Is equipped with automatic dampers, an automatic shutdown device, a flame arrester, and continuous recording temperature sensors.

70.b.iii. During restart or startup there must be a sufficient flow of propane, commercial natural gas, or other approved fuel source, to the pilot light to prevent unburned collected methane from being emitted to the atmosphere.

70.b.iv. The gas control device must be operated within the parameter ranges established in the landfill's Air Contaminant Discharge Permit or Oregon Title V Operating Permit.

[OAR 340-239-0110(2)(b)]

70.c. Requirements for Gas Control Devices other than Flares. The permittee may operate a gas control device other than a flare only if they complies with one of the following requirements:

70.c.i. The device is a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts per hour (150 million British thermal units per hour), provided that the landfill gas stream is introduced into the flame zone. The performance test is not required for boilers and process heaters with design heat input capacities equal to or greater than 44 megawatts per hour (150 million British thermal units per hour) that burn landfill gas for compliance with this division;

70.c.ii. Route the collected gas to an energy recovery device, or series of devices that meets all of the following requirements:

70.c.ii.A. Achieves a methane destruction efficiency of at least 99 percent by weight pursuant to OAR 340-239-0800(6). Lean burn internal combustion engines must reduce the outlet methane concentration to less than 3,000 ppmv, dry basis, corrected to 15 percent oxygen.

70.c.ii.B. For new gas control devices, the destruction efficiency or parts per million by volume required according to OAR 340-239-0110(2)(d)(A)(i) must be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in OAR 340-239-0800(6) and the DEQ Source Test Manual.

70.c.ii.C. Existing gas control devices must demonstrate compliance with this permit not later than 180 days from the effective date of this rule using the performance test methods specified in OAR 340-239-0800(6) and the DEQ Source Test Manual.

70.c.ii.D. Operate the gas control device within the parameter ranges established during the initial or most recent performance test that demonstrates compliance with the standard in OAR 340-239-0110(2)(d)(A)(i). Until a performance test is performed, operate the gas control device within engineering or manufacturer's established parameter ranges.

70.c.iii. Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either Condition 70.b or 70.c. All emissions vented to the atmosphere from the gas treatment system are subject to the requirements of Condition 70.b or 70.c. The permittee must prepare a site-specific treatment monitoring plan to include

all of the following:

70.c.iii.A. Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records must include records of filtration, de-watering, and compression parameters.

70.c.iii.B. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

70.c.iii.C. Documentation of the monitoring methods and ranges, along with justification for their use.

70.c.iii.D. List of responsible staff (by name and job title) for data collection.

70.c.iii.E. Processes and methods used to collect the necessary data.

70.c.iii.F. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems (CMS).

[OAR 340-239-0110(2)(d)]

70.d. If the permittee is complying with Condition 70.c by using a landfill gas treatment system they must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The permittee must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required by Condition 70.c.iii. The permittee must:

70.d.i. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes;

70.d.ii. Install liners or equivalent non-permeable materials on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under 40 C.F.R. 258.40; and

70.d.iii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

[OAR 340-239-0110(2)(e)]

70.e. Performance Test Requirements. The permittee must conduct annual performance tests for any gas control device(s) subject to the requirements of Condition 70 using the test methods identified in OAR 340-239-0800(6). Following an initial performance test, the permittee must conduct a complete annual performance test each calendar year, no later than 45 days after the anniversary date of the initial performance test. Performance tests must be conducted in compliance with all of the following requirements:

70.e.i. An initial performance test must be conducted within 180 days of start up of the gas collection and control system.

70.e.ii. Existing gas control devices must demonstrate compliance with this rule not later than 180 days from the effective date of this rule using the test methods specified in OAR 340-239-0800(6) and the DEQ Source Test Manual.

70.e.iii. If a gas control device remains in compliance with standards in Condition 70 after three consecutive performance tests, the permittee may conduct performance tests once every three years, but no later than 45 days after each third anniversary date of the initial performance test. If a subsequent performance test shows the gas collection and control system does not demonstrate compliance with the standard(s) in Condition 70, the performance testing frequency must return to annual.

70.e.iv. The performance tests must be conducted under such conditions as DEQ specifies to the permittee based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by DEQ. The permittee may not conduct performance tests during periods of malfunction. The permittee must record the process information that is necessary to document operating

conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee must make available to DEQ such records as may be necessary to determine the conditions of performance tests.
[OAR 340-239-0110(2)(f)]

71. Wellhead sampling. The permittee must install a sampling port and measuring devices, or an access port for measuring devices, at each wellhead and comply with the following, using measuring devices that meet the requirements of OAR 340-239-0800(7):

71.a. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in OAR 340-239-0600(3);

71.b. Monitor temperature of the landfill gas on a monthly basis as provided in OAR 340-239-0600(3); and

71.c. Measure the gauge pressure in the gas collection header on a monthly basis as provided in OAR 340-239-0600(2)(d).
[OAR 340-239-0110(3)]

72. Well Raising. The permittee is not required to meet the requirements of Conditions 70.a.i, 70.a.ii and 71 for individual wells involved in well raising provided the following conditions are met:

72.a. New fill is being added or compacted in the immediate vicinity around the well; and

72.b. Once installed, a gas collection well extension is sealed or capped until the raised well is reconnected to a vacuum source.
[OAR 340-239-0110(4)]

73. Repairs and Temporary Shutdown of Gas Collection System Components: The permittee is not required to meet the requirements of Conditions 70.a.i and 70.a.ii for individual landfill gas collection system components that must be temporarily shut down in order to repair the components due to emergencies, catastrophic events such as earthquakes, to extinguish landfill fires, to prevent landfill fires, to connect new landfill gas collection system components to the existing system, to perform construction activities pursuant to OAR 340-239-0300, or to conduct performance testing, provided the following requirements are met:

73.a. Any new gas collection system components required to maintain compliance with this permit must be included in the most recent Design Plan pursuant to Condition 71. The permittee must comply with applicable provisions of the Notice of Construction requirements in OAR chapter 340, division 210 and permit modification requirements of OAR chapter 340, division 216 or 218 prior to the construction, installation and operation of new landfill gas collection system components;

73.b. Methane emissions are minimized during shutdown by shutting down the gas mover system and closing all valves in the collection and control system contributing to venting of the gas to the atmosphere within one hour of the collection or control system not operating.; and

73.c. The permittee must submit a notification to DEQ after any temporary shutdown due to an emergency, catastrophic event or landfill fires in accordance with OAR 340-239-0700(3)(n).
[OAR 340-239-0110(5)]

<u>Compliance Standards</u>

74. Surface Emission Methane Concentration Limits. The permittee must not allow any location on the landfill surface to exceed either of the following methane concentration limits:

74.a. 500 ppmv, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring conducted in accordance with OAR 340-239-0800(3)(b);

74.b. An average methane concentration limit of 25 ppmv as determined by integrated surface emissions monitoring conducted in accordance with OAR 340-239-800(3)(c).
[OAR 340-239-0200(1)]

75. Wellhead Gauge Pressure Requirement: The permittee must operate landfill gas collection and control system wellheads under a negative pressure without causing air infiltration, except as provided in conditions 72 and 73, or under any of the following conditions:

75.a. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits for the wellheads and include them in the Design Plan;

75.b. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows; or

75.c. A fire or increased well temperature. The permittee must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the semi-annual reports as provided in OAR 340-239-700(3)(c).
[OAR 340-239-0200(2)]

76. Wellhead Temperature Requirement:

76.a. The permittee must operate each landfill gas collection and control system interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).

76.b. The permittee may request a higher operating temperature value at a particular well. The permittee must submit a higher operating value demonstration to DEQ for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., it is only acceptable if it neither causes fires nor kills methanogens).
[OAR 340-239-0200(3)]

Construction Activities

77. The surface methane monitoring, wellhead pressure and wellhead temperature requirements of conditions 74, 75 and 76 do not apply to the working face of the landfill or to areas of the landfill surface where the landfill cover material has been removed and solid waste has been exposed for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal system, for conducting a remedial action, or for law enforcement activities requiring excavation; as long as these areas are kept to the minimum size and time duration as possible. [OAR 340-239-0300]

Permanent Shutdown and Removal of the Gas Collection and Control System

78. The permittee may permanently shutdown and remove the gas collection and control system only as follows. [OAR 340-239-0400]

78.a. The gas collection and control system at a closed landfill, or at a closed area of a landfill, may be capped or removed provided all of the following requirements are met:

78.a.i. The gas collection and control system was in operation for at least 15-years, unless the permittee can demonstrate to the satisfaction of DEQ that due to declining methane rates the

permittee will be unable to operate the gas collection and control system for a 15-year period.

78.a.ii. The calculated or measured methane generation rate at the landfill is less than 664 metric tons (732 tons) per year on three successive test dates. For measured methane generation rates, the test dates must be no less than 90 days apart and no more than 180 days apart. The calculated methane generation rate must be calculated pursuant to OAR 340-239-0800(2).

78.a.iii. Surface methane concentration measurements of methane do not exceed 200 ppmv.

78.a.iv. The permittee submits an Equipment Removal Report to DEQ pursuant to OAR 340-239-0700(3)(b).

78.a.v. The concentration of methane gas at the landfill does not exceed 25 percent of the lower explosive limit for methane concentration in facility structures (excluding gas collection and control system components) or the lower explosive limit for methane concentration at the property boundary.

[OAR 340-239-0400(1)]

78.b. The permittee of the landfill that has capped or removed a gas collection and control system under Condition 78.a must conduct surface methane concentration measurements over the portion of the landfill with the capped or removed gas collection and control system pursuant to OAR 340-239-0800(3) for at least eight consecutive calendar quarters after the gas collection and control system is capped or removed. The measurements must comply with the following requirements:

78.b.i. The walking grid in OAR 340-239-0800(3)(a)(B) may be reduced to 100-foot spacing so long as the walking grid is offset by 25-feet each quarter so that by the end of one year of monitoring, the entire surface area has been monitored every 25 feet;

78.b.ii. If there is no measured concentration of methane of 200 ppmv or greater from the surface of the closed landfill in any of these measurement events, the permittee must submit a final gas collection and control system Closure Notification to DEQ pursuant to OAR 340-239-0700(3)(a); and

78.b.iii. If there is any measured concentration of methane of 200 ppmv or greater in any of these measurement events, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring, from the surface of the closed landfill, the permittee must comply with OAR 340-239-0110 through 340-239-0800.

[OAR 340-239-0400(2)]

Alternative Compliance Options

79. The permittee may request alternatives to the compliance measures, monitoring requirements, test methods and procedures of OAR 340-239-0110, 340-239-0600, and 340-239-0800. Any alternatives requested by the permittee must be submitted in writing to DEQ and receive written approval from DEQ before they may be implemented. Alternative compliance option requests may include, but are not limited to, the following:

79.a. Semi-continuous (batch) operation of the gas collection and control system due to insufficient landfill gas flow rates;

79.b. Alternative wind speed requirements for landfills consistently having winds in excess of the limits specified in this division;

79.c. Alternative walking patterns to address potential safety and other issues, such as: steep or slippery slopes, monitoring instrument obstructions, and physical obstructions;

79.d. Exclusion of construction areas and other dangerous areas from landfill surface inspection; and

79.e. Exclusion of paved roads that do not have any cracks, pot holes, or other penetrations from landfill surface inspection.

[OAR 340-239-0500(1)]

80. If the permittee wishes to use an alternative compliance option pursuant to condition 79 they must provide information satisfactory to DEQ demonstrating that:

80.a. Off-site migration of landfill gas is being, and will be, effectively controlled; and

80.b. The proposed alternatives provide an equivalent level of methane emission control, as compared with the methane controls that would have been required of the permittee under OAR 340-239-0110, 340-239-0600 and 340-239-0800, as applicable. DEQ may not approve use of an alternative compliance option unless it determines the proposed alternative will provide an equivalent level of methane emission control and effectively control off-site migration of landfill gas.
[OAR 340-239-0500(2)]

Monitoring Requirements

81. *Surface Emissions Monitoring Requirements.* The permittee must conduct quarterly instantaneous and integrated surface monitoring of the landfill surface using the procedures specified in OAR 340-239-0800(3). All of the following requirements apply to such monitoring: [OAR 340-239-0600(1)]

81.a. Instantaneous Surface Monitoring. Any reading exceeding 500 ppmv methane must be recorded as an exceedance and all of the following actions must be taken: [OAR 340-239-0600(1)(a)]

81.a.i. The permittee must record the name of the individual that conducted SEM, date, location, and value of each exceedance, along with retest dates and results. The location of each exceedance must be clearly marked and identified on a topographic map of the landfill, drawn to scale with the location of both the grids and the gas collection system clearly identified. The documentation required under this subsection must be retained in the landfill's files and reported to DEQ as provided in OAR 340-239-0700.

81.a.ii. The permittee must take corrective action such as, but not limited to, cover maintenance or repair, or well vacuum adjustments.

81.a.iii. The permittee must remonitor the location of the exceedance, and the location must be remonitored within ten days of a measured exceedance. The permittee must comply with all of the following requirements:

81.a.iii.A. If the remonitoring of the location shows a second exceedance, the permittee must take additional corrective action and the location must be re-monitored again no later than 10 days after the second exceedance.

81.a.iii.B. If the remonitoring shows a third exceedance, the permittee must install a new or replacement collection device and must demonstrate compliance no later than 120 days after detecting the third exceedance.

81.a.iii.C. Any location that initially showed an exceedance but has a methane concentration at the 10-day remonitoring of less than 500 ppmv methane, must be re-monitored one month from the initial exceedance. If the one-month re-monitoring shows a concentration less than 500 ppmv methane, no further monitoring of that location is required until the next quarterly monitoring period. If the one-month re-monitoring shows an exceedance, the permittee must install a new or replacement well to achieve compliance no later than 120 days after detecting the third exceedance.

81.a.iii.D. For any location where monitored methane concentration equals or exceeds 500 ppmv, three times within a quarterly period, a new well or other collection device must be installed within 120 days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to DEQ for approval pursuant to OAR 340-239-0500.

81.a.iv. The permittee of a closed or inactive landfill, or of any closed or inactive areas on an active

landfill that has no monitored exceedances of the 200 ppmv methane limit after four consecutive quarterly instantaneous surface monitoring periods, may shift to annual instantaneous surface monitoring.

81.a.v. A permittee that has shifted to annual instantaneous surface monitoring under Condition 81.a.iv must return to quarterly instantaneous surface monitoring upon any exceedances of the 200 ppmv methane limit that cannot be remediated within 10 days or upon any exceedances detected during a DEQ inspection.

81.b. Integrated Surface Monitoring. Any reading exceeding the 25 ppmv methane limit specified in OAR 340-239-0200(1)(b) must be recorded as an exceedance and all of the following actions must be taken: [OAR 340-239-0600(1)(b)]

81.b.i. The permittee must record the average surface concentration measured as methane for each grid along with retest dates and results. The location of the grids and the gas collection system must be clearly marked and identified on a topographic map of the landfill drawn to scale. The documentation required under this subsection must be retained in the landfill's files and reported to DEQ as provided in OAR 340-239-0700.

81.b.ii. Within 10 days of a measured exceedance, corrective action must be taken by the permittee such as, but not limited to; cover maintenance or repair, or well vacuum adjustments and the grid must be remonitored. The permittee must comply with all of the following requirements:

81.b.ii.A. If the remonitoring of the grid shows a second exceedance, additional corrective action must be taken and the location must be re-monitored again no later than 10 days after the second exceedance.

81.b.ii.B. If the remonitoring in Condition 81.b.ii.A shows a third exceedance, permittee must install a new or replacement well to achieve compliance no later than 120 days after detecting the third exceedance.

81.b.iii. The permittee of a closed or inactive landfill, or of any closed or inactive areas on an active landfill that has no monitored exceedances of the 25 ppmv methane limit specified in OAR 340-239-0200(1)(b) after four consecutive quarterly integrated surface monitoring periods, may shift to annual integrated surface monitoring.

81.b.iv. A permittee that has shifted to annual integrated surface monitoring under Condition 81.b.iii must return to quarterly integrated surface monitoring upon the occurrence of any exceedances of the 25 ppmv methane limit specified in OAR 340-239-0200(1)(b) during annual monitoring or detected during any DEQ inspection.

82. *Gas Control System Equipment Monitoring.* The permittee must monitor the gas control system using the following procedures: [OAR 340-239-0600(2)]

82.a. For enclosed flares all of the following equipment must be installed, calibrated, maintained, and operated according to the manufacturer's specifications:

82.a.i. A temperature monitoring device equipped with a continuous recorder that has an accuracy of plus or minus (±) one percent of the temperature being measured expressed in degrees Celsius or Fahrenheit. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts per hour (150 million British thermal units per hour).

82.a.ii. A device that records gas flow to the control device and bypass of the control device (if applicable). The permittee must:

82.a.ii.A. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and

82.a.ii.B. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

82.b. For a gas control device other than an enclosed flare, the permittee must provide information describing the operation of the gas control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The permittee must maintain, operate, and monitor the device according to the written manufacturer instructions and specifications. Alternative compliance requests must be submitted to DEQ as specified in OAR 340-239-0500. DEQ may specify additional monitoring procedures.

82.c. Components containing landfill gas and under positive pressure must be monitored quarterly for leaks. Any component leak over 500 ppmv methane must be tagged and repaired within 10 days. Any component leak over 250 ppmv must be recorded pursuant to OAR 340-239-0700(2)(a)(S). Quarterly component leak testing at landfills having landfill gas-to-energy facilities may be conducted prior to scheduled maintenance or planned outage periods.

82.d. The permittee must measure gauge pressure in the gas collection header applied to each individual well on a monthly basis. If a positive pressure exists, other than as provided in OAR 340-239-0200(2), action must be initiated to correct the exceedance within 5 days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

83. *Wellhead Monitoring.* On a monthly basis for each individual wellhead, the permittee must determine and record gauge pressure, temperature, and nitrogen or oxygen content of gas emissions. Such monitoring must comply with all of the following requirements: [OAR 340-239-0600(3)]

83.a. If there is any positive pressure reading other than as provided in OAR 340-239-0110(4) or (5), the permittee must take the following actions. Any attempted corrective measure must not cause exceedances of other operational or performance standards:

83.a.i. Initiate corrective action within five days of the positive pressure measurement;

83.a.ii. If negative pressure cannot be achieved without excess air infiltration within 15 days of the date the positive pressure was first measured, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The permittee must submit a Corrective Action Report to DEQ pursuant to OAR 340-239-0700(3)(k);

83.a.iii. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement; and

83.a.iv. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to DEQ.

83.b. If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within five days. Any attempted corrective measure must not cause exceedances of other operational or performance standards, and the permittee must comply with all of the following requirements:

83.b.i. If a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit), or as established in OAR 340-239-200(3), cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The permittee must keep records according to OAR 340-239-0700(2).

83.b.ii. If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct

a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The permittee must submit the items listed in OAR 340-239-0700(3)(c)(A) as part of the next semi-annual report. The permittee must keep records according to OAR 340-239-0700(2).

83.b.iii. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to DEQ, according to OAR 340-239-0700(3)(c)(A) and OAR 340-239-600(3)(a)(C). The permittee must keep records according to OAR 340-239-0700(2).

83.b.iv. If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in OAR 340-239-0800(7), is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.

83.b.v. If a higher operating temperature has not been approved by DEQ, the enhanced monitoring specified in OAR 340-239-0800(8) is required at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit).

84. *Cover integrity.* The permittee must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. The cover must conform with requirements in OAR chapter 340, divisions 094 and 095. [OAR 340-239-0600(4)]

85. The monitoring requirements of this permit apply at all times, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. Monitoring system repairs completed in response to monitoring system malfunctions to return the monitoring system to operation must be completed as expeditiously as practicable. [OAR 340-239-0600(5)]

<u>Recordkeeping and Reporting Requirements</u>

86. The electronic reporting requirements of 40 C.F.R. §§ 60.38f(j), 60.767(i), and 63.1981(i) are incorporated by reference herein. The permittee must comply with the electronic reporting requirements of 40 C.F.R. §§ 60.38f(j), 60.767(i), or 63.1981(i), respectively and as applicable. [OAR 340-239-0700(1)]

87. *Recordkeeping Requirements.* The permittee must maintain the following records for at least five years: [OAR 340-239-0700(2)]

87.a. The permittee must maintain the following records for at least five years: [OAR 340-239-0700(2)(a)]

87.a.i. All gas collection system downtime exceeding five days, including dates of the downtime, individual well shutdown and disconnection times, the reason for the downtime, and any corrective actions conducted in response to the downtime;

87.a.ii. All gas control system downtime in excess of one consecutive hour, the reason for the downtime, the length of time the gas control system was shutdown, and any corrective actions conducted in response to the downtime;

87.a.iii. All instantaneous surface readings of 100 ppmv methane or greater. All exceedances of the limits in OAR 340-239-0100(6)(b) and 340-239-0200, including the location of the leak (or affected grid), leak concentration in ppmv methane, date and time of measurement, the action taken to repair the leak, date of repair, any required remonitoring and the remonitored concentration in ppmv methane, wind speed during surface sampling, and the installation

date and location of each well installed as part of a gas collection system expansion;

87.a.iv. Any positive wellhead gauge pressure measurements, the name of the individual that conducted the actions, the date and time of the measurements, the well identification number, and the corrective action taken;

87.a.v. Each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent;

87.a.vi. Monthly solid waste acceptance rate, for active landfills or landfills that have accepted waste within the last five years;

87.a.vii. The current amount of waste-in-place including waste composition;

87.a.viii. The nature, location, amount, and date of deposition of nondecomposable waste for any landfill areas excluded from the collection system;

87.a.ix. Results of any performance tests conducted pursuant to OAR 340-239-0110(2)(f);

87.a.x. Descriptions of mitigation measures taken to prevent the release of methane or other emissions into the atmosphere:

87.a.x.A. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment;

87.a.x.B. During repairs or the temporary shutdown of gas collection system components; and

87.a.x.C. When solid waste was excavated and moved;

87.a.xi. Any construction activities pursuant to OAR 340-239-0300. Records must contain the following information:

87.a.xi.A. A description of the actions being taken, the areas of the landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions;

87.a.xi.B. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components; and

87.a.xi.C. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts;

87.a.xii. For any root cause analysis for which corrective actions are required, records of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from DEQ;

87.a.xiii. The equipment operating parameters specified to be monitored under OAR 340-239-0600(2) as well as records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The records must include the following information:

87.a.xiii.A. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with OAR 340-239-0110(2)(b) and OAR 340-239-0110(2)(c) was determined;

87.a.xiii.B. If the permittee uses a boiler or process heater with a design heat input capacity of 44 megawatts per hour (150 million British thermal units per hour) or greater to comply with OAR 340-239-0110(2)(c), all periods of operation of the boiler or process heater (e.g., steam use, fuel use, or monitoring data collected pursuant to other federal, State, local, or tribal regulatory requirements), readily accessible continuous records of the equipment operating parameters specified to be monitored in OAR 340-239-0600(2) and up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded;

87.a.xiii.C. The indication of flow to the control system and the indication of bypass flow or

records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines;

87.a.xiv. All collection and control system exceedances of the operational standards; the reading in the subsequent month, whether or not the second reading is an exceedance; and the location of each exceedance;

87.a.xv. A permittee who converts waste-in-place from volume to mass, must keep readily accessible, records of the annual recalculation of site-specific density, design capacity, and the supporting documentation;

87.a.xvi. A permittee demonstrating that site-specific surface methane emissions are below 500 ppmv by conducting surface emission monitoring under OAR 340-239-0100(6)(b) must keep for at least five years up-to-date, readily accessible records of all surface emissions monitoring and information related to monitoring instrument calibrations conducted according to sections 8 and 10 of Method 21 of appendix A of 40 C.F.R. Part 60, including all of the following items:

87.a.xvi.A. Calibration records, including:

87.a.xvi.A.1 Date of calibration and initials of operator performing the calibration;

87.a.xvi.A.2 Calibration gas cylinder identification, certification date, and certified concentration;

87.a.xvi.A.3 Instrument scale(s) used;

87.a.xvi.A.4 A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value; and

87.a.xvi.A.5 If the permittee makes their own calibration gas, a description of the procedure(s) used;

87.a.xvi.B. Digital photographs of the instrument setup, including the wind barrier. The photographs must be accurately time and date-stamped and taken at the first sampling location prior to sampling and at the last sampling location after sampling at the end of each sampling day;

87.a.xvi.C. Timestamp of each surface scan reading which must be detailed to the nearest second, based on when the sample collection begins and log for the length of time each sample was taken using a stopwatch (e.g., the time the probe was held over the area);

87.a.xvi.D. Location of each surface scan reading. The permittee must determine the coordinates using an instrument with an accuracy of at least four meters. Coordinates must be in decimal degrees with at least five decimal places;

87.a.xvi.E. Monitored methane concentration (ppmv) of each reading;

87.a.xvi.F. Background methane concentration (ppmv) after each instrument calibration test;

87.a.xvi.G. For readings taken at each surface penetration, the unique identification location label matching the label specified in subparagraph OAR 340-239-0700(2)(a)(P)(iv); and

87.a.xvi.H. Records of the operating hours of the gas collection system for each destruction device;

87.a.xvii. The date of initial placement of waste in newly constructed landfill cells; and

87.a.xviii. Documentation of any component leaks above 250 ppmv methane detected pursuant to OAR 340-239-0600(2)(c) and all repairs performed in response to any component leaks above 500 ppmv.

87.a.xix. The maximum design capacity of the landfill.

87.b. The permittee must maintain the following records for the life of the control system equipment, as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of five years. Records of the control device vendor

specifications must be maintained until removal: [OAR 340-239-0700(2)(b)]

87.b.i. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in OAR 340-239-0110(1)(a);

87.b.ii. The expected gas generation flow rate as calculated pursuant to OAR 340-239-0800(5);

87.b.iii. The percent reduction of methane achieved by the control device determined pursuant to OAR 340-239-0800(6);

87.b.iv. For a boiler or process heater, the description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance test;

87.b.v. When the permittee is demonstrating compliance with OAR 340-239-0110(2) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts per hour (150 million British thermal units per hour):

87.b.v.A. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test; and

87.b.v.B. The percent reduction of methane determined as specified in OAR 340-239-0800(6) achieved by the control device;

87.b.vi. An up to date map showing each existing and planned gas collector in the system;

87.b.vii. Where the permittee is demonstrating compliance with OAR 340-239-0110(2) through use of a landfill gas treatment system:

87.b.vii.A. Bypass records. Records of the flow of landfill gas to, and bypass of, the treatment system; and

87.b.vii.B. Site-specific treatment monitoring plan meeting the requirements of OAR 340-239-0110(2)(d)(C).

87.b.viii. An up-to-date, readily accessible plot map showing each existing and planned collectors in the system and providing a unique identification location label for each collector.

87.c. Record Retention: The permittee must maintain copies of the records and reports required by this division and provide them to DEQ within five business days upon request. [OAR 340-239-0700(2)(d)]

88. *Reporting Requirements.* [OAR 340-239-0700(3)]

88.a. Closure Notification. The permittee must submit a Closure Notification to DEQ within 30 days of waste acceptance cessation, and:

88.a.i. The Closure Notification must include the last day solid waste was accepted, the anticipated closure date of the landfill, and the estimated waste-in-place; and

88.a.ii. DEQ may request additional information as necessary to verify that permanent closure has taken place in accordance with the requirements of any applicable regulations, requirements, or ordinances in effect at the time of closure.

88.b. Equipment Removal Report. The permittee must submit a gas collection and control system Equipment Removal Report to DEQ 30 days prior to well capping, removal or cessation of operation of the gas collection, treatment, or control system equipment. The report must contain the following information:

88.b.i. A copy of the Closure Notification submitted pursuant to OAR 340-239-0700(3)(a);

88.b.ii. A copy of the Initial Performance Test Report or other documentation demonstrating that the gas collection and control system has been installed and operated for a minimum of 15 years, unless the permittee can demonstrate to the satisfaction of DEQ that due to declining methane rates the landfill is unable to operate the gas collection and control system for a 15-year period; and

88.b.iii. Surface emissions monitoring results needed to verify that landfill surface methane concentration measurements do not exceed the limits specified in OAR 340-239-0200.

88.c. Semi-Annual Report. The permittee must prepare semi-annual reports for the periods of January 1 through June 30 of each year, unless otherwise approved in writing by DEQ. The Semi-Annual Report

will be due on July 30, unless otherwise approved in writing by DEQ. The Semi-Annual Report must contain the following information:

88.c.i. All instantaneous surface readings of 100 ppmv or greater. All exceedances of the limits in OAR 340-239-0100(6)(b), 340-239-0200 and 340-239-0600(2)(c) including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required remonitoring and the remonitored concentration in ppmv, wind speed during surface sampling, the concentration recorded at each location for which an exceedance was recorded in the previous month, and the installation date and location of each well installed as part of a gas collection system expansion;

88.c.ii. For any corrective action analysis for which corrective actions are required in OAR 340-239-0600(3)(a) and 340-239-0600(3)(b) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates;

88.c.iii. All known, prevented, or suspected subsurface landfill fire(s) along with potential causes and any efforts conducted to avoid or put out the fire(s). Any positive pressure readings that may have contributed to the known, prevented, or suspected fire;

88.c.iv. The number of times that applicable parameters monitored under OAR 340-239-0110(2) or 340-239-0200, were exceeded and when the gas collection and control system was not operating in compliance with OAR 340-0110(2)(a) including periods of startup, shutdown, and malfunction. For each instance, report the date, time, and duration of each exceedance. The permittee demonstrating compliance with the operational standard for temperature OAR 340-239-0600(3)(b), must provide a statement of the wellhead operational standard for temperature and oxygen the landfill is complying with for the period covered by the report. The report must indicate:

88.c.iv.A. The number of times each of those parameters monitored under OAR 340-239-0600(3)(b), were exceeded. For each instance, report the date, time, and duration of each exceedance; and

88.c.iv.B. The number of times the parameters for the site-specific treatment system in OAR 340-239-0110(2)(d)(C) were exceeded;

88.c.v. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified OAR 340-239-0110(2)(c);

88.c.vi. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating;

88.c.vii. All periods when the collection system was not operating;

88.c.viii. The date of installation and the location of each well or collection system expansion;

88.c.ix. A permittee required to conduct enhanced monitoring in accordance with OAR 340-239-0800(8) for temperatures exceeding 62.8 degrees Celsius (145 degrees Fahrenheit) must include the results of all monitoring activities conducted during the period;

88.c.x. For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts per hour (150 million British thermal units per hour) or greater, all three-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test; and

88.c.xi. For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone.

88.d. Annual Report. The permittee must prepare an Annual Report for the period of January 1 through December 31 of each year. Each Annual Report must be submitted to DEQ by February 15 of the following year. The Annual Report must consist of the semi-annual and the following annual reporting requirements:

88.d.i. Landfill name, owner and operator, address, and permit number as issued according to division 216 or 218;
88.d.ii. Total volume of landfill gas collected (reported in standard cubic feet);
88.d.iii. Average composition of the landfill gas collected over the reporting period (reported in percent methane and percent carbon dioxide by volume);
88.d.iv. Gas control device type, year of installation, rating, fuel type, and total amount of landfill gas combusted in each control device;
88.d.v. The date that the gas collection and control system was installed and in full operation;
88.d.vi. The percent methane destruction efficiency of each gas control device(s);
88.d.vii. Type and amount of supplemental fuels burned with the landfill gas in each device, if applicable;
88.d.viii. Total volume of landfill gas shipped off-site (MMscf), the composition of the landfill gas collected (reported in percent methane and percent carbon dioxide by volume), and the recipient of the gas;
88.d.ix. Most recent topographic map of the site showing the areas with final cover and a geomembrane and the areas with final cover without a geomembrane with corresponding percentages over the landfill surface;
88.d.x. The information required Conditions 87.a.i through 87.a.v, 87.a.vii, 87.a.x through 87.a.xii;
88.d.xi. Instrument specifications for all instruments used for monitoring compliance with this permit; and

88.e. Waste-in-Place Report. The permittee must submit annual Waste-in-Place reports each year. Each annual Waste-in-Place Report must be prepared for the period of January 1 through December 31 of each year and be submitted to DEQ with the Title V annual report. The report also must include:
88.e.i. Landfill name, owner and operator, address, and Title V permit number;
88.e.ii. The landfill's status (active, closed, or inactive) and the estimated waste-in-place, as of December 31 of the prior year, in tons;
88.e.iii. A description of the known and assumed waste composition in the landfill;
88.e.iv. The most recent topographic map of the site showing the areas with final cover and a geomembrane and the areas with final cover without a geomembrane with a calculation of the corresponding percentage geomembrane coverage over the landfill surface.

88.f. Methane Generation Rate Report. The permittee must calculate the methane generation rate using the calculation procedures specified in OAR 340-239-0800(2) and report the results, along with a summary of efforts being implemented at the landfill to reduce landfill gas emissions, to DEQ.

88.g. Liquids Addition Report. If the permittee has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, part 258) within the last 10 years they must submit to DEQ, annually, the following information:
88.g.i. Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates);
88.g.ii. Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates);
88.g.iii. Surface area (acres) over which the leachate is recirculated (or otherwise applied);
88.g.iv. Surface area (acres) over which any other liquids are applied;
88.g.v. The total waste disposed (megagrams) in the areas with recirculated leachate, added liquids, or both, based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates;
88.g.vi. The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate, added liquids, or both, based on on-site records to the extent data are available, or engineering estimates;
88.g.vii. The initial report must contain items in OAR 340-239-0700(2)(g)(A) through 340-239-0700(2)(g)(F) per year for the initial annual reporting period as well as for each of the

previous 10 years, to the extent historical data are available in on-site records, and the report must be submitted no later than 12 months after the date of commenced construction, modification, or reconstruction;

88.g.viii. Subsequent annual reports must contain items in OAR 340-239-0700(2)(g) (A) through 340-239-0700(2)(g)(F) for the 365-day period following the 365-day period included in the previous annual report, and the report must be submitted no later than 365 days after the date the previous report was submitted; and

88.g.ix. Landfills may cease annual reporting of items in paragraphs OAR 340-239-0700(2)(g) (A) through 340-239-0700(2)(g)(F) once they have submitted the Closure Notification in OAR 340-239-0700(3)(a).

88.h. Performance Test Report. The permittee must submit a Performance Test Report that establishes the reduction efficiency or parts per million by volume no later than 180 days after the initial startup of the approved control system using EPA Method 25 or 25C, 40 C.F.R. Part 60, Appendix A, which is incorporated by reference herein. The permittee must submit any additional Performance Test Reports within 30 days after the date of completing each performance test, including any associated fuel analyses. The Performance Test Report must meet the following requirements:

88.h.i. The Performance Test Report must include the following information:

88.h.i.A. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

88.h.i.B. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

88.h.i.C. The documentation of the presence of asbestos or nondecomposable material for each area from which collection wells have been excluded based on the presence of asbestos or nondecomposable material;

88.h.i.D. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

88.h.i.E. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

88.h.i.F. The provisions for the control of off-site migration.

88.h.ii. The control device must be operated within the parameter ranges established during the initial or most recent performance test, the most recent permit, or manufacturer written specifications. The operating parameters to be monitored are specified in OAR 340-239-0600(2); and

88.i. Collection and Control System Design Plan. The Collection and Control System Design Plan must be prepared and approved by a professional engineer and must meet the following requirements:

88.i.i. The collection and control system as described in the design plan must meet the design requirements in OAR 340-239-0110(1);

88.i.ii. If DEQ does not approve or disapprove the Design Plan, or does not request that additional information be submitted within 90 days of receipt, then the permittee may continue with implementation of the Design Plan with the recognition that the permittee is proceeding at their own risk. In the event that the Design Plan is required to be modified to obtain approval, the permittee must take any steps necessary to conform any prior actions to the approved Design Plan; and

88.i.iii. If the permittee chooses to demonstrate compliance with the emission control requirements

of this division using a treatment system as defined in this division, then the permittee must prepare a site-specific treatment system monitoring plan as specified in OAR 340-0110(2)(d)(C).

88.j. Amended Design Plan. The permittee who has already been required to submit a design plan under OAR 340-239-0110(2) must submit an Amended Design Plan to DEQ for any event that requires a change to the Design Plan as follows:

88.j.i. At least 90 days before expanding operations to an area not covered by the previously approved Design Plan; and

88.j.ii. Prior to installing, repairing, or expanding the gas collection system in a way that is not consistent with the Design Plan previously approved by DEQ.

88.k. Corrective Action reports:

88.k.i. For corrective action that is required according to OAR 340-239-0600(3) and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to DEQ as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit). The permittee must receive DEQ approval regarding the plan for corrective action and the corresponding timeline. *For the following listed wells, the 55 degrees Celsius temperature limit is adjusted to be 71 degrees Celsius by prior approval from DEQ dated June 29, 2009:*

3COV0323	*3COV0324*	*3COV0325*	*3COV0326*	*3COV0327*
3COV0328	*3COV0329*	*3COVO 331*	*2BOVOL02*	*2BOVOU02*
2B0VOU03	*2BOVOU04*	*2BOVOU05*	*2BOVOU06*	*3AONOH21*
3AONOH22	*3AONOH23*	*3AOSOH14*	*3AOSOH17*	*3AOSOH18*
3AOSOH19	*3AOSOH20*	*3AOSOH21*	*3AOSOH22*	*3AOSOH29*
3AOSOH30	*2BOOOV06*	*3AOSOH12*	*2BOOOH10*	*3AOSOH16*
3AOVOOON	*3AOV0042*	*3AOV0044*	*3AOV0046*	*3AOV0047*
3AOV0048	*3AOV0049*	*3AOV0050*	*3BOV0332*	*3B0V0333*
3BOV0334	*3BOV0335*	*3BOV0338*	*3COV0006*	*3COV0008*
3COV0009	*3COV0010*	*3COV0011*	*3DOV0017*	*3BONMD08*
3BOV0336	*3COV0007*	*3COV0009*	*3DOV0016*	*3DOV0018*

88.k.ii. For corrective action that is required according to OAR 340-239-0600(3) and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to DEQ as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

88.k.iii. If the permittee cannot fully implement a corrective action described in Condition 88.k.i or 88.k.ii within 60 days following the positive pressure or excess temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement.

88.l. 24-hour high temperature report. Where the permittee must demonstrate compliance with the operational standard for temperature in OAR 340-239-0600(3)(b), a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit), and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, the permittee must report the date, time, well identifier, temperature and carbon monoxide reading to DEQ within 24 hours of the measurement unless a higher operating temperature value has been approved by DEQ for the well.

88.m. Repairs and Temporary Shutdown Notification. At least 30 days prior to a scheduled shutdown the

permittee that temporarily shuts down a gas collection and control system per OAR 340-239-0110(5) must submit a notification of the shutdown that includes a justification for the shutdown, the system component(s) that will require shutdown, and the approximate timeline for the shutdown. If the shutdown occurred due to catastrophic or other unplanned event as stipulated in OAR 340-239-0110(5), the notification must be submitted within 10 days after the shutdown.

88.n. Root Cause Analysis Report. If the permittee cannot fully implement a corrective action required according to OAR 340-239-0600(3) within 120 days after the initial exceedance, the landfill permittee must submit the root cause analysis and additional analysis and reporting according to OAR 340-239-0700(3)(k) as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit). The root cause analysis must include a thorough investigation of the landfill gas collection and control system to determine the primary cause, and any other contributing causes, of positive pressure or high temperature at a wellhead. The report must include all factors investigated, methods used, and alternative causes that were analyzed. *DEQ has approved the following exemption from positive pressure reporting according to an Alternative Monitoring Plan approval dated September 2, 2020:*

88.n.i. When the oxygen concentration at the well does not decline to acceptable levels after more than one hour of reduced vacuum, the location may be shut off until the gas quality recovers.

88.n.ii. The monthly monitoring required by 40 CFR Part 60, Subpart WWW will be conducted for these wells, but positive pressure or elevated oxygen concentrations will not be considered as exceedances of the operating limits in 40 CFR § 60.753. However, the monthly monitoring results must be reported to DEQ. The reports to DEQ shall note if and when the wells are shut off in accordance with this approval letter.

88.n.iii. If monthly monitoring indicates that pressure has built up in the well and the oxygen concentration still exceeds 5 percent, the well will be briefly opened to relieve the pressure and may then be shut down until it is monitored the following month.

88.n.iv. The surface monitoring required by 40 CFR Part 60, Subpart WWW will continue to be conducted in this area. Standard remediation steps, including evaluating the need to return the well to full-time service, must be followed if exceedances of the 500 ppm methane surface concentration limits are detected in the immediate vicinity.

88.n.v. If the monthly monitoring indicates that gas quality has improved (i.e., the oxygen concentration has dropped below 5 percent), the well will be brought back on line until the gas quality declines again. If the oxygen levels can be maintained below the regulatory limit of 5 percent for six consecutive months, this alternate operating procedure is terminated and the well shall be operated in accordance with the regulatory requirements.

88.n.vi. Valley Landfills shall submit this information to DEQ as part of a design plan change. DEQ must be made aware which well(s) are low gas-producing, low gas quality wells and that they are subject to alternative limits/procedures. DEQ will review the wells' status from the semi-annual reports to ensure that if higher gas quality can be maintained, this alternate operating procedure should be terminated and the wells be operated in accordance with the regulatory requirements.

88.o. Bioreactor Moisture Content Report. If the permittee calculates moisture content to establish the date the bioreactor is required to begin operating the collection and control system, within 90 days after the bioreactor achieves 40-percent moisture content, the permittee must submit a Bioreator Moisture Content Report that includes the results of the calculation, the date the bioreactor achieved 40-percent moisture content by weight, and the date the permittee will begin collection and control system operation.

88.p. All reports must contain certification by a responsible official of the truth, accuracy, and completeness of the report. This certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

Test Methods and Procedures

89. *Hydrocarbon Detector Specifications.* The permittee must ensure that any instrument used for the measurement of methane must be a gas detector, or other equivalent instrument approved by DEQ, that meets the calibration, specifications, and performance criteria of EPA Reference Method 21, Determination of Volatile Organic Compound Leaks, 40 C.F.R. Part 60, Appendix A, except that those rules must be applied with the following adjustments: [OAR 340-239-0800(1)]

89.a. "Methane" replaces all references to volatile organic compounds (VOC);

89.b. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air;

89.c. To meet the performance evaluation requirements in section 8.1 of Method 21 of 40 C.F.R. Part 60, Appendix A, the instrument evaluation procedures of section 8.1 of Method 21 of 40 C.F.R. Part 60, Appendix A must be used; and

89.d. The calibration procedures provided in sections 8 and 10 of Method 21 of 40 C.F.R. Part 60, Appendix A must be followed immediately before commencing a surface monitoring survey.

90. *Determination of methane generation rate*. The methane generation rate must include wastes received up to December 31 of the previous year. The permittee must determine the methane generation rate as follows, as applicable: [OAR 340-239-0800(2)]

90.a. For Landfills without Carbon Adsorption or Passive Venting Systems, the methane generation rate must be calculated using the procedures specified in 40 C.F.R. § 98.343(a)(1) or 40 C.F.R. 98.463(a)(1). DEQ may request additional information as may be necessary to verify the methane generation rate from the landfill. Site-specific data may be substituted when available.

90.b. For Landfills with Carbon Adsorption Systems, the methane generation rate must be determined by measuring the actual total landfill gas flow rate, in standard cubic feet per minute (scfm), using a flow meter or other flow measuring device such as a standard pitot tube and methane concentration (percent by volume) using a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1). The total landfill gas flow rate must be multiplied by the methane concentration to determine the methane generation rate.

90.c. For Landfills with Passive Venting Systems, the permittee must determine the methane generation rate pursuant to both of the following and use the higher of these determined values:

90.c.i. Use the procedure specified in Condition 90.a; and

90.c.ii. Measure actual landfill gas flow rates (in units of scfm) by using a flow measuring device such as a standard pitot tube and methane concentration (percent by volume) using a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1) from each venting pipe that is within the waste mass. Each gas flow rate must then be multiplied by its corresponding methane concentration to obtain the individual methane flow rate. The individual methane flow rates must be added together to determine the methane generation rate.

91. *Surface Emissions Monitoring Procedures.* The permittee must measure the landfill surface concentration of methane using a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1). The landfill surface must be inspected and monitored quarterly using all of the following procedures: [OAR 340-239-0800(3)]

91.a. Monitoring Area. The entire landfill surface must be divided into individually identified 50,000 square foot grids and include the entire perimeter of the collection area. The grids must be used for both instantaneous and integrated surface emissions monitoring. The monitoring must comply with all of the following requirements:

91.a.i. Surface monitoring must be performed in accordance with section 8.3.1 of EPA Method 21 of appendix A of 40 C.F.R. Part 60, except that the probe inlet must be placed within two inches of the landfill surface while traversing the grid.

91.a.ii. The walking pattern must be no more than a 25-foot spacing interval and must traverse each monitoring grid and:

91.a.ii.A. If the permittee has no exceedances of the limits specified in OAR 340-239-200 (500 ppmv instantaneous surface methane monitoring and the 25 ppmv average integrated surface methane monitoring) after any four consecutive quarterly monitoring periods, the walking pattern spacing may be increased to 100-foot intervals. The permittee must return to a 25-foot spacing interval upon any exceedances of the limits specified in OAR 340-239-0200 that cannot be remediated within 10 days or upon any exceedances detected during a DEQ inspection; and

91.a.ii.B. If the permittee can demonstrate that in the three years before October 4, 2021 (the effective date of OAR 340 division 239) that there were no measured exceedances of the 500 ppmv methane limit specified in OAR 340-239-0200(1)(a) by annual or quarterly monitoring, the permittee may increase the walking pattern spacing to 100-foot intervals. The permittee must return to a 25-foot spacing interval upon any exceedances of the limits specified in OAR 340-239-0200 that cannot be remediated within 10 days or upon any exceedances detected during a DEQ inspection.

91.a.ii.C. The permittee must use a wind barrier, similar to a funnel, when onsite average wind speed exceeds 4 miles per hour or 2 meters per second or gusts exceeding 10 miles per hour. Average on-site wind speed must also be determined in an open area at 5-minute intervals using an on-site anemometer with a continuous recorder and data logger for the entire duration of the monitoring event. The wind barrier must surround the SEM monitor, and must be placed on the ground, to ensure wind turbulence is blocked. SEM cannot be conducted if average wind speed exceeds 25 miles per hour.

91.a.ii.D. Monitoring must be performed during typical meteorological conditions.

91.a.ii.E. Instantaneous Surface Emissions Monitoring Procedures must comply with the following:

91.a.ii.F. The permittee must record any instantaneous surface readings of methane 100 ppmv or greater. The permittee must document if the reading is a confirmed reading or whether it is a nonrepeatable, momentary reading;

91.a.ii.G. Surface areas of the landfill that exceed a methane concentration limit of 500 ppmv must be marked and remediated by the permittee pursuant to OAR 340-239-0600(1)(a);

91.a.ii.H. Surface areas of the landfill that exceed a methane concentration limit of 250 ppmv must be monitored by the permittee in a five foot grid around the location to determine the extents of the methane leak.;

91.a.ii.I. The permittee must record the wind speed during the sampling period;

91.a.iii. The landfill surface areas with cover penetrations, distressed vegetation, cracks or seeps must also be inspected visually and with a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1) by the permittee. If a landfill would not be subject to quarterly penetration monitoring as otherwise required pursuant to another state or federal regulation such as, including: OAR 340-236-0500, 40 C.F.R. Part 63 Subpart AAAA, 40 C.F.R. 60 Subpart WWW or XXX, and if no methane is detected with the hydrocarbon detector at a specific penetration point for four consecutive quarters, then the permittee may reduce monitoring to annually at that penetration. If any methane concentration is detected during annual monitoring, the permittee must return to quarterly monitoring of the penetration location; and

91.a.iv. The permittee must mark the location of each monitored exceedance and record the location and concentration. The permittee must use an instrument with an accuracy of at least four

meters to record the location. The coordinates must be in decimal degrees with at least five decimal places.

91.b. The permittee must ensure the Integrated Surface Emissions Monitoring Procedures comply with the following:
- 91.b.i. Integrated surface readings must be recorded and then averaged for each grid;
- 91.b.ii. Individual monitoring grids that exceed an average methane concentration of 25 ppmv must be identified and remediated pursuant to OAR 340-239-0600(1)(b); and
- 91.b.iii. The wind speed must be recorded during the sampling period.

92. *Gas Collection and Control System Leak Inspection Procedures.* The permittee must measure leaks using a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1). [OAR 340-239-0800(4)]

93. *Determination of Expected Gas Generation Flow Rate.* The permittee must determine the expected gas generation flow rate as prescribed in 40 C.F.R. §§ 98.343(1)(a) or 63.1960(a)(1). [OAR 340-239-0800(5)]

94. *Control Device Destruction Efficiency Determination.* The permittee must use the following methods of analysis to determine the efficiency of the control device in reducing methane: [OAR 340-239-0800(6)]

94.a. For Enclosed Combustors, one of the following test methods, all of which are incorporated by reference herein (and all as promulgated in 40 C.F.R., Part 60, Appendix A), must be used to determine the efficiency of the control device in reducing methane by at least 99 percent, or in reducing the outlet methane concentration for lean burn engines to less than 3,000 ppmv, dry basis, corrected to 15 percent oxygen:
- 94.a.i. U.S. EPA Reference Method 18, Measurement of Gaseous Organic Compound Emissions By Gas Chromatography;
- 94.a.ii. U.S. EPA Reference Method 25, Determination of Total Gaseous Nonmethane Organic Emissions as Carbon. EPA Reference Method 25A, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer; or
- 94.a.iii. U.S. EPA Reference Method 25C, Determination of Nonmethane Organic Compounds in Landfill Gases;

94.b. The permittee must use the following equation to calculate destruction efficiency:

Destruction Efficiency = [1-(Mass of Methane outlet)/(Mass of Methane inlet)]x100%

95. *Wellhead monitoring.* [OAR 340-239-0800(7)]

95.a. The permittee must determine wellhead nitrogen levels using EPA Reference Method 3C, Determination of Volatile Organic Compound Leaks, 40 C.F.R. Part 60, Appendix A, unless an alternative test method is approved by DEQ.

95.b. Unless an alternative test method is established and approved by DEQ, the permittee must determine wellhead oxygen levels by an oxygen meter using EPA Reference Method 3A or 3C, 40 C.F.R. Part 60, Appendix A, or ASTM D6522-20, except that, if sample location is prior to combustion:
- 95.b.i. The span must be set between 10 and 12 percent oxygen;
- 95.b.ii. A data recorder is not required;
- 95.b.iii. Only two calibration gases are required, a zero and span;
- 95.b.iv. A calibration error check is not required; and
- 95.b.v. The allowable sample bias, zero drift, and calibration drift are ±10 percent.

95.c. The permittee may use a portable gas composition analyzer to monitor wellhead oxygen levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for 40 C.F.R. Part 60, Appendix A-1, Method 3A or ASTM D6522-11.

95.d. Determination of Gauge Pressure. The permittee must determine wellhead gauge pressure using a hand-held manometer, magnahelic gauge, or other pressure measuring device approved by DEQ. The device must be calibrated and operated in accordance with the manufacturer's specifications.

95.e. The permittee must calibrate wellhead temperature measuring devices annually using the procedure in 40 C.F.R. Part 60, Appendix A-1, Method 2, Section 10.3 except that a minimum of two temperature points, bracket within 10 percent of all landfill absolute temperature measurements or two fixed points of ice bath and boiling water, corrected for barometric pressure, are used.

96. *Enhanced monitoring.* The permittee must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows: [OAR 340-239-0800(8)]

96.a. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well;

96.b. Monitor oxygen or nitrogen concentration as provided in OAR 340-239-0110(3)(a);

96.c. Monitor temperature of the landfill gas at the wellhead as provided in OAR 340-239-0600(3);

96.d. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in OAR 340-239-0600(3);

96.e. Monitor the methane concentration with a methane meter using EPA Method 3C of Appendix A-6 to 40 C.F.R. Part 60, EPA Method 18 of Appendix A-6 to 40 C.F.R. part 60, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18;

96.f. Monitor carbon monoxide concentrations, as follows:

96.f.i. Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10, 40 C.F.R. Part 60, Appendix A-4, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; and

96.f.ii. Collect and analyze the sample from the wellhead using EPA Method 10, 40 C.F.R. Part 60, Appendix A-4 to measure carbon monoxide concentrations;

96.g. The enhanced monitoring must begin 7 days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit);

96.h. The enhanced monitoring must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. If monthly carbon monoxide readings exceed 100 ppmv, the landfill must return to weekly monitoring;

96.i. The enhanced monitoring can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value must be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit); and

96.j. For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer, or using temporary or permanent thermocouples installed in the well.

97. Alternative Test Methods. The permittee may use alternative test methods for any of the test methods described in this rule provided that the alternative methods are approved in writing by DEQ pursuant to OAR 340-239-0500. [OAR 340-239-0800(10)]

98. Sulfur Sampling and Analysis: The permittee must collect and analyze LFG at the inlet to ENCLFL-1 for sulfur compounds on a quarterly basis, according to the following requirements: [OAR 340-218-0050(3)(a)(C)]

98.a. A sampling plan must be submitted at least 30 days prior to the first quarter sampling event, but it may include all four quarter sampling events for a year, with the first sampling event within six months of permit issuance.

98.b. The sample will be collected in a silco-glass-lined SUMA canister and sent to an accredited laboratory, unless otherwise approved by DEQ.

98.c. Unless DEQ approves an alternative sampling method, the permittee must conduct the sampling according to EPA's ASTM D5504-12, *Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence.* This sample will be analyzed for reduced sulfur compounds, including hydrogen sulfide (H2S), carbon disulfide, carbonyl sulfide, dimethyl sulfide, ethyl mercaptan, methyl mercaptan, and total reduced sulfur.

98.d. Using the data collected, the following conversion between H_2S and SO_2 will be used to determine emissions of SO_2 and should be applied to all other identified sulfur compounds:

$2H_2S + 3O_2 \rightarrow 2SO_2 + 2H_2O$

Thus, a 1:1 ratio can be assumed for the measured concentrations of H_2S to SO_2.

$Conc.\ SO_2\ (ppmv) = Conc.\ H_2S\ (ppmv) * 2\ mol\ SO_2 / 2\ mol\ H_2S$

98.e. Concentrations of SO_2 will be converted to a mass emission rate [lb/hr] as follows:

$M_{SO2} = C_{SO2} * (MW_{SO2} / SV) * Q_{ds} * 60\ min/\text{hr}$

Where:

C is the concentration of SO_2 in ppmv,

MW is the molecular weight of SO_2,

SV is the specific molar volume of an ideal gas at a reference temperature, and

Q_{ds} is the standard inlet gas flow rate in standard cubic feet per minute (scfm).

98.f. Sampling results must be submitted to DEQ within 60 days of the sampling event.

98.g. If the average total reduced sulfur concentration of the four quarterly sampling events is less than or equal to 273 ppm, the sampling frequency can be reduced to once sampling event per year. If the average is greater than 273 ppm total reduced sulfur, the sampling must continue on or revert to a quarterly basis.

98.h. A tabulation of all test results for the year shall be submitted with the annual report required by Condition 145. [OAR 340-212-0120]

Table 4. Summary of Requirements for Emissions Units TIP2 and TIP-3

Applicable Requirement	Requirement Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirement	Monitoring Condition Number
340-208-0110(3)(a)	99	Visible emissions	20% opacity (6 min. block avg)	NA	101
340-226-0210(2)(b)& (c)	100	PM	0.10 gr/dscf (avg. of 3 test runs)	NA	101

Visible Emissions Standard

99. Applicable Requirement: The permittee must comply with the following visible emission limit for emission units TIP-2 and TIP-3: [OAR 340-208-0110(3)(a)]

99.a. For TIP-2 and TIP-3, any visible emissions may not equal or exceed an average of 20 percent opacity; and

99.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 99.b.ii which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block average are measured by:

99.b.i. EPA Method 9; or

99.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR part 60; or

99.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

PM Emission Standard

100. The permittee must not cause or allow the emissions of particulate matter in excess of 0.10 gr/dscf from emissions units TIP-2 and TIP-3. [OAR 340-226-0210(2)(b) & (c)]

Visible Emissions and PM Emissions Monitoring

101. Because TIP-2 and TIP-3 are Tier 3 and Tier 4 engines, no visible emission or PM monitoring or testing is required. [OAR 340-218-0050(3)(a)(C)]

Table 5. Summary of Requirements for Emissions Unit PIR and UPR

Applicable Requirement	Requirement Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirement	Monitoring Condition Number
340-208-0210(1)	102	Visible emissions	Minimize fugitive emissions	Inspection and Monitoring	103
340-218-0050(3)(a)(C)	104	PM/PM_{10}/$PM_{2.5}$	Minimize emissions from roads	Work Practices	104.a-104.d

Visible Emissions Standard

102. The permittee shall not cause or allow any road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. [OAR 340-208-0210(1)]

Visible Emission Monitoring

103. The permittee must conduct visible emission monitoring and respond to complaints for emissions units PIR, UPR-1 and UPR-2 according to Conditions 7 and 10. [OAR 340-234-0520(1)(a)]

NAAQS Compliance Requirements

104. The permittee must limit particulate emissions from roads in accordance with the following requirements: [OAR 340-218-0050(3)(a)(C))]

104.a. Limit traffic speed on facility roads to 15 miles per hour via posted signs;

104.b. Watering unpaved roads as needed during dry periods to minimize airborne particulate;

104.c. Limiting operating hours to 7 a.m. through 6 p.m. Mondays through Saturdays, except in case of emergencies.

104.d. Any emergency operations outside the normal operating hours should be recorded.

40 CFR Part 61 – National Emission Standards for Hazardous Air Pollutants

Subpart M – National Emission Standard for Asbestos *[Federally Enforceable Only]*

105. Standard for active waste disposal sites: The permittee of an active waste disposal site that receives asbestos-containing waste material from a source covered under §61.149, 61.150 or 61.155 must meet the requirements of Conditions 106 thru 115: [40 CFR 61.154]

106. The permittee must not allow any visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of Conditions 108 and 109 must be met. [40 CFR 61.154(a)]

107. Unless a natural barrier adequately deters access by the general public, the permittee must install either warning signs and fencing maintained as follows, or the requirements of Condition 108.a must be met. [40 CFR 61.154(b)]

107.a. Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

107.a.i. Be posted in such a manner and location that a person can easily read the legend; and

107.a.ii. Conform to the requirements of 51 cm × 36 cm (20″ × 14″) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

107.a.iii. Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust	1.9 cm (¾ inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

107.b. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

107.c. Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

108. Rather than meet the no visible emission requirement of Condition 106, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall: [40 CFR 61.154(c)]

108.a. Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

108.b. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

109. Rather than meet the no visible emission requirement of Condition 106, the permittee may use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in §61.149(c)(2). [40 CFR 61.154(d)]

110. For all asbestos-containing waste material received, the permittee must: [40 CFR 61.154(e)]

110.a. Maintain waste shipment records, using a form similar to that shown in Figure 4 of 40 CFR Part 61, and include the following information:

110.a.i. The name, address, and telephone number of the waste generator.

110.a.ii. The name, address, and telephone number of the transporter(s).

110.a.iii. The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

110.a.iv. The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.

110.a.v. The date of the receipt.

110.b. As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

110.c. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

110.d. Retain a copy of all records and reports required by this paragraph for at least 2 years.

111. The permittee must maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. [40 CFR 61.154(f)]

112. Upon closure, the permittee must comply with all the provisions of §61.151. [40 CFR 61.154(g)]

113. The permittee must submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities. [40 CFR 61.154(h)]

114. The permittee must furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section. [40 CFR 61.154(i)]

115. The permittee must notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice: [40 CFR 61.154(j)]

115.a. Scheduled starting and completion dates.

115.b. Reason for disturbing the waste.

115.c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

115.d. Location of any temporary storage site and the final disposal site.

Standard for Air Emissions from Emergency Generator (EGEN)

NESHAP SUBPART ZZZZ– NESHAP FOR RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE)

Operation and Maintenance Requirements

116. For each emergency stationary CI RICE, the Permittee must meet the following requirements, except during periods of startup, shutdown and malfunction: [40 CFR 63.6603(a), 40 CFR Subpart ZZZZ Table 2d]

116.a. change oil and filter every 500 hours of operation or annually, whichever comes first;

116.b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and

116.c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

117. During periods of startup the Permittee must minimize the engine's time spent at idle and minimize the engine's startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6603(a), 40 CFR Subpart ZZZZ Table2d]

Monitoring, installation, collection, operation, and maintenance requirements.

118. The permittee must operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e)]

119. The permittee must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

120. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times. [40 CFR 63.6625(h)]

121. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Condition 116. The oil analysis must be performed at the same frequency specified for changing the oil in Condition 116. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the permittee is not required to change the oil. If any of the limits are exceeded, the permittee must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee must keep records of the parameters that are

analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i)]

Compliance requirements

122. The permittee must be in compliance with the emission limitations and operating limitations at all times. [40 CFR 63.6605(a)]

123. At all times the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if required levels have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

Demonstrating continuous compliance

124. The permittee must operate the engine according to the requirements in Conditions 124.a through 124.c. In order for the engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in Conditions 124.a through 124.c, is prohibited. If not operating the engine according to the requirements in Conditions 124.a through 124.c, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines. [40 CFR 63.6640(f)]

124.a. There is no time limit on the use of the engine in emergency situations. [40 CFR 63.6640(f)(1)]

124.b. The permittee may operate the engine for any combination of the purposes in Conditions 124.b.i through 124.b.iii for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by Conditions 124.b.i through 124.b.iii counts as part of the 100 hours per calendar year allowed by this Condition. [40 CFR 63.6640(f)(2)]

124.b.i. The engine may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition EPA for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of the engine beyond 100 hours per calendar year. [40 CFR 63.6640(f)(2)(i)]

124.b.ii. The engine may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP– 002–3. [40 CFR 63.6640(f)(2)(ii)]

124.b.iii. The engine may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [40 CFR 63.6640(f)(2)(iii)]

124.c. The engine may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in Condition 124.b. Except as follows, the 50 hours per year for nonemergency situations cannot be used for peak shaving or non-

emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 63.6640(f)(4)]

Recordkeeping and Reporting Requirements

125. The permittee must keep the following records: [40 CFR 63.6655(a)]

125.a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status. [40 CFR 63.6655(a)(1)]

125.b. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(2)]

125.c. Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(4)]

125.d. Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 123 including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655(a)(5)]

125.e. Records of the maintenance conducted on the engine must be kept in order to demonstrate the permittee operated and maintained the engine and after-treatment control device (if any) according to the maintenance plan for any of the following stationary RICE. [40 CFR 63.6655(e)]

125.f. If the engine does not meet the standards applicable to non-emergency engines, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in Condition 124.b.ii or 124.b.iii, the permittee must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR 63.6655(f)]

Insignificant Activities Requirements

126. DEQ acknowledges that insignificant emissions units (IEUs) identified by rule as either categorically insignificant activities or aggregate insignificant emissions as defined in OAR 340-200-0020 exist at facilities required to obtain an Oregon Title V Operating Permit. IEUs must comply with all applicable requirements. In general, the requirements that could apply to IEUs are incorporated as follows:

126.a. OAR 340-208-0110 (20% opacity)
126.b. OAR 340-228-0210 (0.10 gr/dscf corrected to 12% CO_2 or 50% excess air for fuel burning equipment)
126.c. OAR 340-226-0210 (0.10 gr/dscf for non-fugitive, non-fuel burning equipment)
126.d. OAR 340-226-0310 (process weight limit for non-fugitive, non-fuel burning process equipment).
126.e. The permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to the following: [40 CFR 63.11116(a), (b), (d) and OAR 340-244-0240, federally enforceable]
  126.e.i. Minimize gasoline spills;
  126.e.ii. Clean up spills as expeditiously as practicable;
  126.e.iii. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
  126.e.iv. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
  126.e.v. The permittee is not required to submit the notifications or reports as specified in 40 CFR

63.11124 and 63.11126, or subpart A, but the permittee must have records available within 24 hours of a request by DEQ to document gasoline throughput.

126.e.vi. Portable gasoline containers that meet the requirements of 40 CFR Part 59, subpart F, are considered acceptable for compliance with Condition 126.e.iii.

126.f. In addition to the measures specified in Condition 126.e, the permittee must take the following measures to minimize vapor releases: [OAR 340-244-0240, state only enforceable]

126.f.i. Do not top off or overfill vehicle tanks. If a person can confirm that a vehicle tank is not full after the nozzle clicks off (such as by checking the vehicle's fuel tank gauge), the person may continue to dispense fuel using best judgment and caution to prevent a spill;

126.f.ii. Post a sign at the gasoline dispensing facility (GDF) instructing a person filling up a motor vehicle to not top off the vehicle tank;

126.f.iii. Ensure that cargo tanks unloading at the GDF comply with Conditions 126.e.i through 126.e.iii, 126.f.i, and 126.f.ii.

126.f.iv. The permittee must only load gasoline into storage tanks at the facility by utilizing submerged filling, as defined in OAR 340-244-0030. The submerged fill pipe must be no more than 12 inches from the bottom of the storage tank.

127. Unless otherwise specified in this permit or an applicable requirement, DEQ is not requiring any testing, monitoring, recordkeeping, or reporting for the applicable emissions limits and standards that apply to IEUs. However, if testing were performed for compliance purposes, the permittee would be required to use the test methods identified in and perform the testing in accordance with DEQ's Source Sampling Manual.

PLANT SITE EMISSION LIMIT

128. The permittee must not cause or allow plant site emissions to exceed the following limits for any 12 consecutive calendar month period: [OAR 340-222-0035 through OAR 340-222-0041]

Pollutant	Plant Site Emission Limit (Tons/yr)
PM	70
PM_{10}	25
$PM_{2.5}$	11
CO	92
NO_x	28
SO_2	42
VOC	30
NMOC	72
TRS	13
H_2S	11
GHG (CO_2e)	282,500

129. Monitoring Requirement: The permittee must determine compliance with the Plant Site Emission Limits established in Condition 128 of this permit by conducting monitoring and calculations for each 12-month period in accordance with the following procedures, test methods, and frequencies except for GHGs: [OAR 340-218-0050(3)]

129.a. The permittee must monitor and maintain records of the following process parameters:

Table 6. PSEL Monitoring

Emissions Unit(s)	Process Parameter	Units	Measurement Frequency	Measurement Method
LF	Municipal solid waste in place	Mg or tons	Monthly/Annually	Records
LF	Municipal solid waste accepted at landfill	Mg or tons	Monthly/Annually	Records
LF	Landfill gas generated	$MMft^3$/month, $MMft^3$/yr	Annually	Records/EPA's LandGEM
LF	Landfill gas collected and sent to IC engines and % methane	$MMft^3$/month, $MMft^3$/yr, % methane	Monthly/Annually	Records
LF	Total reduced sulfur concentration of collected landfill gas	ppmv	Quarterly	ASTM D5504-12
PIR	Vehicle miles traveled on paved roads	Number of vehicles	Monthly/Annually	Records
UPR-01	Vehicle miles traveled on unpaved public roads	Number of vehicles	Monthly/Annually	Records
UPR-02	Vehicle miles traveled on unpaved industrial roads	Number of vehicles	Monthly/Annually	Records
TIP2	Number of hours operated	Hours	Monthly/Annually	Records
TIP3	Number of hours operated	Hours	Monthly/Annually	Records
PCS	Petroleum contaminated soil received	Tons	Monthly/Annually	Records
LF with ENCLFL	Landfill gas collected and sent to enclosed flare (ENCLFL)	$MMft^3$/month, $MMft^3$/yr	Monthly/Annually	Records

129.b. Emission factors for calculating pollutant emissions:

Table 7. Emission Factors

Emission Units(s)	Pollutant	Emission Factor	Emission Factor Units	Emission Factor Verification Testing	
				Yes/no	Test Method
LFG (Fugitive)	CO	10.16	lb/MMCF fugitive landfill gas	No	NA
	VOC	39%	Of NMOC	No	NA
	NMOC	LandGEM	lb/MMCF fugitive landfill gas	No	NA
	TRS	23.69	lb/MMCF fugitive landfill gas	No	NA
	H_2S	21.99	lb/MMCF fugitive landfill gas	No	NA
LFG controlled by ENCL-FL	$PM/PM_{10}/PM_{2.5}$	8.33	lb/MMCF LFG combusted	No	NA
	SO_2	44.7	lb/MMCF LFG combusted	Yes	ASTM D5504-20
	NO_x	27.35	lb/MMCF LFG combusted	Yes	EPA Method 7E
	CO	91.15	lb/MMCF LFG combusted	Yes	EPA Method 10
	VOC	0.81	lb/MMCF LFG combusted	No	NA
	NMOC	2.08	lb/MMCF LFG combusted	No	NA
	TRS	0.85	lb/MMCF LFG combusted	No	NA
	H_2S	0.44	lb/MMCF LFG combusted	No	NA
PIR	PM	0.148	lb/VMT	No	NA
	PM_{10}	0.030	lb/VMT	No	NA
	$PM_{2.5}$	0.007	lb/VMT	No	NA
UPR 1 (PV)	PM	0.172	lb/VMT	No	NA
	PM_{10}	0.062	lb/VMT	No	NA
	$PM_{2.5}$	0.006	lb/VMT	No	NA
UPR 2	PM	0.535	lb/VMT	No	NA

Emission Units(s)	Pollutant	Emission Factor	Emission Factor Units	Emission Factor Verification Testing	
				Yes/no	Test Method
	PM_{10}	0.151	lb/VMT	No	NA
	$PM_{2.5}$	0.015	lb/VMT	No	NA
TIP-2	$PM/PM_{10}/PM_{2.5}$	0.074	lb/hr	No	NA
	CO	1.294	lb/hr	No	NA
	NO_x	1.48	lb/hr	No	NA
	SO_2	0.46	lb/hr	No	NA
	VOC/ NMOC	0.57	lb/hr	No	NA
TIP-3	$PM/PM_{10}/PM_{2.5}$	5.71e-03	lb/hr	No	NA
	CO	1.426	lb/hr	No	NA
	NO_x	0.114	lb/hr	No	NA
	SO_2	0.356	lb/hr	No	NA
	VOC/ NMOC	0.436	lb/hr	No	NA
PCS	VOC/ NMOC	0.033	lb/ton PCS	No	NA

* Emissions calculated using refuse in place and EPA's LandGEM model.

129.c. For the emissions unit LFG (Fugitive) listed in Table 6, the permittee must determine annual and 12-month rolling emissions by multiplying the Process Parameter by the emission factor listed in Table 7.

E = (LFG generated, as calculated annually from LandGEM)*0.25*EF * K

where:

E = Emissions, tons
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

129.d. For the emissions unit LFG controlled by ENCL-FL listed in Table 6, the permittee must determine monthly and 12-month rolling emissions by multiplying the Process Parameter by the emission factor listed in Table 7 for all pollutants. Calculations must be completed within 30 days of the end of each month.

E = (Enclosed flare LFG controlled) * EF *K

where:

E = Emissions, tons
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

129.e. For the emissions units PIR, UPR 1, UPR 2, TIP, and PCS listed in Table 6, the permittee must calculate monthly and 12-month rolling emission by multiplying the Process Parameter by the emission factor listed in Table 7 for each pollutant. Calculations must be completed within 30 days of the end of each month.

E = MP * EF * K

where:

E = Emissions, tons
MP = Monitored parameter, units/month or units/year
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

129.f. The emission factors listed in Condition 129.b. are not enforceable limits unless otherwise specified in this permit. Compliance with PSELs must only be determined by the calculations contained in Conditions 129.c. through 129.e of this permit using the measured process parameters recorded during the reporting period and the emission factors contained in Condition 129.b

130. The permittee must determine compliance with Condition 128 (Plant Site Emission Limits) by summing the emissions calculated in Condition 129 for each emissions unit for each month and each 12-month rolling period, and adding the Aggregate Insignificant emissions of 1 ton per year by pollutant, and comparing the resulting emissions to the Plant Site Emission Limits in Condition 128.

GREENHOUSE GAS EMISSIONS

131. The permittee must calculate greenhouse gas emissions in metric tons and short tons, by the end of the 15th day of the following month, for each 12-consecutive calendar month period to determine compliance with the GHG PSEL by using the following: [OAR 340-215-0040]

131.a. DEQ Fuel Combustion Greenhouse Gas Calculator https://www.oregon.gov/deq/FilterDocs/ghgCalculatorFuelCombust.xlsx;
131.b. EPA emission quantification methodologies as prescribed in 40 CFR Part 98 subparts E through UU;
131.c. https://ccdsupport.com/confluence/display/help/Optional+Calculation+Spreadsheet+Instructions; or
131.d. An alternative calculation method approved in writing by DEQ.

EMISSION FEES

132. Emission fees will be based on the Plant Site Emissions Limits, unless permittee elects to report actual emissions for one or more permitted processes/pollutants. [OAR 340-220-0090]

GENERAL TESTING REQUIREMENTS

133. Unless otherwise specified in this permit, the permittee must conduct all testing in accordance with DEQ's Source Sampling Manual. [OAR 340-212-0120] [40 CFR 60.8]

133.a. Unless otherwise specified by a state or federal regulation, the permittee must submit a source test plan to DEQ at least 30 days prior to the date of the test. The test plan must be prepared in accordance with DEQ's Source Sampling Manual and address any planned variations or alternatives to prescribed test methods. Permittee should be aware, if significant variations are requested, it may require more than 30 days for DEQ to grant approval and may require EPA approval in addition to approval by DEQ.

133.b. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test and within two (2) hours prior to the tests. Any operating adjustments made during a compliance source test, which are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

133.c. Unless otherwise specified by permit condition or DEQ approved source test plan, all compliance source tests must be performed as follows:
133.c.i. At least 90% of the design capacity for new or modified equipment;
133.c.ii. At least 90% of the maximum operating rate for existing equipment; or
133.c.iii. At least 90% of the normal maximum for existing equipment. For purposes of this permit, the normal maximum operating rate is defined as the 90th percentile of the average hourly operating rates during a 12 month period immediately preceding the source test. Data supporting the normal maximum operating rate must be included with the source test report.

133.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as

the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, DEQ may accept two (2) test runs for demonstrating compliance with the emission limit or standard.

133.e. Source test reports prepared in accordance with DEQ's Source Sampling Manual must be submitted to DEQ within 60 days of completing any required source test, unless a different time period is approved in the source test plan submitted prior to the source test.

GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS

General Monitoring Requirements

134. The permittee must not knowingly render inaccurate any required monitoring device or method. [OAR 340-218-0050(3)(a)(E)]

135. The permittee must use the same methods to determine compliance as those used to determine actual emissions for fee purposes and can be no less rigorous than the requirements of OAR 340-218-0080. [OAR 340-218-0050(3)(a)(F)]

136. The permittee must comply with the monitoring requirements on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

General Recordkeeping Requirements

137. The permittee must maintain the following general records of testing and monitoring required by this permit: [OAR 340-218-0050(3)(b)(A)]

137.a. The date, place as defined in the permit, and time of sampling or measurements;

137.b. The date(s) analyses were performed;

137.c. The company or entity that performed the analyses;

137.d. The analytical techniques or methods used;

137.e. The results of such analyses;

137.f. The operating conditions as existing at the time of sampling or measurement; and

137.g. The records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drifts).

138. Unless otherwise specified by permit condition, the permittee must make every effort to maintain 100 percent of the records required by the permit. If information is not obtained or recorded for legitimate reasons (e.g., the monitor or data acquisition system malfunctions due to a power outage), the missing record(s) will not be considered a permit deviation provided the amount of data lost does not exceed 10% of the averaging periods in a reporting period or 10% of the total operating hours in a reporting period, if no averaging time is specified. Upon discovering a required record is missing, the permittee must document the reason for the missing record. In addition, any missing record that can be recovered from other available information will not be considered a missing record. [OAR 340-214-0110, 340-214-0114, and 340-218-0050(3)(b)]

139. The permittee must comply with the recordkeeping requirements on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]

140. Unless otherwise specified, the permittee must retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Air Contaminant Discharge Permit or Oregon Title V Operating Permit must also be retained for five (5) years from the date of the monitoring sample, measurement, report, or application. [OAR 340-218-0050(3)(b)(B)]

REPORTING REQUIREMENTS

General Reporting Requirements

141. Excess Emissions Reporting: The permittee must report all excess emissions as follows: [OAR 340-214-0300 through 340-214-0360]

141.a. Immediately (within 24 hours of the event) notify DEQ of an excess emission event by phone, email, or facsimile; and

141.b. Within 15 days of the excess emissions event, submit a written report that contains the following information: [OAR 340-214-0340(1)]

- 141.b.i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;
- 141.b.ii. The date and time the permittee notified DEQ of the event;
- 141.b.iii. The equipment involved;
- 141.b.iv. Whether the event occurred during startup, shutdown, maintenance, or as a result of a breakdown, malfunction, or emergency;
- 141.b.v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
- 141.b.vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
- 141.b.vii. The final resolution of the cause of the excess emissions; and
- 141.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.

141.c. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must immediately take action to minimize emissions by reducing or ceasing operation of the equipment or facility, unless doing so could result in physical damage to the equipment or facility, cause injury to employees, , or result in higher emissions associated with shutdown and subsequent start up than those emissions resulting from continued operation. The permittee may:

- 141.c.i. Cease operation of the equipment or facility within 8 hours of the beginning of the period of excess emissions;.
- 141.c.ii. Request continue operation by submitting to DEQ a written request to continue operation within 8 hours of the beginning of the period of excess emissions;
- 141.c.iii. Continue operation only if approved by DEQ in accordance with OAR 340-214-0330(4)(b). Otherwise, the permittee must cease operation within one hour of receiving DEQ's disapproval of continued operation; and
- 141.c.iv. Report excess emissions under OAR 340-214-0340 within 5 days of the date of the event;

141.d. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify DEQ by calling the Oregon Emergency Response System (OERs). The current number is 1-800-452-0311.

141.e. If startups, shutdowns, or scheduled maintenance may result in excess emissions, the permittee must submit startup, shutdown, or scheduled maintenance procedures used to minimize excess emissions to DEQ for prior authorization, as required in OAR 340-214-0310 and 340-214-0320. New or modified procedures must be received by DEQ in writing at least 72 hours prior to the first occurrence of the excess emission event. The permittee must abide by the approved procedures and have a copy available at all times.

141.f. Once DEQ approves startup/shutdown procedures, the permittee must notify DEQ of planned startup/shutdown or scheduled maintenance events only if required by permit condition or if it results in excess emissions. When notice is required by this condition, it must be made in accordance with Condition 141.a.

141.g. The permittee must continue to maintain a log of all excess emissions in accordance with OAR 340-214-0340(3). However, the permittee is not required to submit the detailed log with the semi-annual and annual monitoring reports. The permittee is only required to submit a brief summary listing the date, time, and the affected emissions units for each excess emission that occurred during the reporting period. [OAR 340-218-0050(3)(c)]

142. Permit Deviations Reporting: The permittee must promptly report deviations from permit requirements that do not cause excess emissions, including those attributable to upset conditions, as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" means within 15 days of the deviation. Deviations that cause excess emissions, as specified in OAR 340-214-0300 through 340-214-0360 must be reported in accordance with Condition141. [OAR 340-218-0050(3)(c)(B)]

143. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5); [OAR 340-218-0050(3)(c)(D)]

144. Reporting requirements must commence on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]

Addresses of regulatory agencies are the following, unless otherwise instructed:

Submit all Notices and applications that do not include payment to the Western Region Permit Coordinator.

Submit all reports (annual reports, source test plans and reports, etc.) to DEQ's Western Region. If you know the name of the Air Quality staff member responsible for your permit, please include it.

DEQ Western Region
4026 Fairview Industrial Drive SE
Salem, OR 97302
(503) 378-8240

Submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:
DEQ – Business Office
700 NE Multnomah St., Suite 600
Portland, OR 97232
503-229-5359

Submit all reports for EPA requirements to:
US Environmental Protection Agency
Enforcement and Compliance Assurance Division
Region 10 (20-C04)
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

Semi-annual and Annual Reports

145. The permittee must submit two (2) paper copies and one (1) electronic copy of reports of any required

monitoring at least every 6 months, completed on forms approved by DEQ. Six month periods are January 1 to June 30, and July 1 to December 31. If the report due date falls on a weekend or Monday holiday, the permittee must submit their report on the next business day. One paper copy of the report must be submitted to the EPA and two copies (one paper copy and one electronic copy) to the DEQ regional office. All instances of deviations from permit requirements must be clearly identified in such reports: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(d)]]

145.a. The first semi-annual report is due on July 30 and must include the semi-annual compliance certification, OAR 340-218-0080, and the semi-annual report for OAR 340 Division 239, as listed in Condition 88.c.

145.b. The annual report is due on February 15 and must consist of the following:
- 145.b.i. the emission fee report; [OAR 340-220-0100]
- 145.b.ii. a summary of the excess emissions upset log; [OAR 340-214-0340]
- 145.b.iii. Annual emissions of hazardous air pollutants for the calendar year; [OAR 340-218-0050(3)(d)] and
- 145.b.iv. Annual LandGEM report;
- 145.b.v. Annual report for OAR 340 Division 239 as listed in Condition 88.d;
- 145.b.vi. Waste in Place report as listed in Condition 88.e;
- 145.b.vii. Summary of quarterly sulfur contents of the landfill gas samples from Condition 98, and their annual average.
- 145.b.viii. The second semi-annual compliance certification; [OAR 340-218-0080]

146. The semi-annual compliance certification must include the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable): [OAR 340-218-0080(6)(c)]

146.a. The identification of each term or condition of the permit that is the basis of the certification;

146.b. The identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means must include, at a minimum, the methods and means required under OAR 340-218-0050(3). Note: Certification of compliance with the monitoring conditions in the permit is sufficient to meet this requirement, except when the permittee must certify compliance with new applicable requirements that are incorporated by reference into the permit. When certifying compliance with new applicable requirements that are not yet in the permit, the permittee must provide the information required by this condition. If necessary, the permittee also must identify any other material information that must be included in the certification to comply with section 113(c)(2) of the FCAA, which prohibits knowingly making a false certification or omitting material information;

146.c. The status of compliance with terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification must be based on the method or means designated in Condition 146.b of this rule. The certification must identify each deviation and take it into account in the compliance certification. The certification must also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance, as defined under OAR 340-200-0020 and 40 CFR part 64, occurred; and

146.d. Such other facts as the Department may require to determine the compliance status of the source.

147. Greenhouse Gas Registration and Reporting: If the calendar year emission rate of greenhouse gases (CO2e) is greater than or equal to 2,756 tons (2,500 metric tons), the permittee must register and report its greenhouse gas emissions with DEQ in accordance with OAR 340-215. The greenhouse gas report must be

certified by the responsible official consistent with OAR 340-218-0040(6). [OAR 340-215-0030(2) and 340-215-0040(1)]

148. Notwithstanding any other provision contained in any applicable requirement, the permittee may use monitoring as required under OAR 340-218-0050(3) and incorporated into the permit, in addition to any specified compliance methods, for the purpose of submitting compliance certifications. [OAR 340-218-0080(6)(e)]

NON-APPLICABLE REQUIREMENTS

149. The following State and Federal air quality requirements are not applicable to this facility for the reasons stated. [OAR 340-218-0110]

Applicable Requirement	Section	Reason Code	Applicable Requirement	Section	Reason Code
Division 202	All rules	I	Division 228	0100 through 0130	F
Division 206	0050	C		0200	E
Division 208	0510 through 0610	D		0300	B
Division 209	All rules	I	Division 230	All rules	B
Division 210	0120	B	Division 232	All rules	C
Division 212	0210 through 0280	J	Division 234	All Rules	B
Division 214	0210 through 0220	C	Division 236	0310-0440	B
Division 215	0032 0110 through 0125	I B	Division 240	All rules	C
Division 216	All	G, H	Division 242	All rules	C
Division 218	0090, 0100	B	Division 244	0200, 0210	B
Division 220	0130 through 0170	H		0234 through, 0250	B
Division 222	0042, 0090	C, H	Division 245	9015 through 9080	B
Division 224	0045 through 0060	C	Division 248	0110-0275	B
	0070	G	Division 256	All rules	E
	0245 through 0260	C	Division 258	All rules	B
	0500 through 0540	G	Division 260	All rules	B
Division 225	0045, 0060	C	Division 264	All rules	B
Division 226	0320, 0400	H	Division 268	All rules	B
			NSPS	Subpart X	G

Reason code definitions:

A this pollutant is not emitted by the facility
B the facility is not in this source category
C the facility is not in a special control area
D the facility is not in this county
E the facility does not have this emissions unit
F the facility does not use this fuel type
G the rule does not apply because no changes have been made at the facility that would trigger these procedural requirements
H this method/procedure is not used by the facility
I this rule applies only to DEQ and regional authorities
J there are no emissions units with add-on control devices or the pre-controlled potential emissions are less than 100 tons per year or the emissions units with add-on control devices and pre-controlled emissions greater than 100 tons per year are subject to emissions standards promulgated after November of 1990

GENERAL CONDITIONS

G1. General Provision

Terms not otherwise defined in this permit have the meaning assigned to such terms in the referenced regulation.

G2. Reference materials

Where referenced in this permit, the versions of the following materials are effective as of the dates noted unless otherwise specified in this permit:

a. Source Sampling Manual; November 15, 2018.

b. Continuous Monitoring Manual; April 16, 2015 - State Implementation Plan Volume 3, Appendix A6; and

c. All state and federal regulations as in effect on the date of issuance of this permit.

G3. Applicable Requirements

Oregon Title V Operating Permits do not replace requirements in Air Contaminant Discharge Permits (ACDP) issued to the source even if the ACDP(s) have expired. For a source operating under a Title V permit, requirements established in an earlier ACDP remain in effect notwithstanding expiration of the ACDP or Title V permit, unless a provision expires by its terms or unless a provision is modified or terminated following the procedures used to establish the requirement initially. Source specific requirements, including, but not limited to TACT, RACT, BACT, and LAER requirements, established in an ACDP must be incorporated into the Oregon Title V Operating Permit and any revisions to those requirements must follow the procedures used to establish the requirement initially.

G4. Compliance [OAR 340-218-0040(3)(n)(C), 340-218-0050(6), and 340-218-0080(4)]

a. The permittee must comply with all conditions of this permit. Any permit condition noncompliance constitutes a violation of the Federal Clean Air Act and/or state rules and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application. Any noncompliance with a permit condition specifically designated as enforceable only by the state constitutes a violation of state rules only and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

b. Any schedule of compliance for applicable requirements with which the source

is not in compliance at the time of permit issuance is supplemental to, and does not sanction noncompliance with the applicable requirements on which it is based.

c. For applicable requirements that will become effective during the permit term, the source must meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement.

G5. Masking Emissions

The permittee must not install or use any device or other means designed to mask the emission of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. [OAR 340-208-0400] This condition is enforceable only by the State.

G6. Credible Evidence

Notwithstanding any other provisions contained in any applicable requirement, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any such applicable requirements. [OAR 340-214-0120]

G7. Certification [OAR 340-214-0110, 340-218-0040(5), 340-218-0050(3)(c)(D), and 340-218-0080(2)]

Any document submitted to DEQ or EPA pursuant to this permit must contain certification by a responsible official of truth, accuracy and completeness. All certifications must state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and, complete. The permittee must promptly, upon discovery, report to DEQ a material error or omission in these records, reports, plans, or other documents.

G8. Open Burning [OAR Chapter 340, Division 264]

The permittee is prohibited from conducting open burning, except as may be allowed by OAR 340-264-0020 through 340-264-0200.

G9. Asbestos [40 CFR Part 61, Subpart M (federally enforceable), OAR Chapter 340-248-0005 through 340-248-0180 (state-only enforceable) and 340-248-0205 through 340-248-0280]

The permittee must comply with OAR Chapter 340, Division 248, and 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

G10. Stratospheric Ozone and Climate Protection [40 CFR 82 Subpart F, OAR 340-260-0040]

The permittee must comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction.

G11. Permit Shield [OAR 340-218-0110]

a. Compliance with the conditions of the permit is deemed compliance with any applicable requirements as of the date of permit issuance provided that:

i. Such applicable requirements are included and are specifically identified in the permit, or

ii. DEQ, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

b. Nothing in this rule or in any federal operating permit alters or affects the following:

i. The provisions of ORS 468.115 (enforcement in cases of emergency) and ORS 468.035 (function of department);

ii. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

iii. The applicable requirements of the national acid rain program, consistent with section 408(a) of the FCAA; or

iv. The ability of DEQ to obtain information from a source pursuant to ORS 468.095 (investigatory authority, entry on premises, status of records).

c. Sources are not shielded from applicable requirements that are enacted during the permit term, unless such applicable requirements are incorporated into the permit by administrative amendment, as provided in OAR 340-218-0150(1)(h), significant permit modification, or reopening for cause by DEQ.

G12. Inspection and Entry [OAR 340-218-0080(3)]

Upon presentation of credentials and other documents as may be required by law, the permittee must allow DEQ, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), to perform the following:

a. Enter upon the permittee's premises where an Oregon Title V Operating Permit program source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

b. Have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

d. As authorized by the FCAA or state rules, sample or monitor, at reasonable times, substances or parameters, for the purposes of assuring compliance with the permit or applicable requirements.

G13. Fee Payment [OAR 340-220-0010, and 340-220-0030 through 340-220-0190]

The permittee must pay an annual base fee and an annual emission fee for particulates, sulfur dioxide, nitrogen oxides, and volatile organic compounds. The permittee must submit payment to the Department of Environmental Quality, Financial Services, 700 NE Multnomah Street, Suite #600, Portland, OR 97232, within 30 days of date DEQ mails the fee invoice or August 1 of the year following the calendar year for which emission fees are paid, whichever is later. Disputes must be submitted in writing to DEQ. Payment must be made regardless of the dispute. User-based fees will be charged for specific activities (e.g., computer modeling review, ambient monitoring review, etc.) requested by the permittee.

G14. Off-Permit Changes to the Source [OAR 340-218-0140(2)]

a. The permittee must monitor for, and record, any off-permit change to the source that:

i. Is not addressed or prohibited by the permit;

ii. Is not a Title I modification;

iii. Is not subject to any requirements under Title IV of the FCAA;

iv. Meets all applicable requirements;

v. Does not violate any existing permit term or condition; and

vi. May result in emissions of regulated air pollutants subject to an applicable requirement but not otherwise regulated under this permit or may result in insignificant changes as defined in OAR 340-200-0020.

b. A contemporaneous notification, if required under OAR 340-218-0140(2)(b), must be submitted to DEQ and the EPA.

c. The permittee must keep a record describing off-permit changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.

d. The permit shield of Condition G11 does not extend to off-permit changes.

G15. Section 502(b)(10) Changes to the Source [OAR 340-218-0140(3)]

a. The permittee must monitor for, and record, any section 502(b)(10) change to the source, which is defined as a change that would contravene an express permit term but would not:

i. Violate an applicable requirement;

ii. Contravene a federally enforceable permit term or condition that is a monitoring, recordkeeping, reporting, or compliance certification requirement; or

iii. Be a Title I modification.

b. A minimum 7-day advance notification must be submitted to DEQ and the EPA in accordance with OAR 340-218-0140(3)(b).

c. The permit shield of Condition G11 does not extend to section 502(b)(10) changes.

G16. Administrative Amendment [OAR 340-218-0150]

Administrative amendments to this permit must be requested and granted in accordance with OAR 340-218-0150. The permittee must promptly submit an application for the following types of administrative amendments upon becoming aware of the need for one, but no later than 60 days of such event:

a. Legal change of the registered name of the company with the Corporations Division of the State of Oregon, or

b. Sale or exchange of the activity or facility.

G17. Minor Permit Modification [OAR 340-218-0170]

The permittee must submit an application for a minor permit modification in accordance with OAR 340-218-0170.

G18. Significant Permit Modification [OAR 340-218-0180]

The permittee must submit an application for a significant permit modification in accordance with OAR 340-218-0180

G19. Staying Permit Conditions [OAR 340-218-0050(6)(c)]

Notwithstanding Conditions G16 and G17, the filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G20. Construction/Operation Modification [OAR 340-218-0190]

The permittee must obtain approval from DEQ prior to construction or modification of any stationary source or air pollution control equipment in accordance with OAR 340-210-0205 through OAR 340-210-0250.

G21. New Source Review Modification [OAR 340-224-0010]

The permittee may not begin construction of a major source or a major modification of any stationary source without having received an Air Contaminant Discharge Permit (ACDP) from DEQ and having satisfied the requirements of OAR 340, Division 224.

G22. Need to Halt or Reduce Activity Not a Defense [OAR 340-218-0050(6)(b)]

The need to halt or reduce activity will not be a defense. It will not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G23. Duty to Provide Information [OAR 340-218-0050(6)(e) and OAR 340-214-0110]

The permittee must furnish to DEQ, within a reasonable time, any information that DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee must also furnish to DEQ copies of records required to be retained by the permit or, for information claimed to be confidential, the permittee may furnish such records to DEQ along with a claim of confidentiality.

G24. Reopening for Cause [OAR 340-218-0050(6)(c) and 340-218-0200]

a. The permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by DEQ.

b. A permit must be reopened and revised under any of the circumstances listed in OAR 340-218-0200(1)(a).

c. Proceedings to reopen and reissue a permit must follow the same procedures as apply to initial permit issuance and affect only those parts of the permit for which cause to reopen exists.

G25. Severability Clause [OAR 340-218-0050(5)]

Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, recordkeeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with.

G26. Permit Renewal and Expiration [OAR 340-218-0040(1)(a)(D) and 340-218-0130]

a. This permit expires at the end of its term, unless a timely and complete renewal application is submitted as described below. Permit expiration terminates the permittee's right to operate.

b. Applications for renewal must be submitted at least 12 months before the expiration of this permit, unless DEQ requests an earlier submittal. If more than 12 months is required to process a permit renewal application, DEQ must provide no less than six (6) months for the owner or operator to prepare an application.

c. Provided the permittee submits a timely and complete renewal application, this permit will remain in effect until final action has been taken on the renewal application to issue or deny the permit.

G27. Permit Transference [OAR 340-218-0150(1)(d)]

The permit is not transferable to any person except as provided in OAR 340-218-0150(1)(d).

G28. Property Rights [OAR 340-200-0020 and 340-218-0050(6)(d)]

The permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations, except as provided in OAR 340-218-0110.

G29. Permit Availability [OAR 340-200-0020 and 340-218-0120(2)]

The permittee must have available at facility at all times a copy of the Oregon Title V Operating Permit and must provide a copy of the permit to DEQ or an authorized representative upon request.

G30. G30. Air Quality Modeling Analysis [ORS 468A.025, ORS 468A.040, ORS 468A.050, OAR 340-202-0050, OAR 340-214-0110 and OAR 340-226-0140]

The permittee may be required to submit an updated air quality modeling analyses to DEQ for the following:

a. The permittee becomes aware that corrections or additional information are needed to revise or update the most recent air quality analysis submitted to DEQ. DEQ must be notified in writing of such corrections within 30 days of becoming aware of the discrepancies; or,

b. The permittee proposes to add or modify any physical or operational feature that was used as a modeling parameter in the air quality analysis submitted to DEQ and that results in an increase of the pollutant(s) ambient concentration(s), including but not limited to a new device or activity, new emission location of an existing device or activity, lower stack height, slower exhaust gas velocity, cooler exhaust temperature, or construction of a new or modified building that could impact downwash. DEQ must be notified in writing at least 30 days prior to implementing the proposed physical modifications.

G31. Air Quality Modeling Analysis for New Source Review [ORS 468A.025, ORS 468A.040, ORS 468A.050, OAR 340-202-0050, OAR 340-214-0110 and OAR 340-224-0030]

The permittee may be required to submit an updated air quality modeling analyses to DEQ if the permittee that obtained approval of a project under OAR chapter 340, division 224 seeks to obtains approval for a revision to the project according to the permit application requirements in OAR chapter 340, division 224 and OAR chapter 340, division 216 or 218, whichever is applicable, prior to initiating the revision. If construction has commenced, the permittee must temporarily halt construction until a revised permit is issued. The following are considered revisions to the project that would require approval:

a. A change that would increase permitted emissions;

b. A change that would require a re-evaluation of the approved control technology; or

c. A change that would increase air quality impacts.

ALL INQUIRIES SHOULD BE DIRECTED TO:

Department of Environmental Quality
Air Quality Division
Western Region-Salem Office
4026 Fairview Industrial Drive SE
Salem, OR 97302
503-229-5554

Exhibit 1

Part 63 citation	Description	Applicable to subpart AAAA	Explanation
§63.1	Applicability: General applicability of NESHAP in this part	Yes	
§63.2	Definitions	Yes	
§63.3	Units and abbreviations	Yes	
§63.4	Prohibited activities and circumvention	Yes	
§63.5	Construction/reconstruction	Yes	
§63.6(a), (b), and (c)	Compliance with standards and maintenance requirements	Yes	
§63.6(e)(1)(i)-(ii)	Operation and maintenance requirements	No	See §63.1955(c) for general duty requirements.
63.6(e)(3)(i)-(ix)	SSM plan	No	
63.6(f)(1)	Exemption of nonopacity emission standards during SSM	No	
§63.6(f)(2) and (3)	Compliance with nonopacity emission standards	Yes	
§63.6(g)	Use of an alternative nonopacity standard	Yes	
§63.6(h)	Compliance with opacity and visible emission standards	No	Subpart AAAA does not prescribe opacity or visible emission standards.
§63.6(i)	Extension of compliance with emission standards	Yes	
§63.6(j)	Exemption from compliance with emission standards	Yes	
§63.7	Performance testing	Yes	
§63.7(e)(1)	Conditions for performing performance tests	No	40 CFR 63.1959(f) specifies the conditions for performing performance tests.
§63.8(a) and (b)	Monitoring requirements—Applicability and conduct of monitoring	Yes	
§63.8(c)(1)	Operation and Maintenance of continuous emissions monitoring system	Yes	
§63.8(c)(1)(i)	Operation and Maintenance Requirements	No	Unnecessary due to the requirements of §63.8(c)(1) and the requirements for a quality control plan for monitoring equipment in §63.8(d)(2).
§63.8(c)(1)(ii)	Operation and Maintenance Requirements	No	

§63.8(c)(1)(iii)	SSM plan for monitors	No	
§63.8(c)(2)-(8)	Monitoring requirements	Yes	
§63.8(d)	Quality control	Yes, except (d)(3)	See §63.1983(c)(8).
§63.9	Notifications	Yes[2], except 63.9(f)	Subpart AAAA does not prescribe opacity or visible emission standards.
§63.10(a)	Recordkeeping and reporting—general	Yes	
§63.10(b)(1)	General recordkeeping	Yes	
§63.10(b)(2)(i)	Startup and shutdown records	No	See §63.1983(c)(6) for recordkeeping for periods of startup and shutdown.
§63.10(b)(2)(ii)	Recordkeeping of failures to meet a standard	No	See §63.1983(c)(6)-(7) for recordkeeping for any exceedance of a standard.
§63.10(b)(2)(iii)	Recordkeeping of maintenance on air pollution control equipment	Yes	
§63.10(b)(2)(iv)-(v)	Actions taken to minimize emissions during SSM	No	See §63.1983(c)(7) for recordkeeping of corrective actions to restore compliance.
§63.10(b)(vi)	Recordkeeping for CMS malfunctions	Yes	
§63.10(b)(vii)-(xiv)	Other Recordkeeping of compliance measurements	Yes	
§63.10(c)	Additional recordkeeping for sources with CMS	No	See §63.1983 for required CMS recordkeeping.
§63.10(d)(1)	Reporting	Yes, except 63.10(d)(5)	All exceedances must be reported in the semi-annual report required by §63.1981(h).
§63.11	Control device requirements/flares	Yes	§60.18 is required before September 27, 2021. However, §60.18 and 63.11 are equivalent.
§63.12	State authority and delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporation by reference	Yes	
§63.15	Availability of information and confidentiality	Yes	

[2]If an permittee has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

State of Oregon
Department of
Environmental
Quality

TITLE V OPERATING PERMIT REVIEW REPORT

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

SIC	4953
NAICS	562212
Source Categories	

EPA ICIS- Air ID	OR0000004100309502

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	
Emission credits	
Compliance schedule	
Source test [date(s)]	

COMS	
CEMS	
PEMS	
Ambient monitoring	

Reporting Requirements

Annual report (due date)	February 15
Emission fee report (due date)	February 15
SACC (due date)	
Quarterly report (due dates)	

Monthly report (due dates)	
Excess emissions report	X
Other reports (type)	

Air Programs

NSPS (list subparts)	A
NESHAP (list subparts)	AAAA, ZZZZ
CAM	
Regional Haze (RH)	
Synthetic Minor (SM)	
Part 68 Risk Management	
CFC	
RACT	
TACT	

Title V	X
ACDP (SIP)	
Major HAP source	X
Federal major source	
NSR (by Pollutant)	Type B for PM, PM_{10}, NMOC, H_2S, TRS, SO_2
PSD	
Acid Rain	

TABLE OF CONTENTS

LIST OF ABBREVIATIONS USED IN THIS REVIEW REPORT

AQMA	Air Quality Management Area
ASTM	American Society of Testing and Materials
BDT	bone dry ton
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CH_4	methane (greenhouse gas)
CMS	continuous monitoring system
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
COMS	continuous opacity monitoring system
DEQ	Oregon Department of Environmental Quality
dscf	dry standard cubic feet
EF	emission factor
EPA	United State Environmental Protection Agency
EU	emissions unit
FCAA	Federal Clean Air Act
GCCS	gas collection and control system
GHG	greenhouse gas
gr/dscf	grains per dry standard cubic feet
HAP	hazardous air pollutant
ID	identification code
I&M	inspection and maintenance
LFG	landfill gas
MB	material balance
Mlb	1000 pounds
MM	million
N_2O	nitrous oxide (greenhouse gas)
NA	not applicable
NESHAP	National Emission Standard for Hazardous Air Pollutants
NMOC	non-methane organic compounds
NO_x	oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
O_2	oxygen
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
O&M	operation and maintenance
Pb	lead
PCD	pollution control device
PEMS	predictive emissions monitoring system
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PSEL	Plant Site Emission Limit
SO_2	sulfur dioxide
ST	source test
VE	visible emissions
VMT	vehicle mile traveled
VOC	volatile organic compound

INTRODUCTION

1. The proposed permit is a renewal of an existing Title V permit which was issued on 10/30/09. The source submitted a timely permit renewal application on 9/30/2013. Therefore, the current permit remains in effect until final action is taken on the renewal application. An updated application was received on October 12, 2018 which reflected the source's most recent operation scenario and emission calculations were again updated on June 12, 2024. In addition to renewal of the Title V permit, this permit action includes a minor modification for replacement of the flares, and a significant modification for increased NMOC, PM, and PM_{10} PSELs due to landfill growth and updated emission calculations from roads.
2. Valley Landfills, Inc./Coffin Butte landfill has been determined to be an existing source for the purposes of Cleaner Air Oregon in accordance with OAR 340-245-0020 because the air quality permit application was submitted and deemed complete, or construction had commenced on this facility prior to November 16, 2018. As an existing source, the permittee is required to perform a risk assessment in accordance with OAR 340-245-0050, and demonstrate compliance with the Risk Action Levels for an "Existing Source" in OAR 340-245-8010 Table 1 when called in by DEQ. Valley landfills, Inc./Coffin Butte landfill has not been called in and therefore, has not performed a risk assessment.
3. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions.
4. The following table shows a summary of off-permit changes, 502(b)(10) changes, administrative amendments, and minor modifications that occurred since the last permit renewal:

Date	Permit revision or notification	Brief explanation
2/27/2014	Minor modification	Added a new flare (FL1)
5/11/2015	Administrative amendment	Changed the facility contact.
8/1/2017	Approval to construction	Granted approval for an installation of a second tipper.
2/5/2020	Landfill Gas Collection and Control System Design Plan updated	Appendix E to the design plan was updated to modify their alternative monitoring plan to the NSPS requirements.*
6/5/2022	Approval to Construct	Granted approval to add a third tipper, TIP-3.

Date	Permit revision or notification	Brief explanation
Application date 2/21/2023	Significant Modification	Increase in NMOC, PM, and PM_{10} PSELs for landfill growth and updated emissions from roads. Included in this permit action
11/9/2023	Approval to Construct	Granted approval to replace FL-1 and FL-2 with a new enclosed flare (ENCL-FL)
Application date 12/1/2023	Minor Modification	Replacing FL-1 and FL-2 in the permit with ENCL-FL. Included in this permit action

*Appendix E to the design plan was submitted to EPA for review because DEQ does not have an authority to approve alternative monitoring plans unless they are minor modifications. EPA's Region 10 issued their responses to the requests collaborating with EPA's Office of Air Quality Planning and Standards and Office of Enforcement and Compliance Assurance. DEQ's response letter was sent on September 2, 2020. The response letter is attached to this review.

5. Permit condition changes:

Condition Number	Topic	Changes
3	40 CFR Part 63 Subpart M	Added to note Asbestos NESHAP rules are Federal only
4	Emission Unit and Pollution Control Device Identification	• Reclassified Landfill Gas Control System (Control) as a pollution control device (LFGCES-1) instead of Emission Unit. • Replaced FL-1 and FL-2 with ENCL-FL, as a pollution control device. • Deleted Municipal solid waste landfill, Cell 0 (LF-1). Cell 1 through 5 expanded over Cell 0, and now the entire landfill is lined. • Added Tipper 2 (TIP-2) and Tipper 3 (TIP-3). • Change the table format to a conventional paragraph format to be consistent with other DEQ's Title V permits. • Reclassified Generator as a categorical insignificant activity instead of aggregate and renamed it "emergency generator (EGEN)." • Deleted the wastewater treatment system operation because it is no longer used as a wastewater treatment system. Instead, leachate is hauled to local wastewater treatment facilities.
5	General	Added general requirement to operate pollution control devices

Condition Number	Topic	Changes
6-7	Fugitive Emissions	• Updated the reference to OAR 340-208-0210(1) due to rule changes. • Deleted modified EPA Method 9 tests because the DEQ no longer requires modified Method 9
16	40 CFR Part 68.	Added general requirements for Risk Management Plan if subject to the Accidental Release Prevention Program
19	ENCL-FL NO_x	Added source test requirements for the flare to verify NO_x emissions included in the air quality analysis.
20-67	NSPS and NESHAP and OAR 340-236-500	• Converted from the table format to a traditional paragraph format. • Deleted detailed NSPS General Provisions (Subpart A) conditions and referenced it to the rule. • Deleted the monthly reporting requirement (Condition 13.5 and 13.10 of the current permit) • Deleted NSPS Subpart WWW and replaced with OAR 340-236-500 requirements. • Added updated NESHAP Subpart AAAA requirements.
67-97	OAR 340 Division 239 Requirements	• Added Conditions 67 through 98 to incorporate the new state only requirements for methane emissions from landfills.
98	Sulfur sampling	• Added flare inlet sulfur sampling to verify SO_2, TRS and H_2S emissions
99-101	TIP-2 and TIP-3	• Updated to TIP-2 and TIP-3 and noted no monitoring required
102-103	Roads	• Changed to fugitive emission requirements since opacity and PM emission standards do not apply to fugitive emissions.
104	NAAQS	• Added work practice requirements to limit PM_{10} and $PM_{2.5}$ emissions from roads.
105-115	40 CFR Part 63 Subpart M	• Added Federally Enforceable Only Asbestos conditions
116-125	40 CFR Part 63, Subpart ZZZZ	• Added NEHSAP Subpart ZZZZ for Reciprocating Internal Combustion Engines (RICE)
126-127	Insignificant Activities	• Changed the grain loading limit to 0.10 gr/dscf. • Added gasoline dispensing rules.
128-129	Plant Site Emission Limits	• Deleted F-LFG1 and renamed F-LFG2 to LF. • Changed the process parameter for PIR and UPR to vehicle miles traveled instead of number of total vehicles traveled. • Added TIP-2 and TIP-3.

Condition Number	Topic	Changes
		• Added ENCL-FL. • Added TRS and H_2S PSELs from revised calculations • Combined F-LFG1 with F-LFG2. • Replaced emission factors with LandGEM where applicable. • Added a condition for SO_2 emission factors from LFG (Fugitive). • Added TIP-2 and TIP-3. • Added ENCL-FL • Added TRS and H_2S emission factors for LFG and ENCL-FL. • Added a requirement to use LandGEM to calculate VOC and NMOC emissions. • Added SO_2 emissions calculations from ENCL-FL.
131	Greenhouse Gas Emission Reporting	• Added GHG reporting requirements
132	Emission Fees	• Added general requirement on Emission Fees.
133-148	General Requirements	• Updated the general testing, monitoring and recordkeeping and reporting requirements.
149	Non-Applicable Requirements	• Updated the Non-Applicable Requirements table

PERMITTEE IDENTIFICATION

6. Coffin Butte Landfill is owned and operated by Valley Landfills, Inc. The landfill began accepting municipal solid wastes in 1953.

FACILITY DESCRIPTION

7. The Coffin Butte Landfill accepts municipal solid waste (MSW) and asbestos-containing materials (ACM) for disposal, petroleum contaminated soils and recyclable materials for storage and transfer. The major activities at the facility include the receipt, disposal and management of MSW. Although the total contiguous area owned by Republic Services is approximately 700 acres, only about 85 acres encompass the closed and active portions of the MSW landfill. Another 5 acres is used for the closed and active ACM disposal area.

   The facility originally operated Cell Zero from 1953-1977. Cell One was opened in 1978 and the newer cells are lined. The material in that cell was moved to a lined cell, and Cell Zero no longer exists. Landfill gas (LFG) generated from the decomposition of the MSW is actively collected by a series of horizontal and vertical gas extraction wells, piping, and control valves and routed to the adjacent power generation plant. The plant is owned and operated by Pacific Northwest Generating Co. under a separated air permit (No. 02-9503).

Excess LFG is burned in the enclosed flare which replaced the two open flares at the facility in 2024 and is operated by the landfill.

Leachate and gas condensates generated in the landfill and condensates from the gas collection system are collected in leachate ponds and disposed via tanker truck to the City of Corvallis WWTP. The facility attempted to build an on site treatment plant but it was not successful. The WWTP is removed from the permit because it has been mothballed for years and there is no plan to reconstruct the plant.

A rock quarry and crusher is also situated in the Valley Landfill property but the mineral rights have been sold to another company operating the quarry and crusher. The quarry and crusher operation provide a very small quantity of rock and soil (only about 1% of quarry production) for use by the landfill in road construction and capping of closed cells.
The landfill is open Monday through Saturday from 8 am to 5 pm. They currently employ 22 staff at this location.

EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

8. The emissions units at this facility are the following:

8.a. Municipal solid waste landfill (LF) controlled by Landfill gas collection and extraction system (LFGCES-1)

Landfill gas generation rate is projected by EPA's model, "LandGEM" based on waste acceptance rates. A copy of the most recent LandGEM report is attached to this review. Collected landfill gas is sent to generators for energy recovery operated by a 3rd party. Excess LFG is sent to the enclosed flare, installed in August 2024, to be burned. The GCCS is equipped with two skid blowers. One is rated at 2,000 scfm and the other one is 3,000 scfm. An enclosed flare was installed in 2024 to comply with Division 239 requirements and replaced FL-1 and FL-2. The following table shows the flare's specifications.

EU ID	Manufacturer	Model	Max. Flow (scfm)	Max. input heat rate (mmBtu/hr)	CO emissions (lb/mmBtu)	NOx emissions (lb/mmBtu)	NMOC Destruction Efficiency
ENCL-FL	John Zink	ZTOF	3390	92.7	0.20	0.06	98%

8.b. Municipal solid waste landfill fugitive emissions (LF-Fug) consist of the fugitive landfill gas emissions that are not captured via the GCCS. EPA's AP-42 Chapter 2.4.4.2 and 40 CFR 98 Subpart HH provide a default estimate of 25% of the landfill gas is not captured, and that value is used in the permit for fugitive emissions of landfill gas. Because LandGEM calculates total landfill gas produced on an annual basis, the fugitive emissions use the LandGEM total multiplied by 25% for each month of the year.

8.c. Vehicle traffic on paved roads (PIR): This emissions unit includes vehicle traffic emissions on paved roads at the facility. The facility conducted a site-

specific silt analysis on June 30, 2020. The following table shows the summary of the test results.

Sample	Dry Net Weight of minus 200 Sieve (g)	Sampling Surface Dimensions (l*w)	Sampling Surface Dimension (m2)	Site Specific sL (g/m2)
PIR-1	15.9	22	2.04	7.79
PIR-2	6.1	22	2.04	7.89
Average				7.84

According to the facility, the average weight of the vehicles on PIR are 15 tons. It is estimated 160,500 vehicles a year and 1.12 miles per round-trip. The facility paved some additional roads, increasing the round trip miles.

8.d. Vehicle traffic on unpaved roads (UPR-1 and UPR-2): This emission unit includes vehicle traffic emissions on two sections of unpaved roads in the facility, one of which has public vehicles and the other is used for industrial vehicles. The unpaved roads are controlled by limiting vehicle speed to 15 miles per hour and water application. According to the samples collected on June 30, 2020, UPR-1 and UPR-2 had the following silt contents:

UPR-1		UPR-2	
Sample	Percent Silt	Sample	Percent Silt
UPR-1A	7.9%	UPR-2A	6.9%
UPR-1B	7.1%	UPR-2B	8.6%
		UPR-2C	8.5%
Average	7.5%	Average	8.0%

The facility reported 42,500 vehicles/yr on UPR-1 with 0.175 miles per roundtrip and 118,000 vehicles/yr on UPR-2 with 1.52 miles per roundtrip. The facility paved some of the UPR-1 roads in 2022, reducing the round trip miles.

8.e. Tippers (TIP-2 and TIP-3): Tippers are used to place waste into cells. They are stationed near the active cells, and are moved as the cells fills up. They are equipped with diesel engines. TIP-2, installed in 2017, is equipped with a Caterpillar C6.6 225 HP engine and runs about 3,500 hours/yr. TIP-3, installed in 2022, is equipped with a Caterpillar C4.4 173.5 hp engine and is expected to run 3,500 hours/yr. Both engines run on diesel and TIP-2 meets EPA Tier 3 engine standards and TIP-3 meets EPA Tier 4 engine standards.

8.f. Petroleum contaminated soils (PCS) are received to be used for daily cover at the landfill. The facility estimates receiving 75,000 tons of PCS a year.

8.g. The following table shows aggregate insignificant activities/emissions at this facility:

Aggregate Insignificant Emissions		
Pollutant	Activity	Emissons (tons/yr)
PM	cell development and closure	0.875
	portable light plant	0.003
	Tipping & dump truck drops	0.011
	Total:	**0.889**
PM10	cell development and closure	0.875
	portable light plant	0.003
	Tipping & dump truck drops	0.005
	Total:	**0.883**
PM2.5	cell development and closure	0.875
	portable light plant	0.003
	Tipping & dump truck drops	0.001
	Total:	**0.879**
CO	trash pumps	**0.059**
SO_2	portable light plant	**0.003**
NO_x	portable light plant	0.471
	trash pumps	0.002
	Total:	**0.473**
VOC/NMOC	leachate collection pond	0.23
	portable light plant	0.003
	trash pumps	0.003
	Total:	**0.236**

9. Categorically insignificant activities include the following:

9.a. Constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under OAR Chapter 340, Divisions 200 through 268, excluding Divisions 248 and 262, or less than 0.1% by weight of any carcinogen listed in the U.S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year

9.b. Evaporative and tail pipe emissions from on-site motor vehicle operation

9.c. Distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr

9.d. Natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr

9.e. Office activities

9.f. Janitorial activities

9.g. Personal care activities

9.h. Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance

9.i. On-site recreation facilities

9.j. Instrument calibration

9.k. Maintenance and repair shop

9.l. Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment

9.m. Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems

9.n. Temporary construction activities

9.o. Accidental fires

9.p. Air vents from air compressors

9.q. Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking

9.r. Electric motors

9.s. Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids

9.t. On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles

9.u. Pressurized tanks containing gaseous compounds

9.v. Storm water settling basins

9.w. Fire suppression and training

9.x. Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant

9.y. Ash piles maintained in a wetted condition and associated handling systems and activities

EGEN is part of Categorically Insignificant Activities and is a 33.5 hp diesel engine and used for emergency power at the scale house. Because it was installed prior to 2006, it is subject to

NESHAP ZZZZ and those conditions are included in the Insignificant Activities section of the permit.

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING AND RECORDKEEPING

10. Oregon Administrative Rules (OAR)

10.a. OAR 340-208-0210(1): The Permittee must minimize fugitive emissions. A weekly monitoring of excess fugitive emissions is required. This rule is state-enforceable only, and is applicable facility-wide.

10.b. OAR 340-208-0300 and OAR 340-208-0450: Nuisance and particulate matter conditions. Both conditions are monitored by compliant investigations. These rules are state-enforceable only, and are applicable facility-wide.

10.c. OAR 340-248-0280(10) and 340-248-0280(11): Coffin Butte Landfill has a dedicated disposal area for asbestos containing material (ACM). ACM waste is subject to disposal and cover standards of these rules as well as recordkeeping and notification requirements. These rules are state-enforceable only.

10.d. OAR 340-208-0110(3): These regulations are applicable to the flare (ENCL-FL), with an opacity limit of 20%. Because the flare burns landfill gas, little visible emissions are expected as long as the facility complies with the monitoring requirements specified in OAR 340-236-500 and NESHAP Subpart AAAA. Therefore, no monitoring requirements are added.

10.e. OAR 340-226-0210(2): Particulate emissions are limited to 0.10 gr/dscf for ENCL-FL.

10.f. OAR 340-236-0500: Emission Standards for Municipal Solid Waste Landfills. DEQ submitted a state plan for existing MSW landfills in response to the August 29, 2016 promulgation of federal NSPS Cf and WWW and Emission Guidelines for MSW landfills. EPA approved the plan and published on Federal Register on October 8, 2020, stating the effective date of the plan was November 9, 2020. Because the facility is considered an existing source, this plan is replacing the NSPS Subpart WWW rule. If the facility expands the current capacity of the landfill, they will be subject to NSPS Subpart XXX. This rule is state enforceable only, and is applicable facility-wide.

Because the facility's NMOC emission rate is above the 34 MG threshold, the facility is required to install a gas control and collection system that meets the standards specified in §60.40f. They are required to meet the monitoring requirements as specified in §60.37f.

10.g. OAR 340-239: The state only regulations apply to methane emissions from landfills, and require quarterly surface emission monitoring, annual

performance testing of landfill gas control devices, wellhead monitoring, and reporting.

11. New Source Performance Standards (NSPS)

Even though the facility is currently not subject to any NSPS requirements, per OAR 340-236-0500, they are required to control the landfill gas with an enclosed flare designed and operated in accordance with the parameters established in §60.18. When Flare 2 was installed in 2015, it was not tested to be in compliance with §60.18 within 180 day of the startup. DEQ issued a Warning Letter with an Opportunity to Correct on December 28, 2018. Responding to the letter, the facility conducted a performance test on March 4, 2019 and demonstrated compliance with §60.18. The landfill has replaced Flare 2 with ENCL-FL, which will be tested for compliance with OAR 340-236-0500.

Note: The landfill was previously subject to NSPS Subpart WWW; however, the state rules in OAR 340-236-0500 were accepted by EPA to meet the emission guidelines, removing applicability of NSPS Subpart WWW. The landfill is not currently subject to any other requirements under the NSPS. However, if the landfill expands its current design capacity, they will be subject to NSPS Subpart XXX as a modified source.

12. National Emission Standard for Hazardous Air Pollutants (NESHAP)

12.a. Part 61, Subpart M: The facility is subject to this subpart because the landfill operates an Asbestos Containing Materials waste site. This rule is federally enforceable only as Oregon DEQ has not adopted this Subpart.

12.b. Part 63, Subpart AAAA: Per §63.1935(a), the landfill (LF) is subject to NESHAP Subpart AAAA because:

- the landfill has accepted waste since November 8, 1987; and
- the landfill has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to §63.1959.

The rule, effective on February 2, 2022, includes operation and compliance requirements for MSW landfills to be consistent with new EG rules in NSPS Subparts WWW and XXX. Even though Oregon DEQ's state plan (OAR 340- 236-500) has been approved by EPA, NESHAP Subpart AAAA overrides the state plan on the compliance date as of September 27, 2021.

12.c. Part 63, Subpart ZZZZ (RICE NESHAP): The facility has a 33.5 HP emergency generator near the scale house. The following are the generator's specifications.

Katolight Generator
Model: D25FGP4
Serial: LM312272-E45959
Equipment ID GEN995959

Standby Service Engine model 3.1542
Engine Plate: Perkins England, CM35007
Diesel Fuel 25 KW

The emergency generator located near the scale house and used for an emergency purpose only. Even though it is considered as a categorically insignificant activity per OAR 340-200-0020(23)(uu), the generator is subject to NESHAP Subpart ZZZZ. All the federal regulations applicable to the generator were added to the permit. The date of the installation is unknown, but it has been in operation before 2006.

12.d. CAM (Part 64): The facility is not subject to CAM because there are no emissions units that emit more than 100 tpy of criteria pollutants pre-control. The only emissions unit with a control device is LF with control by ENCL-FL; however, the only pollutants controlled by the flare are NMOC, VOC and TRS. Pre-control emissions for those pollutants assuming 98% control by the flare are as follows:

CAM Analysis for ENCL-FL

Pollutant	Pre-Control Emissions (tons/yr)	Limit or Standard?
NMOC	92.5	Yes
VOC	36.1	No
TRS	37.8	No
H_2S	19.6	No

12.e. Accidental Release Prevention (Part 68): This facility is not subject to Part 68, risk management plan, because no chemical that is subject to this regulation is held at the facility at above the threshold.

12.f. Insignificant activities: Aggregate insignificant activities are listed in Section 8.f. Since there are no controls, no visible emissions, and the emissions are less than one ton per year, DEQ does not believe monitoring, recordkeeping, or reporting is necessary for assuring compliance with the standards.

PLANT SITE EMISSION LIMITS

13. Provided below is a summary of the baseline emissions rate, netting basis, plant site emission limits, and emissions capacity.

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
PM	1.4	1	1	24	70	46
PM_{10}	0.4	0	0	14	25	11
$PM_{2.5}$	NA	NA	2	NA	11	11
CO	1	2	1	99	92	-7

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
NO_x	0	0	0	39	28	-11
SO_2	0	0	0	39	42	3
VOC	3	4	3	39	30	-9
NMOC	9	11	9	49	72	23
TRS	2	NA	2	NA	13	13
H_2S	1	NA	1	NA	11	11
GHG (CO_2e)	97,966	97,966	97,966	377,410	282,500	-94,910

14. The baseline for the criteria pollutants were established in the previous permit but were recalculated with a revised LandGEM report including Cell zero that was present during the baseline period. GHG emission baseline was established based on the 2010 GHG reporting to DEQ.

15. In accordance with prior OAR 340-222-0041 rule requirements, the previous levels for PM, PM_{10}, $PM_{2.5}$, NO_x, SO_2, CO, VOC and NMOC reflect the generic PSEL levels since the anticipated emissions were greater than DEQ's de minimis levels but less than the significant emission rate (SER) for these pollutants. PSEL rules have been modified to eliminate the generic PSEL concept so the proposed PSELs are set at the facility's potential to emit.

16. The baseline has been updated to use current road emission equations, remove the flares which were not in operation during the baseline period, and provide LandGEM estimates of CO, NMOC emissions during baseline based on waste in Cell Zero at that time. These updates also change the netting basis for those pollutants. Also included in the baseline emission rate are now TRS and H_2S emissions, using current concentration measurements in LFG.

17. A $PM_{2.5}$ PSEL is added during this permit action, as well as $PM_{2.5}$ netting basis calculated in accordance with OAR 340-222-0046(2)(b). According to OAR 340-222-0046(2)(b), DEQ can increase the $PM_{2.5}$ netting basis so that the $PM_{2.5}$ PSEL does not exceed the $PM_{2.5}$ netting basis by more than the SER when it is initially established. In this case, the $PM_{2.5}$ netting basis was calculated as zero, but was increased to 2 tons/year.

18. TRS and H_2S PSELs are added during this permit action, based on testing conducted on landfill gas composition both at the landfill (in 2019) and at PNGC in 2020 (permit number 02-9503-TV-01) which combusts the landfill gas in engines for power generation. Based on those results, the emissions of TRS and H_2S are higher than those calculated using the default concentrations in the LandGEM program, and they are above de minimis levels so required PSELs. Because the permittee did not have access to the PNGC sulfur test data prior to this permit action, the previously calculated emissions of TRS and H_2S were below the de minimis values. Additional sulfur sampling of the inlet gas to the flare is added to this permit to verify the sulfur emissions.

19. Increases in PSELs that are greater than or equal to the SER over the netting basis trigger State Type B NSR, and an air quality analysis was required.

SIGNIFICANT EMISSION RATE

20. The proposed PSELs greater than or equal to the significant emission rate (SER) over the netting basis for PM, PM_{10}, SO_2, NMOC, TRS, H_2S and GHG, as shown below and an air quality analysis for those pollutants with NAAQS is required.

21. Because the PM, PM_{10}, SO_2, NMOC, TRS, H_2S, and GHG PSELs are equal to or greater than the netting basis by more than the SER, the facility triggered Type B NSR and an air quality analysis was required for those pollutants that have an NAAQS. In addition, any other pollutant with a short term standard was required to be included in the modeling, so short term emissions of $PM_{2.5}$ and NO_x were included in the modeling. The air quality analysis review report is included with this document as an attachment.

22. The air quality analysis indicated that the emissions were below the NAAQS for all pollutants; however, $PM_{2.5}$ and NO_x were relatively close to the NAAQS, additional permit requirements were added to the permit to ensure NAAQS compliance. Work practice requirements including posted 15 miles per hour speed limits and watering to minimize fugitive emissions were included for onsite paved and unpaved roads. Source test requirements to verify NOx emissions from the flare were added to the permit.

23. Because there are no air quality standards for PM, NMOC, TRS, H_2S, and GHG, no air quality analysis is required for those pollutants and no further action is needed to meet the Type B NSR requirements.

24. The increases in SO_2 since the baseline period are all from physical changes, since the facility did not operate any combustion devices in the baseline period. Therefore, the increases in SO_2 are considered a major modification. In this case, since the facility is not a Federal Major Source (>250 tons/year of any regulated pollutant except GHG), and the facility is located in an attainment area, the major modification only triggers State Type B NSR.

Pollutant	SER	Netting Basis	Requested PSEL	Requested increase over netting basis	Increase due to increased utilization of existing equipment	Increase due to physical or operational changes
PM	25	1	70	69	61	8
PM_{10}	15	0	25	25	17	8
$PM_{2.5}$	10	2	11	9	1	8
CO	100	1	92	91	5	86
NO_x	40	0	28	28	0	28
SO_2	40	0	42	42	0	42
VOC	40	3	30	27	25	2
NMOC	50	9	72	63	60	3

Pollutant	SER	Netting Basis	Requested PSEL	Requested increase over netting basis	Increase due to increased utilization of existing equipment	Increase due to physical or operational changes
TRS	10	2	13	11	11	0
H_2S	10	1	11	10	10	0
GHG	75,000	98,000	282,500	184,500	131,000	53,500

HAZARDOUS AIR POLLUTANTS

25. A table showing estimated hazardous air pollutants (HAPs) from Coffin Butte Landfill is attached to this review, and a summary of the highest pollutants included below. The calculation is based on the maximum emissions in the permitting period through 2030, and assuming the collection efficiency of the GCCS is 75%. The facility is not a major source of HAPs, with total HAP emissions less than 25 tons/year and the highest single HAP emissions less than 10 tons/year.

HAP Pollutant	Potential Emissions (tons/year)
Hydrogen Chloride	3.5
Toluene	4.8
Dichloromethane	1.5
Xylene	1.7
All Others	6.8
Total	18.3

CLEANER AIR OREGON RISK ASSESSMENT

26. The Cleaner Air Oregon Toxic Air Contaminant emissions inventory for this source can be found on this website: https://www.deq.state.or.us/msd/profilerReports/traacs.asp?id=02-9502-TV-01

27. Coffin Butte Landfill has not been called in and therefore, has not performed a risk assessment.

TOXICS RELEASE INVENTORY

28. The Toxics Release Inventory (TRI) is a federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which DEQ has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, chemicals covered by the TRI Program are those that cause:

28.a. Cancer or other chronic human health effects;

28.b. Significant adverse acute human health effects; or

28.c. Significant adverse environmental effects.

29. There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical.

30. Coffin Butte Landfill is not covered by the TRI program because:

30.a. It is not one of the specific industry sectors required to report under the TRI program.

GENERAL BACKGROUND INFORMATION

31. The source is located in an area that is in attainment with all National Ambient Air Quality Standards (NAAQS) and is not located within 100 km (62 miles) of any Class I area. The facility is located within 30 km of the Salem SKATS.

32. A Land Use-Compatibility Statement signed by Benton County on March 6, 1997, granted unconditional approval.

33. Other permits issued by the Department of Environmental Quality for this source include an NPDES Permit and a Solid Waste Disposal Permit.

COMPLIANCE HISTORY

34. DEQ issued a Warning Letter with Opportunity to Correct (2018-WLOTC-1084) on September 29, 2015 for Title V recordkeeping violations.

35. DEQ issued a Warning Letter with Opportunity to Correct (2018-WLOTC-2801) on August 1, 2017, for installing a new tipper without a Notice of Approval to Construct. Corrective action required the permittee to submit an application for Notice of Approval to Construct which was submitted on July 19, 2017.

36. DEQ issued a Warning Letter with Opportunity to Correct (2018-WLOTC-4139) on December 20, 2018. It was discovered that the facility had not conducted an initial performance test on Flare 2 within 180 days of the startup. The test was required to be in compliance with 40 CFR 60.18. The facility conducted a performance test on March 4, 2019, and demonstrated compliance with §60.18.

37. DEQ issued another Warning Letter with Opportunity to Correct (2024-WLOCTC-9427) on July 10, 2024, for not testing Flare 1 or Flare 2 for methane destruction as required by division 239. The facility replaced Flares 1 and 2 with ENCL-FL that will be tested within 180 days of startup. Testing is scheduled for October 2024.

38. Last inspection conducted at this facility occurred on August 22, 2024, in conjunction with an EPA inspection on June 21, 2024. The facility was determined to be in compliance with

the Title V permit; however, EPA will assess compliance with the NSPS and NESHAP from that visit. Previous inspections are listed below:

Inspection Date	Status	Compliance Action
6/23/2022	In Compliance with permit	EPA assessing NSPS & NESHAP compliance
7/17/2019	In Compliance	NA
7/20/2017	Out of Compliance	2017-WLOTC-2801 (see above)
8/6/2015	In Compliance	NA

SOURCE TEST RESULTS

39. The facility conducted an initial compliance test on Flare-2 on March 4, 2019. It was determined to be in compliance with 40 CFR 60.18.

40. DEQ requested Coffin Butte Landfill to conduct sampling of LFG to measure sulfur contents. In the past few years, it was discovered emissions from LFG generators operated by Pacific Northwest Generating Co. (PNGC) contain much higher sulfur dioxides (SO_2) than EPA's AP-42 default concentration based on the site specific emission tests. Because PNGC's LFG originated from the Coffin Butte landfill, it is assumed that the LFG in Valley landfill shares the same sulfur contents. In general, most SO_2 emissions are caused by combustions of H_2S contained in LFG. Therefore, DEQ requested Coffin Butte Landfill to conduct a test measuring total reduced sulfur (TRS) including H_2S in the inlet LFG.

41. Coffin Butte landfill conducted LFG sampling on August 6, 2019 responding to DEQ's request. However, the TRS concentration was much lower than expected. The average of three sampling was 7.47 ppm whereas default H_2S concentration in LandGEM is 36 ppmv. However, the sampling conducted by PNGC shows average of 300 ppmv of H_2S. Because both permittee's samples were collected at the same location, and PNGC's sampling was more robust than Valley landfills, the SO_2 emissions were calculated by averaging sampling results conducted by PNGC and the landfill. The sampling results from PNGC is attached to this review.

42. During the last permit renewal period in 2009, DEQ received a comment concerning emission factors for paved roads (PIR). The current permit uses AP-42's default silt loading rate to calculate the PM emissions from PIR. DEQ agreed that the emission factor may not be representative of silt loading of this landfill, and requested the facility to sample their silt content. The source test was conducted on June 30, 2020, and the facility collected samples for both unpaved and paved roads. The following table shows the laboratory analysis of the samples.

Sample	Percent Silt
PIR-1	7.79%
PIR-2	7.89%
UPR-1A	7.9%
UPR-1B	7.1%
UPR-2A	6.9%

UPR-2B	8.6%
UPR-2C	8.5%

43. Annual source testing is required for the Enclosed Flare that has been installed to replace the two open flares at the facility. The annual testing will be conducted to demonstrate compliance with the 99 percent removal efficiency required by OAR 340 Division 239.

PUBLIC NOTICE

44. This permit will be put on public notice from November 15, 2024, to December 30, 2024. Comments may be submitted in writing during the comment period. DEQ will hold a public hearing on December 17, 2024, based on a request by the permittee. After the comment period and hearing, DEQ will review the comments and modify the permit as may be appropriate. A proposed permit will be sent to EPA for a 45 day review period. DEQ may request and EPA may agree to an expedited review of 5 days if there were no substantive or adverse comments during the comment period.

45. If EPA does not object in writing, any person may petition the EPA within 60 days after the expiration of EPA's 45-day review period to make such objection. Any such petition must be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in OAR 340-218-0210, unless the petitioner demonstrates it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

Attachments:

Emission Detail Sheets
Sulfur Sampling Data
Alternate Monitoring Plan Response Letter from DEQ
LandGEM Report
Air Quality Analysis Memo

EMISSIONS DETAIL SHEETS

Requested PSEL

Emission Unit	ID	Pollutant	Annual Production	Units	Emission Factor	Units	Reference	Emissions (tons/yr)
Enclosed flare	ENCL-FL	PM	1781.78	MMCF LFG/yr	8.33	lbs/MMSCF LFG	AP 42 2.4-5	7.42
		PM_{10}			8.33	lbs/MMSCF LFG	AP 42 2.4-5	7.42
		$PM_{2.5}$			8.33	lbs/MMSCF LFG	AP 42 2.4-5	7.42
		CO			91.15	lbs/MMSCF LFG	manufacturer spec.	81.20
		NO_x			27.35	lbs/MMSCF LFG	manufacturer spec.	24.37
		VOC			0.81	lbs/MMSCF LFG	AP 42 2.4-5, 98% control	0.72
		SO_2			44.7	lbs/MMSCF LFG	Site specific Samples 2019-2(	39.83
		NMOC			2.08	lbs/MMSCF LFG	AP 42 2.4-5, 98% control	1.85
		H_2S			0.44	lbs/MMSCF LFG	PNGC & site sampling, 98% c	0.39
		TRS			0.85	lbs/MMSCF LFG	PNGC & site sampling, 98% c	0.76
		CO_2e	3390	scfm	52.34	kg CO2e/mmBtu	40 CFR Part 98, Subpart C	49,856
Landfill (Fugitive)	LF[*1]	CO	994	MMCF LFG	10.16	lb/MMCF LFG	LandGEM	5.05
		VOC			39	% of NMOC	AP42	25.76
		NMOC			132.90	lb/MMCF LFG	LandGEM	66.05
		TRS			23.69	lb/MMCF LFG	LandGEM & site specific sam	11.77
		H_2S			21.99	lb/MMCF LFG	LandGEM & site specific sam	10.93
		CO_2e					LandGEM	228,955
Paved Roads	PIR	PM	179760	VMT	0.148	lb/VMT	AP-42 13.2.1 85% Control	13.26
		PM_{10}	179760	VMT	0.030	lb/VMT	AP-42 13.2.1 85% Control	2.65
		$PM_{2.5}$	179760	VMT	0.007	lb/VMT	AP-42 13.2.1 85% Control	0.65
Unpaved Roads 1 (PV)	UPR-1	PM	7450	VMT	0.172	lb/VMT	AP-42 13.2.2 85% Control	0.64
		PM_{10}	7450	VMT	0.062	lb/VMT	AP-42 13.2.2 85% Control	0.23
		$PM_{2.5}$	7450	VMT	0.006	lb/VMT	AP-42 13.2.2 85% Control	0.02
Unpaved Roads 2	UPR-2	PM	179360	VMT	0.535	lb/VMT	AP-42 13.2.2 85% Control	47.97
		PM_{10}	179360	VMT	0.151	lb/VMT	AP-42 13.2.2 85% Control	13.54
		$PM_{2.5}$	179360	VMT	0.015	lb/VMT	AP-42 13.2.2 85% Control	1.35
Tipper 3 (173.5 hp)	TIP3	PM	3500	hrs/yr	0.006	lb/hr	EPA Tier 4 Std.	0.01
		PM_{10}	3500	hrs/yr	0.006	lb/hr	EPA Tier 4 Std.	0.01
		$PM_{2.5}$	3500	hrs/yr	0.006	lb/hr	EPA Tier 4 Std.	0.01
		CO	3500	hrs/yr	1.426	lb/hr	EPA Tier 4 Std.	2.50
		VOC	3500	hrs/yr	0.436	lb/hr	AP-42 3.3.1	0.76
		SO_2	3500	hrs/yr	0.356	lb/hr	AP-42 3.3.1	0.62
		NO_x	3500	hrs/yr	0.114	lb/hr	EPA Tier 4 Std.	0.20
		NMOC	3500	hrs/yr	0.436	lb/hr	AP-42 3.3.1	0.76
		CO_2e	34.48	Mgal	22963	lb/Mgal	40 CFR Part 98	395.82
Tipper 2 (225 hp)	TIP2	PM	3500	hrs/yr	0.074	lb/hr	EPA Tier 3 Std.	0.13
		PM_{10}	3500	hrs/yr	0.074	lb/hr	EPA Tier 3 Std.	0.13
		$PM_{2.5}$	3500	hrs/yr	0.074	lb/hr	EPA Tier 3 Std.	0.13
		CO	3500	hrs/yr	1.29	lb/hr	EPA Tier 3 Std.	2.26
		VOC	3500	hrs/yr	0.57	lb/hr	AP-42 3.3.1	0.99
		SO_2	3500	hrs/yr	0.46	lb/hr	AP-42 3.3.1	0.81
		NO_x	3500	hrs/yr	1.48	lb/hr	EPA Tier 3 Std.	2.59
		NMOC	3500	hrs/yr	0.57	lb/hr	AP-42 3.3.1	0.99
		CO_2e	43.4	MGal	22963.0	lb/Mgal	40 CFR Part 98	498.30
Petrolium Contaminated Soils	PCS	VOC	75,000	tpy at 3% PCS	525	ppm	Company Estimate	1.18
		NMOC	75,000	tpy at 3% PCS	525	ppm	Company Estimate	1.18
Aggregate Insignificant	AI	PM					See Aggregate Insignificant Details	1
		PM_{10}						1
		$PM_{2.5}$						1
		CO						1
		SO_2						1
		NO_x						1
		VOC						1
		NMOC						1

*1. Destruction efficiency of 98%

Aggregate Insignificant Emissions		
Pollutant	Activity	Emissons (tons/yr)
PM	cell development and closure	0.875
	portable light plant	0.003
	Tipping & dump truck drops	0.011
	Total:	**0.889**
PM10	cell development and closure	0.875
	portable light plant	0.003
	Tipping & dump truck drops	0.005
	Total:	**0.883**
PM2.5	cell development and closure	0.875
	portable light plant	0.003
	Tipping & dump truck drops	0.001
	Total:	**0.879**
CO	trash pumps	**0.059**
SO_2	portable light plant	**0.003**
NO_x	portable light plant	0.471
	trash pumps	0.002
	Total:	**0.473**
VOC/NMOC	leachate collection pond	0.23
	portable light plant	0.003
	trash pumps	0.003
	Total:	**0.236**

Baseline Emissions

ID	Pollutant	Annual Production	Units	Emission Factor	Units	Reference	Emissions (tons/yr)
LF[*1]	CO	3,651,000	m3/yr LFG	140	ppmv	LandGEM	0.6
	VOC			39	% of NMOC	AP42	3.35
	TRS			292	ppmv	LandGEM	1.6
	H_2S			254	ppmv	LandGEM	1.4
	NMOC			595	ppmv	LandGEM	9
UPR-2	PM	7630	VMT	3.566	lb/VMT	AP-42 13.2.2	1.36
	PM_{10}	7630	VMT	1.007	lb/VMT	AP-42 13.2.2	0.38

GHG Baseline 2010

Emission Unit	Annural Rate (mmcf)	Energy Content (mmbtu/mmcf)	Pollutant	Emission Factor (kg/mmbtu)	Emissions (metric ton)	GWP	CO2e (metric ton)	CO2e (ton)
	188	485	CH4	0.0032	0.292	25	7	8
	188	485	CO2	52.07	4747.743	1	4,748	5,233
Open Flare	188	485	N20	0.0006	0.057	298	17	19
Landfill							84,101	92,705
Total							88,873	97,966

HAP Emissions

Gas / Pollutant	Emission Rate (Uncontrolled) (Mg/year)	All LFG (short tons/year)	Fugitive Emissions @25% (short tons/year)
1,1,1-Trichloroethane	0.30	0.33	0.083
1,1,2,2-Tetrachloroethane	0.86	0.95	0.238
1,1-Dichloroethane	1.11	1.23	0.307
1,1-Dichloroethene	0.09	0.10	0.025
1,2-Dichloroethane	0.19	0.21	0.052
1,2-Dichloropropane	0.10	0.11	0.026
Acrylonitrile	1.57	1.73	0.431
Benzene	0.70	0.77	0.192
Carbon disulfide	0.21	0.23	0.057
Carbon tetrachloride	0.003	0.00	0.001
Carbonyl sulfide	0.14	0.15	0.038
Chlorobenzene	0.13	0.15	0.036
Chloroethane	0.39	0.43	0.108
Chloroform	0.02	0.02	0.005
Dichlorobenzene	0.14	0.16	0.040
Dichloromethane	5.57	6.14	1.535
Ethylbenzene	2.29	2.52	0.630
Ethylene dibromide	0.001	0.00	0.000
Hexane	2.66	2.94	0.734
Hydrogen Chloride			0.000
Mercury (total)	2.72E-04	3.00E-04	7.51E-05
Methyl isobutyl ketone	0.89	0.98	0.246
Perchloroethylene	2.87	3.17	0.792
Toluene	16.83	18.55	4.638
Trichloroethylene	1.72	1.90	0.475
Vinyl chloride	2.14	2.36	0.589
Xylenes	5.97	6.58	1.644
Total HAP			12.92
Reference: AP-42 2.4-1			

Notes	Flow (MMCF/yr.)
Flare LFG	1781.78
Fugitive LFG	994.25

Hazardous Air Pollutant	Concentration in LFG (ppm)	MW	Emissions to Flare (tons/yr)	Flare Control Efficiency	Potential Flare HAP Emissions (tons/yr)
1,1,1-Trichloroethane	0.168	133	5.09E-02	98%	1.02E-03
1,1,2,2-Tetrachloroethane	0.07	168	2.67E-02	98%	5.34E-04
1,1-Dichloroethane	0.41	99	9.22E-02	98%	1.84E-03
1,1-Dichloroethene	0.092	96.9	2.03E-02	98%	4.05E-04
1,2-Dichloroethane	0.12	99	2.70E-02	98%	5.40E-04
1,2-Dichloropropane	0.023	113	5.90E-03	98%	1.18E-04
Acrylonitrile	0.036	53.1	4.34E-03	98%	8.68E-05
Benzene	0.972	78.1	1.72E-01	98%	3.45E-03
Carbon disulfide	0.32	76.1	5.53E-02	98%	1.11E-03
Carbon tetrachloride	0.007	154	2.45E-03	98%	4.89E-05
Carbonyl sulfide	0.183	60.1	2.50E-02	98%	4.99E-04
Chlorobenzene	0.227	113	5.80E-02	98%	1.16E-03
Chloroethane	0.239	64.5	3.50E-02	98%	7.01E-04
Chloroform	0.021	119	5.70E-03	98%	1.14E-04
Dichlorobenzene	0.21	147	7.01E-02	98%	1.40E-03
Dichloromethane	3.4	84.9	6.56E-01	98%	1.31E-02
Ethylbenzene	6.79	106	1.64E+00	98%	3.28E-02
Ethylene dibromide	0.046	188	1.96E-02	98%	3.93E-04
Hexane	2.32	86.2	4.54E-01	98%	9.08E-03
Hydrogen chloride	42	36.5	3.48E+00	0%	3.48
Mercury (total)	2.92E-04	201	1.33E-04	0%	1.33E-04
Methyl isobutyl ketone	0.75	100	1.71E-01	98%	3.41E-03
Perchloroethylene	1.19	166	4.48E-01	98%	8.97E-03
Toluene	37.5	92.1	7.85E+00	98%	0.16
Trichloroethene	0.681	131	2.03E-01	98%	4.07E-03
Vinyl chloride	1.08	65.5	1.61E-01	98%	3.21E-03
Xylene	16.6	106	4.00E+00	98%	8.01E-02
Total HAP					3.808

Tipper HAP Emissions

Pollutant Name	EF Values	Units	Emissions (tons/yr)
1,3-Butadiene	0.2174	lb/M gal	0.0085
2-Methyl naphthalene	1.23E-02	lb/M gal	0.0005
Acenaphthene	7.35E-04	lb/M gal	2.86E-05
Acenaphthylene	8.10E-04	lb/M gal	3.15E-05
Acetaldehyde	0.7833	lb/M gal	0.0305
Acrolein	0.0339	lb/M gal	0.0013
Ammonia	0.8	lb/M gal	0.0312
Anthracene	4.52E-04	lb/M gal	1.76E-05
Antimony and compounds	3.18E-04	lb/M gal	1.24E-05
Arsenic and compounds	2.77E-04	lb/M gal	1.08E-05
Barium and compounds	3.74E-04	lb/M gal	1.46E-05
Benz[a]anthracene	4.85E-05	lb/M gal	1.89E-06
Benzene	0.1863	lb/M gal	0.0073
Benzo[a]pyrene	1.44E-05	lb/M gal	5.60E-07
Benzo[b]fluoranthene	4.44E-05	lb/M gal	1.73E-06
Benzo[e]pyrene	3.29E-05	lb/M gal	1.28E-06
Benzo[g,h,i]perylene	2.19E-05	lb/M gal	8.52E-07
Benzo[k]fluoranthene	1.31E-05	lb/M gal	5.08E-07
Beryllium and compounds	4.77E-06	lb/M gal	1.86E-07
Cadmium and compounds	8.08E-05	lb/M gal	3.15E-06
Chlorobenzene	2.00E-04	lb/M gal	7.79E-06
Chromium VI	6.31E-05	lb/M gal	2.46E-06
Chrysene	6.70E-05	lb/M gal	2.61E-06
Cobalt and compounds	1.58E-05	lb/M gal	6.13E-07
Copper and compounds	5.02E-04	lb/M gal	1.96E-05
Dibenz[a,h]anthracene	1.04E-06	lb/M gal	4.04E-08
Diesel particulate matter	16.98	lb/M gal	0.6610
Ethyl benzene	0.0109	lb/M gal	0.0004
Fluoranthene	3.70E-04	lb/M gal	1.44E-05
Fluorene	2.18E-03	lb/M gal	0.0001
Formaldehyde	2.71	lb/M gal	0.1056
Hexane	0.0269	lb/M gal	0.0010
Hydrochloric acid	0.19	lb/M gal	0.0073
Indeno[1,2,3-cd]pyrene	1.07E-05	lb/M gal	4.17E-07
Lead and compounds	3.64E-04	lb/M gal	1.42E-05
Manganese and compounds	4.20E-04	lb/M gal	1.64E-05
Mercury and compounds	1.51E-05	lb/M gal	5.88E-07
Naphthalene	2.64E-02	lb/M gal	0.0010
Nickel and compounds	1.82E-04	lb/M gal	7.10E-06
Perylene	1.18E-06	lb/M gal	4.59E-08
Phenanthrene	4.54E-03	lb/M gal	1.77E-04
Phosphorus and compounds	8.40E-03	lb/M gal	3.27E-04
Propylene	4.70E-01	lb/M gal	0.0183
Pyrene	1.25E-03	lb/M gal	4.87E-05
Selenium and compounds	3.76E-04	lb/M gal	1.47E-05
Silver and compounds	4.80E-05	lb/M gal	1.87E-06
Thallium and compounds	2.40E-04	lb/M gal	9.35E-06
Toluene	0.11	lb/M gal	0.0041
Xylene (mixture), including m-xylene, o-xylene, p-xylene	0.04	lb/M gal	0.0017
Zinc and compounds	5.23E-03	lb/M gal	0.0002

Hazardous Air Pollutant	Total HAP (tons/year)
1,1,1-Trichloroethane	0.084
1,1,2,2-Tetrachloroethane	0.239
1,1-Dichloroethane	0.308
1,1-Dichloroethene	0.025
1,2-Dichloroethane	0.053
1,2-Dichloropropane	0.026
Acrylonitrile	0.432
Benzene	0.202
Carbon disulfide	0.058
Carbon tetrachloride	0.001
Carbonyl sulfide	0.038
Chlorobenzene	0.037
Chloroethane	0.109
Chloroform	0.005
Dichlorobenzene	0.041
Dichloromethane	1.548
Ethylbenzene	0.663
Ethylene dibromide	6.35E-04
Formaldehyde	0.85
Hexane	0.744
Hydrogen chloride	3.483
Mercury (total)	2.08E-04
Methyl isobutyl ketone	0.249
Perchloroethylene	0.801
Toluene	4.799
Trichloroethene	0.479
Vinyl chloride	0.592
Xylene	1.724
All Other	0.753
Total HAP	18.344

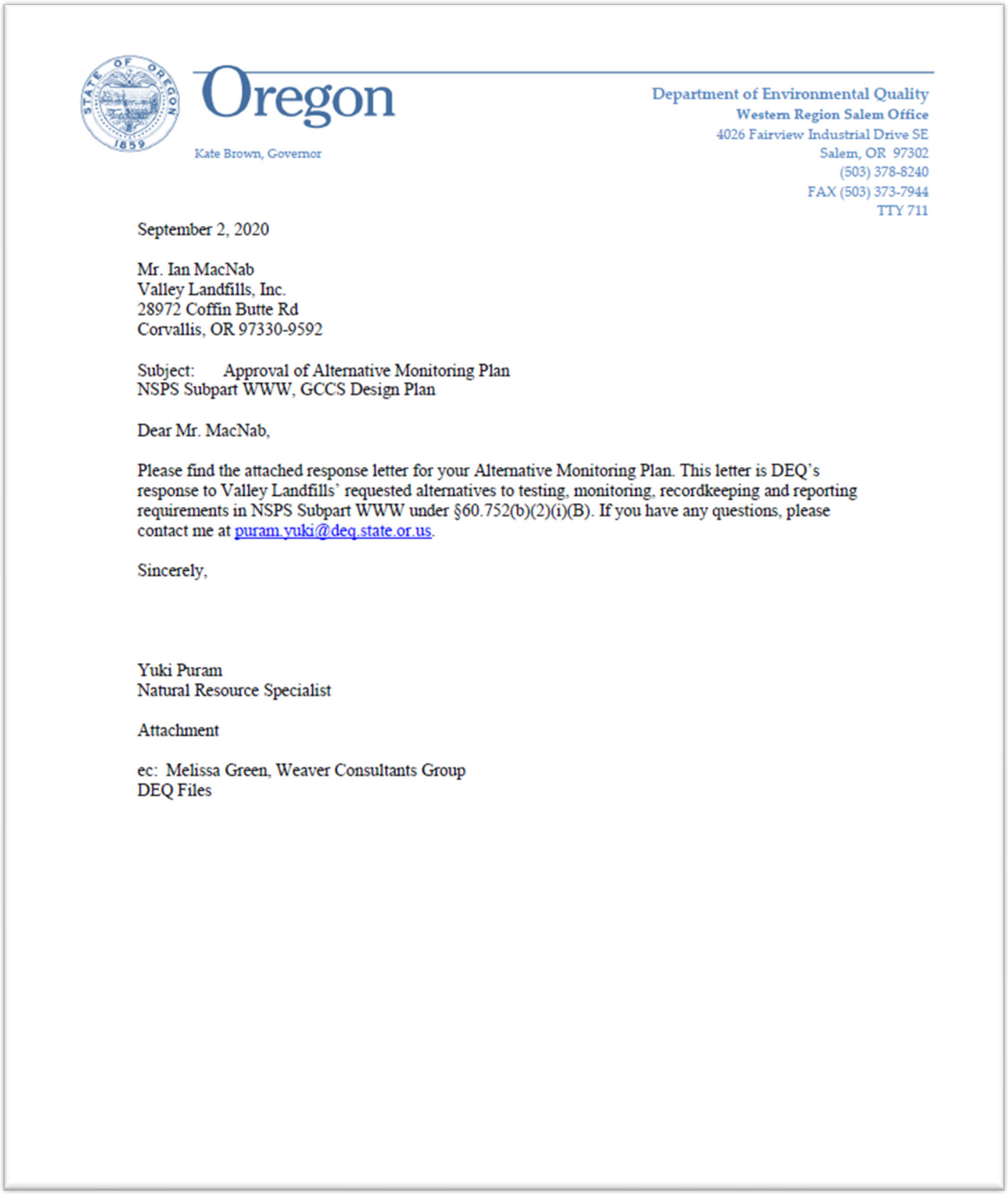
Reference: CAO RICE Emission Factors

Engine	Fuel use (GA/hr)	Hr/yr	GA/yr
TIP3	9.85	3500	34475
TIP2	12.4	3500	43400
		Total	77875

Sulfur Sampling of Landfill Gas: Data Summary

Date	Sample	Source	TRS (ppmv)	H2S (ppmv)
8/6/2019	Landfill test	Coffin Butte	7.5	2.9
5/1/2020	P2002404-001	PNGC	179.139	170
5/8/2020	P2002537-001	PNGC	200.76	190
5/15/2020	P2002668-001	PNGC	382.52	360
6/19/2020	P2003429-001	PNGC	328.27	310
6/19/2020	P2003429-002	PNGC	398.08	380
7/10/2020	P2003844-001	PNGC	416.68	390
7/10/2020	P2003844-002	PNGC	435.888	410
7/30/2020	P2004233-001	PNGC	277.435	260
7/30/2020	P2004233-002	PNGC	250.132	230
8/21/2020	P2004692-001	PNGC	195.436	180
8/21/2020	P2004692-002	PNGC	285.47	270
9/21/2020	P2005281-001	PNGC	162.997	130
9/21/2020	P2005281-002	PNGC	415.424	380
10/28/2020	P2006119-002	PNGC	161.014	140
Average			273	254
Max			436	410

DEQ Response Letter to Alternative Monitoring Plan Submittal



Oregon

Kate Brown, Governor

Department of Environmental Quality
Western Region Salem Office
4026 Fairview Industrial Drive SE
Salem, OR 97302
(503) 378-8240
FAX (503) 373-7944
TTY 711

September 2, 2020

Mr. Ian MacNab
Valley Landfills, Inc.
28972 Coffin Butte Rd
Corvallis, OR 97330-9592

Subject: Approval of Alternative Monitoring Plan
NSPS Subpart WWW, GCCS Design Plan

Dear Mr. MacNab,

Please find the attached response letter for your Alternative Monitoring Plan. This letter is DEQ's response to Valley Landfills' requested alternatives to testing, monitoring, recordkeeping and reporting requirements in NSPS Subpart WWW under §60.752(b)(2)(i)(B). If you have any questions, please contact me at puram.yuki@deq.state.or.us.

Sincerely,

Yuki Puram
Natural Resource Specialist

Attachment

ec: Melissa Green, Weaver Consultants Group
DEQ Files

Background: On November 2007, Cornerstone Environmental Group submitted a Gas Collection and Control System (GCCS) design plan to DEQ on behalf of Valley Landfills, Inc. Since then, Valley Landfills submitted numerous requests for alternatives to operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions in NSPS Subpart WWW. Because the design plan had not been updated since 2007, DEQ requested the facility to update Appendix E of the original design plan, specifically Section E.8. "Alternatives to the NSPS." In accordance to §60.752(b)(2)(i)(B), the updated proposed alternative plan was submitted to DEQ by Weaver Consultants Group on behalf of Valley Landfills, Inc. and was received on February 6, 2020.

Oregon DEQ is a delegated authority to implement and enforce NSPS Subpart WWW and has a limited authority to approve minor monitoring changes as defined in 40 CFR 63.90. However, some of Valley Landfill's proposals appear to be major changes, which is outside of DEQ's delegated authority. Based on 40 CFR 63.90(a), minor change to monitoring means the following:

(i) Does not decrease the stringency of the compliance and enforcement measures for the relevant standard;

(ii) Has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the monitoring requirements); and

(iii) Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source.

Because EPA has authority to approve major changes, Valley Landfill's proposed operation and monitoring plan was sent to EPA Region 10 for review on March 24, 2020. On July 20, 2020, DEQ received EPA's responses to Valley Landfill's alternative operations and monitoring plan. The responses were prepared in collaborations with EPA's Region 10, Offices of Air Quality Planning and Standards and Office of Enforcement and Compliance Assurance. Their responses are attached to this document. Based on the EPA's responses and their guidance, DEQ developed this approval letter to Valley Landfill's alternative monitoring plan.

E.1 Exclude Steep Slopes and Dangerous Areas from Surface Scan Monitoring Requirements

Regulatory Background:

> 60.753(d): Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of §60.752(b)(2)(ii) of this subpart shall … operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

Proposal: Valley Landfills proposes to monitor methane concentrations at an interval of 60 meters rather than 30 meters for those areas with geomembrane cover that demonstrate compliance for three consecutive calendar quarters. WCG also proposes to exclude the following dangerous areas from monitoring: roads, the active fill area, truck traffic areas, construction areas, areas with snow or ice cover, and slopes steeper than or equal to 5:1.

EPA Review: NSPS WWW specifically allows exclusion from dangerous areas and areas with steep slopes from surface testing. However, WCG does not provide any details about why the proposed areas are dangerous. For example, are truck traffic areas or construction areas under the control of the landfill operators? If so, then it may be possible to coordinate monitoring with other activities. WCG does not specify the criteria the landfill will use to determine what is meant by the presence of "snow or ice cover." Without any limitations, it could interpret this phrase to mean that the presence of any snow or ice would abrogate the responsibility to perform monitoring throughout the entire landfill.
In addition, we note that when temporary conditions (e.g. construction or icy conditions) make monitoring certain segments of the landfill dangerous or impossible, DEQ may exercise enforcement discretion to allow a short-term delay in monitoring until conditions change rather than waiving the requirement to monitor.
In previous determinations, EPA has been conservative in granting requests to exclude areas from surface monitoring. EPA has also generally denied requests to increase the distance between measurements to 60 meters from 30 meters.
Regarding the alternative for areas with geomembrane cover, although Oregon DEQ has the authority to approve alternatives to required monitoring (except major changes), the EPA has generally denied similar requests.

DEQ's Response: Partially approved with conditions. DEQ denies the landfill's proposal changing the SEM interval to 30 meters instead of 60 meters for the areas with geomembrane cover that demonstrate compliance for three consecutive calendar quarters. Surface emission monitoring (SEM) is an essential monitoring method to identify issues such as gas leaks from damaged cover, crackdown or clogged gas wells. Relaxing on this requirement may lead to delay or neglect discovering those incidents that can lead to unidentified excess emissions. Therefore, this request is denied.

DEQ approves Valley Landfill to exclude dangerous areas in accordance to Section 60.752(b)(2)(i)(B). However, the following steps must be taken to ensure those dangerous areas are valid and truly unavoidable to exclude those areas from SEM.

1. The facility must document when the surface emissions monitoring is deviated from the design plan and 40 CFR §60.753(d). The documentation(s) must be included in the semi-annual report. The documentation must include, but not limited to:
   a. the location(s) of the monitoring excluded;
   b. the date and time of monitoring attempted;
   c. detailed explanation why those areas are excluded from surface monitoring; and;
   d. the duration of time the location is excluded from the SEM.

2. If the facility wishes to exclude the same location(s) for more than two consecutive quarters, they must submit a request in writing prior to the monitoring due date.

3. If the areas are excluded from SEM long-term rather than postponing temporary, Valley Landfills must modify the design plan to reflect the changes and those changes must be approved by DEQ.

E.2 Determination of Oxygen Levels at LFG Monitoring Points

Regulatory Background:

> 40 CFR 60.753(c)(2): Unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C.

Proposal: WCG proposes to use an on-site multi-gas analyzer in lieu of Method 3A or 3C.

EPA Review: Oregon DEQ has not been granted the authority to approve major changes to test methods. The authority to approve such alternative test methods has only been delegated to the group leader of the Measurement Technology Group of the Office of Air Quality Planning and Standards. A list of broadly applicable approved alternative test methods can be found at: https://www.epa.gov/emc/broadly-applicable-approved-alternative-test-methods.

We note that the 2016 revisions to the emission guidelines (subpart Cf) allows the use of a portable gas analyzer. See 40 CFR 60.37f(a)(2)(iii). Oregon has adopted these provisions at OAR 340-236-0500(12), which will replace the NSPS WWW requirements once the Oregon state MSW landfill plan is approved.[1]

DEQ's Response: Denied until OAR 340-236-0500 is approved by EPA. Because DEQ does not have an authority to approve this change, this request is denied until OAR 340-236-0500 is approved by EPA. Upon EPA's approval on OAR 340-236-0500, Valley Landfills may use the approved portable gas analyzer as described in 40 CFR 60.37f(a)(2)(iii).

E.3 Operation of Passive Wells in Areas Outside of Condition 13.4

EPA Review: According to WCG's submittal, this was approved by Oregon DEQ in 2006. As DEQ's previous approval was not forwarded to EPA, we have not reviewed it.

[1] EPA's proposed approval of the Oregon MSW landfill plan was published in the Federal Register on March 13, 2020. No comments were received.

DEQ's Response: Additional information needed. Your original request dated June 7, 2006 indicated "approval of change in operation of passive wells installed in areas outside Condition 13.4 of Title V Permit." Condition 13.4 of the permit is written as follow:

> Install, within 60 days, and operate active collection system wells that collect gas from each area, cell, or group of cells in the landfill in which solid waste has been placed for: (1) 5 years or more if active, OR (2) 2 years or more if closed or at final grade.

At the time when this request was approved, Valley Landfills had numerous odor complaints and therefore additional surface and near-surface horizontal landfill gas collections wells were installed to control the odor. DEQ approved the request for passive gas collection because the odor control was an imminent issue at that time. The facility has not had consistent odor complaints in the past five years and this approval has to be reevaluated. If Valley Landfills has additional proposals related to alternative monitoring plan for passive gas collection, more information specific to those collection system have to be submitted. The information must include but not limited to: a map of the landfill showing the locations of the passive collection system and wells associated with the collection system, the locations of waste that have been deposited near the collection system, and the past oxygen concentrations, pressure and temperatures at the location.

E.4 Surface Emissions Monitoring Correction Variance

Regulatory Background:

> 40 CFR 60.755(c)(4): Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4) (i) through (v) of this section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d).
> (i) The location of each monitored exceedance shall be marked and the location recorded.
> (ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.
> (iii) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) has been taken.
> (iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

Proposal: WCG is proposing a variance to the 10-day window such that it would be extended by two weeks. The rationale is that unexpected weather conditions may delay the time when remonitoring is possible.

EPA Review: Oregon DEQ may exercise enforcement discretion on a case-by-case basis when local conditions make the required time-frame impracticable. If DEQ does not exercise its discretion, the landfill may cite local conditions as a positive defense in procedural and legal hearings. DEQ may not

preemptively waive a time-bound requirement to perform a work practice standard as this would have the effect of decreasing the stringency of the standard.

DEQ's Response: Denied. As EPA suggested, DEQ does not waive a time-bound requirement without a specific occasion that prevents the facility to perform monitoring. Valley landfill may request an extension of monitoring/remonitoring at the time of weather adversity, and DEQ may approve the request based on the situation.

E.5 Monitoring and New/Extended Extraction Wells

Regulatory Background:

> 40 CFR 60.756(a): Each owner or operator seeking to comply with §60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:
> (1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in §60.755(a)(3); and
> (2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in §60.755(a)(5); and
> (3) Monitor temperature of the landfill gas on a monthly basis as provided in §60.755(a)(5).

Proposal: For reasons of safety, WCG is proposing to exclude wells from required monitoring when wells are raised to accommodate greater levels of waste. WCG states that individual wellheads will not be excluded from required monitoring for longer than four months.

EPA Review: EPA has granted similar requests in the past. Provided the proportion of raised wellheads is relatively small and the length of time individual wellheads will be excluded from monitoring is relatively brief, such an alternative would be consistent with a previous EPA approval.
Note that excluding raised wells from required monitoring has typically been allowed for one or two months, not periods of up to four months that WCG claims may be necessary.
Please see the attached document from EPA's Applicability Determination Index. (Control # 0900041).

DEQ's Response: Approved with conditions. The facility may exempt raised gas wells from monthly monitoring for safety reasons. However, the facility must request for exemptions to DEQ in writing and must be approved in advance. The request must include detailed explanation of why the wells cannot be monitored and how long will monitoring be postponed. The exemption may not be allowed more than two consecutive monitoring months.

E.6 Start-up of New Wells or Collection Systems

Regulatory Background:

> 60.755(a)(4): Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

Proposal: WCG is proposing to apply the applicable corrective measures after oxygen and/or temperature exceedances are monitored during the first 180 days of gas collection and control system operation with the exception of the requirement to expand the collection system within 120 days to correct the exceedance. In addition, WCG is proposing to not expand the well field during the first 180 days of

operation for any individual well in which temperature, pressure, and/or oxygen exceedances are monitored.

EPA Review: Any request to seek approval in advance to delay corrective actions beyond the periods mandated in NSPS WWW constitutes a relaxation of a standard, which can only be approved by the Administrator of the EPA.
Furthermore, there appears to be a misunderstanding in the request. The exemption to the requirement to "expand the system" applies during the first 180 days after gas collection system startup, not during the first 180 days after the startup of any individual wellhead.

DEQ's Response: Denied. Per EPA's clarification, the exemption of the requirement is for the first 180 days after the GCCS startup and Valley landfills' GCCS has started over a decade ago. Therefore, this exemption does not apply to Valley Landfills.

E.7 Monitoring of New or Replacement Extraction Wells

Regulatory Background:

> 60.755(a)(4): Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

Proposal: WCG proposes to bring new and replacement extraction wells into compliance within 180 days of installation. During this time period, the extraction wells will be monitored. However, they will not be subject to the operational and monitoring constraints of section 60.753.

EPA Review: Again, there appears to be a misunderstanding in the request. The exemption to the requirement to "expand the system" applies during the first 180 days after gas collection system startup, not during the first 180 days after the startup of any individual wellhead. After 180 days have passed since gas collection system startup, new wellheads become subject to all applicable requirements in subpart WWW upon startup and corrective action must be taken according to the timelines identified in the subpart.

DEQ Response: Denied. As explained in EPA's response above, the "first 180 days exemption" applies only to a new GCCS. Because Valley Landfills' GCCS has already started, new individual wells are subject to the monitoring requirements of Section 60.753 upon startup.

E.8 Operating and Monitoring of Non-producing Wells

Regulatory Background:

> 60.753: Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of §60.752(b)(2)(ii) of this subpart shall: (b) Operate the collection system with negative pressure at each wellhead except under the following conditions:
> (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in §60.757(f)(1);
> (2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator.

Proposal: WCG proposes an alternative operating and monitoring plan for those wells unable to meet NSPS requirements because of poor gas production or composition.

EPA Review: The EPA has approved similar requests for adjustments to required monitoring under certain circumstances and subject to conditions. Please see the attached documents from EPA's ADI. (Control # 0600062, 0800018, 0800019, and 0900064)

DEQ's Response: Approved with conditions. Even though EPA has approved similar requests in the past, Valley Landfills must follow alternative monitoring procedures to ensure these are truly low producing gas wells. Because low producing gas wells can be an indication of issues such as clogged/damaged pipes or damaged landfill covers, additional monitoring/documentations are required in order to show these are truly low gas producing wells. Based on ADI Control # 0900064, the following procedures must be taken in order to exempt wells from meeting the NSPS standards:

1. When the oxygen concentration at the well does not decline to acceptable levels after more than one hour of reduced vacuum, the location may be shut off until the gas quality recovers.
2. The monthly monitoring required by 40 CFR Part 60, Subpart WWW will be conducted for these wells, but positive pressure or elevated oxygen concentrations will not be considered as exceedances of the operating limits in 40 CFR § 60.753. However, the monthly monitoring results must be reported to DEQ. The reports to DEQ shall note if and when the wells are shut off in accordance with this approval letter.
3. If monthly monitoring indicates that pressure has built up in the well and the oxygen concentration still exceeds 5 percent, the well will be briefly opened to relieve the pressure and may then be shut down until it is monitored the following month.
4. The surface monitoring required by 40 CFR Part 60, Subpart WWW will continue to be conducted in this area. Standard remediation steps, including evaluating the need to return the well to full-time service, must be followed if exceedances of the 500 ppm methane surface concentration limits are detected in the immediate vicinity.
5. If the monthly monitoring indicates that gas quality has improved (i.e., the oxygen concentration has dropped below 5 percent), the well will be brought back on line until the gas quality declines again. If the oxygen levels can be maintained below the regulatory limit of 5 percent for six consecutive months, this alternate operating procedure is terminated and the well shall be operated in accordance with the regulatory requirements.
6. Valley Landfills shall submit this information to DEQ as part of a design plan change. DEQ must be made aware which well(s) are low gas-producing, low gas quality wells and that they are subject to alternative limits/procedures. DEQ will review the wells' status from the semi-annual reports to ensure that if higher gas quality can be maintained, this alternate operating procedure should be terminated and the wells be operated in accordance with the regulatory requirements.

E.9 Monitoring of Interim LFG Collectors

Regulatory Background: *No regulations specified*

Proposal: WCG seeks clarification that sections of the gas collection and control system, such as leachate management systems and interim LFG collectors that are not yet required (e.g. where initial waste in place is not yet two years old in a closed or final grade area or not yet five years old in active areas) should be excluded from NSPS operating and monitoring requirements.

EPA Review: This request seems overly broad. There are operating and monitoring requirements with applicability criteria in NSPS WWW (e.g. operational requirements that apply in a cell in which MSW has been in place for at least five years or that apply to interior wells). The landfill's operating permit should specify these criteria and, if the permittee asks whether particular requirements apply to particular wells, the permitting authority may give a more specific response.
We note that section 60.759(a) requires sufficient collection from the system, including both interior wells and wells from perimeter areas. Even if a well (or set of wells) has no required operating or monitoring requirements (or none yet), if it is found to compromise the collection efficiency of the system it can result in noncompliance with the subpart.
Please see the attached documents from EPA's ADI. (Control # 0800018 and 0800019)

DEQ's Response: Additional information needed. This request needs to be evaluated on a case-by-case basis. It depends on where the wells are located, how the gas is collected and why the wells cannot meet the NSPS standards. DEQ suggests Valley Landfills to revise the GCCS design plan to show where these wells are located.

E.10 Decommissioning LFG Collectors

Regulatory Background: *No regulations specified*

Proposal: WCG describes the steps the landfill will take to decommission wells.

EPA Review: Although not defined in NSPS WWW, there is a document in the ADI (Control # 0800040) that describes a decommissioned well as being "physically disconnected from the collection and control system." According to 40 CFR 60.753(b)(3) which allows that decommissioned wells may experience positive static pressure, "all design changes shall be approved by the Administrator." Therefore, we recommend that procedures for decommissioning should be included in the design plan and subject to review by the delegated agency.

DEQ's Response: Additional information needed. In accordance to Section 60.759, Valley Landfills shall operate the GCCS at a sufficient density throughout all gas producing areas unless alternative procedures approved by the Administrator. Decommission of a well is altering the design plan and it needs to be approved by DEQ prior to decommissioning. Depending on the location, DEQ may request the facility to install a new well to replace the decommissioned well. Alternatively, as EPA suggested, those wells may be shut off and continued to be monitored as a low producing gas as described in ADI document # 0800040.

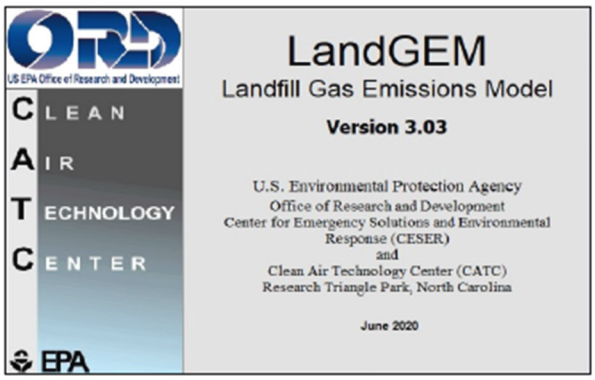
E.11 Additional Alternatives

Regulatory Background: *No regulations specified*

Proposal: The landfill may request additional alternatives in the future.

EPA Review: Any source subject to an NSPS may request an applicability determination, regulatory interpretation, or alternative to monitoring, testing, recordkeeping, or reporting requirement at any time. Such a request will be reviewed on its merits by the appropriate authority.

LandGEM Report



Summary Report

Landfill Name or Identifier: Coffin Butte Landfill

Date: Monday, June 3, 2024

Description/Comments:
Cell 0 (LFG-1) waste has been moved into the active landfill. LandGEM updated to include all waste into one LandGEM run. Historically the site has had two LandGEMs one for Cell 0 (LFG-1) and one for Cells 1 - 6 (LFG-2). Now that Cell 0 does not exist, the site has one LandGEM.

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} kL_o \left(\frac{M_i}{10}\right) e^{-kt_{ij}}$$

Where,
Q_{CH4} = annual methane generation in the year of the calculation ($m^3/year$)
i = 1-year time increment
n = (year of the calculation) - (initial year of waste acceptance)
j = 0.1-year time increment
k = methane generation rate ($year^{-1}$)
L_o = potential methane generation capacity (m^3/Mg)
M_i = mass of waste accepted in the i^{th} year (Mg)
t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (*decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at http://www.epa.gov/ttnatw01/landfill/landflpg.html.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	1953	
Landfill Closure Year (with 80-year limit)	2032	
Actual Closure Year (without limit)	*2039*	
Have Model Calculate Closure Year?	Yes	
Waste Design Capacity	39,600,000	*short tons*

The 80-year waste acceptance limit of the model has been exceeded before the Waste Design Capacity was reached. The model will assume the 80th year of waste acceptance as the final year to estimate emissions. See Section 2.6 of the User's Manual.

MODEL PARAMETERS

Methane Generation Rate, k	0.040	$year^{-1}$
Potential Methane Generation Capacity, L_0	100	m^3/Mg
NMOC Concentration	595	*ppmv as hexane*
Methane Content	50	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	NMOC
Gas / Pollutant #2:	Total landfill gas
Gas / Pollutant #3:	Methane
Gas / Pollutant #4:	Carbon dioxide

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1953	4,925	5,418	0	0
1954	5,485	6,034	4,925	5,418
1955	6,110	6,721	10,411	11,452
1956	6,805	7,486	16,521	18,173
1957	7,580	8,338	23,326	25,659
1958	8,443	9,287	30,906	33,997
1959	9,404	10,344	39,349	43,284
1960	10,474	11,521	48,753	53,628
1961	11,666	12,833	59,226	65,149
1962	12,994	14,293	70,893	77,982
1963	14,473	15,920	83,886	92,275
1964	16,120	17,732	98,359	108,195
1965	17,955	19,750	114,479	125,927
1966	19,998	21,998	132,434	145,677
1967	22,275	24,502	152,432	167,675
1968	24,810	27,291	174,706	192,177
1969	27,634	30,397	199,516	219,468
1970	30,778	33,856	227,150	249,865
1971	34,282	37,710	257,928	283,721
1972	38,184	42,002	292,210	321,431
1973	42,529	46,782	330,394	363,433
1974	47,370	52,107	372,923	410,215
1975	52,761	58,037	420,293	462,322
1976	58,766	64,643	473,054	520,359
1977	65,455	72,000	531,820	585,002
1978	61,364	67,500	597,275	657,002
1979	63,818	70,200	658,638	724,502
1980	66,273	72,900	722,456	794,702
1981	68,727	75,600	788,729	867,602
1982	71,182	78,300	857,456	943,202
1983	69,545	76,500	928,638	1,021,502
1984	72,636	79,900	998,184	1,098,002
1985	75,727	83,300	1,070,820	1,177,902
1986	78,818	86,700	1,146,547	1,261,202
1987	80,364	88,400	1,225,365	1,347,902
1988	82,909	91,200	1,305,729	1,436,302
1989	106,182	116,800	1,388,638	1,527,502
1990	109,818	120,800	1,494,820	1,644,302
1991	112,727	124,000	1,604,638	1,765,102
1992	145,455	160,000	1,717,365	1,889,102

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1993	174,503	191,953	1,862,820	2,049,102
1994	183,452	201,797	2,037,323	2,241,055
1995	183,452	201,797	2,220,775	2,442,852
1996	183,452	201,797	2,404,227	2,644,649
1997	256,393	282,033	2,587,679	2,846,447
1998	272,563	299,820	2,844,072	3,128,479
1999	288,098	316,907	3,116,635	3,428,299
2000	272,489	299,738	3,404,733	3,745,206
2001	286,198	314,817	3,677,222	4,044,944
2002	297,489	327,238	3,963,419	4,359,761
2003	257,460	283,206	4,260,908	4,686,999
2004	392,659	431,925	4,518,368	4,970,205
2005	397,775	437,552	4,911,027	5,402,130
2006	424,883	467,372	5,308,801	5,839,682
2007	395,104	434,614	5,733,685	6,307,053
2008	346,033	380,636	6,128,789	6,741,667
2009	300,126	330,138	6,474,822	7,122,304
2010	289,058	317,963	6,774,947	7,452,442
2011	315,201	346,721	7,064,005	7,770,405
2012	326,446	359,090	7,379,206	8,117,126
2013	301,411	331,552	7,705,651	8,476,217
2014	307,509	338,260	8,007,063	8,807,769
2015	345,213	379,734	8,314,572	9,146,029
2016	380,642	418,706	8,659,785	9,525,763
2017	777,420	855,162	9,040,426	9,944,469
2018	816,383	898,021	9,817,846	10,799,631
2019	794,606	874,067	10,634,229	11,697,652
2020	626,172	688,789	11,428,835	12,571,719
2021	660,151	726,166	12,055,007	13,260,508
2022	781,715	859,887	12,715,158	13,986,674
2023	845,794	930,373	13,496,874	14,846,561
2024	1,363,636	1,500,000	14,342,668	15,776,934
2025	1,363,636	1,500,000	15,706,304	17,276,934
2026	1,363,636	1,500,000	17,069,940	18,776,934
2027	1,363,636	1,500,000	18,433,577	20,276,934
2028	1,363,636	1,500,000	19,797,213	21,776,934
2029	1,363,636	1,500,000	21,160,849	23,276,934
2030	1,363,636	1,500,000	22,524,486	24,776,934

Results

Year	NMOC			Total landfill gas		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1953	0	0	0	0	0	0
1954	8.254E-02	2.303E+01	1.547E-03	4.833E+01	3.870E+04	2.600E+00
1955	1.712E-01	4.777E+01	3.210E-03	1.003E+02	8.029E+04	5.395E+00
1956	2.669E-01	7.447E+01	5.003E-03	1.563E+02	1.252E+05	8.409E+00
1957	3.705E-01	1.034E+02	6.945E-03	2.169E+02	1.737E+05	1.167E+01
1958	4.830E-01	1.348E+02	9.054E-03	2.828E+02	2.265E+05	1.522E+01
1959	6.056E-01	1.689E+02	1.135E-02	3.546E+02	2.839E+05	1.908E+01
1960	7.394E-01	2.063E+02	1.386E-02	4.330E+02	3.467E+05	2.329E+01
1961	8.859E-01	2.472E+02	1.661E-02	5.188E+02	4.154E+05	2.791E+01
1962	1.047E+00	2.920E+02	1.962E-02	6.129E+02	4.908E+05	3.298E+01
1963	1.223E+00	3.413E+02	2.293E-02	7.164E+02	5.736E+05	3.854E+01
1964	1.418E+00	3.956E+02	2.658E-02	8.303E+02	6.649E+05	4.467E+01
1965	1.633E+00	4.555E+02	3.060E-02	9.559E+02	7.655E+05	5.143E+01
1966	1.869E+00	5.215E+02	3.504E-02	1.095E+03	8.765E+05	5.889E+01
1967	2.131E+00	5.946E+02	3.995E-02	1.248E+03	9.993E+05	6.714E+01
1968	2.421E+00	6.754E+02	4.538E-02	1.418E+03	1.135E+06	7.627E+01
1969	2.742E+00	7.649E+02	5.140E-02	1.605E+03	1.286E+06	8.638E+01
1970	3.097E+00	8.641E+02	5.806E-02	1.814E+03	1.452E+06	9.758E+01
1971	3.492E+00	9.742E+02	6.545E-02	2.045E+03	1.637E+06	1.100E+02
1972	3.929E+00	1.096E+03	7.366E-02	2.301E+03	1.842E+06	1.238E+02
1973	4.415E+00	1.232E+03	8.276E-02	2.585E+03	2.070E+06	1.391E+02
1974	4.955E+00	1.382E+03	9.288E-02	2.901E+03	2.323E+06	1.561E+02
1975	5.554E+00	1.550E+03	1.041E-01	3.252E+03	2.604E+06	1.750E+02
1976	6.221E+00	1.736E+03	1.166E-01	3.643E+03	2.917E+06	1.960E+02
1977	6.962E+00	1.942E+03	1.305E-01	4.076E+03	3.264E+06	2.193E+02
1978	7.786E+00	2.172E+03	1.459E-01	4.559E+03	3.651E+06	2.453E+02
1979	8.509E+00	2.374E+03	1.595E-01	4.982E+03	3.990E+06	2.681E+02
1980	9.245E+00	2.579E+03	1.733E-01	5.413E+03	4.335E+06	2.912E+02
1981	9.993E+00	2.788E+03	1.873E-01	5.851E+03	4.685E+06	3.148E+02
1982	1.075E+01	3.000E+03	2.016E-01	6.296E+03	5.042E+06	3.388E+02
1983	1.152E+01	3.215E+03	2.160E-01	6.748E+03	5.403E+06	3.631E+02
1984	1.224E+01	3.414E+03	2.294E-01	7.166E+03	5.738E+06	3.855E+02
1985	1.298E+01	3.620E+03	2.432E-01	7.598E+03	6.084E+06	4.088E+02
1986	1.374E+01	3.832E+03	2.575E-01	8.043E+03	6.440E+06	4.327E+02
1987	1.452E+01	4.050E+03	2.721E-01	8.501E+03	6.807E+06	4.574E+02
1988	1.530E+01	4.267E+03	2.867E-01	8.956E+03	7.172E+06	4.819E+02
1989	1.609E+01	4.487E+03	3.015E-01	9.419E+03	7.542E+06	5.067E+02
1990	1.723E+01	4.808E+03	3.230E-01	1.009E+04	8.081E+06	5.429E+02
1991	1.840E+01	5.133E+03	3.449E-01	1.077E+04	8.627E+06	5.796E+02
1992	1.957E+01	5.459E+03	3.668E-01	1.146E+04	9.174E+06	6.164E+02
1993	2.124E+01	5.925E+03	3.981E-01	1.244E+04	9.957E+06	6.690E+02
1994	2.333E+01	6.508E+03	4.373E-01	1.366E+04	1.094E+07	7.349E+02
1995	2.549E+01	7.111E+03	4.778E-01	1.492E+04	1.195E+07	8.030E+02
1996	2.756E+01	7.690E+03	5.167E-01	1.614E+04	1.292E+07	8.683E+02
1997	2.956E+01	8.246E+03	5.540E-01	1.731E+04	1.386E+07	9.312E+02
1998	3.269E+01	9.121E+03	6.129E-01	1.914E+04	1.533E+07	1.030E+03
1999	3.598E+01	1.004E+04	6.744E-01	2.107E+04	1.687E+07	1.134E+03
2000	3.940E+01	1.099E+04	7.385E-01	2.307E+04	1.847E+07	1.241E+03
2001	4.242E+01	1.183E+04	7.951E-01	2.484E+04	1.989E+07	1.336E+03
2002	4.555E+01	1.271E+04	8.539E-01	2.667E+04	2.136E+07	1.435E+03

Results (Continued)

Year	NMOC			Total landfill gas		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2003	4.875E+01	1.360E+04	9.138E-01	2.855E+04	2.286E+07	1.536E+03
2004	5.116E+01	1.427E+04	9.589E-01	2.995E+04	2.399E+07	1.612E+03
2005	5.573E+01	1.555E+04	1.045E+00	3.263E+04	2.613E+07	1.756E+03
2006	6.021E+01	1.680E+04	1.129E+00	3.526E+04	2.823E+07	1.897E+03
2007	6.497E+01	1.813E+04	1.218E+00	3.804E+04	3.046E+07	2.047E+03
2008	6.904E+01	1.926E+04	1.294E+00	4.043E+04	3.237E+07	2.175E+03
2009	7.214E+01	2.012E+04	1.352E+00	4.224E+04	3.382E+07	2.273E+03
2010	7.434E+01	2.074E+04	1.393E+00	4.353E+04	3.486E+07	2.342E+03
2011	7.627E+01	2.128E+04	1.430E+00	4.466E+04	3.576E+07	2.403E+03
2012	7.856E+01	2.192E+04	1.473E+00	4.600E+04	3.683E+07	2.475E+03

2013	8.095E+01	2.258E+04	1.517E+00	4.740E+04	3.796E+07	2.550E+03
2014	8.283E+01	2.311E+04	1.553E+00	4.850E+04	3.884E+07	2.609E+03
2015	8.473E+01	2.364E+04	1.588E+00	4.961E+04	3.973E+07	2.669E+03
2016	8.720E+01	2.433E+04	1.634E+00	5.106E+04	4.088E+07	2.747E+03
2017	9.016E+01	2.515E+04	1.690E+00	5.279E+04	4.227E+07	2.840E+03
2018	9.965E+01	2.780E+04	1.868E+00	5.835E+04	4.672E+07	3.139E+03
2019	1.094E+02	3.053E+04	2.051E+00	6.407E+04	5.131E+07	3.447E+03
2020	1.184E+02	3.305E+04	2.220E+00	6.936E+04	5.554E+07	3.732E+03
2021	1.243E+02	3.468E+04	2.330E+00	7.278E+04	5.828E+07	3.916E+03
2022	1.305E+02	3.640E+04	2.446E+00	7.641E+04	6.118E+07	4.111E+03
2023	1.385E+02	3.863E+04	2.596E+00	8.108E+04	6.493E+07	4.362E+03
2024	1.472E+02	4.107E+04	2.760E+00	8.620E+04	6.903E+07	4.638E+03
2025	1.643E+02	4.584E+04	3.080E+00	9.620E+04	7.704E+07	5.176E+03
2026	1.807E+02	5.041E+04	3.387E+00	1.058E+05	8.473E+07	5.693E+03
2027	1.965E+02	5.481E+04	3.683E+00	1.150E+05	9.212E+07	6.190E+03
2028	2.116E+02	5.904E+04	3.967E+00	1.239E+05	9.923E+07	6.667E+03
2029	2.262E+02	6.310E+04	4.240E+00	1.324E+05	1.061E+08	7.126E+03
2030	2.402E+02	6.700E+04	4.502E+00	1.406E+05	1.126E+08	7.566E+03

Results (Continued)

Year	Methane			Carbon dioxide		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1953	0	0	0	0	0	0
1954	1.291E+01	1.935E+04	1.300E+00	3.542E+01	1.935E+04	1.300E+00
1955	2.678E+01	4.014E+04	2.697E+00	7.348E+01	4.014E+04	2.697E+00
1956	4.175E+01	6.258E+04	4.204E+00	1.145E+02	6.258E+04	4.204E+00
1957	5.795E+01	8.686E+04	5.836E+00	1.590E+02	8.686E+04	5.836E+00
1958	7.555E+01	1.132E+05	7.608E+00	2.073E+02	1.132E+05	7.608E+00
1959	9.471E+01	1.420E+05	9.539E+00	2.599E+02	1.420E+05	9.539E+00
1960	1.156E+02	1.733E+05	1.165E+01	3.173E+02	1.733E+05	1.165E+01
1961	1.386E+02	2.077E+05	1.396E+01	3.802E+02	2.077E+05	1.396E+01
1962	1.637E+02	2.454E+05	1.649E+01	4.492E+02	2.454E+05	1.649E+01
1963	1.914E+02	2.868E+05	1.927E+01	5.250E+02	2.868E+05	1.927E+01
1964	2.218E+02	3.324E+05	2.234E+01	6.085E+02	3.324E+05	2.234E+01
1965	2.553E+02	3.827E+05	2.572E+01	7.006E+02	3.827E+05	2.572E+01
1966	2.924E+02	4.383E+05	2.945E+01	8.023E+02	4.383E+05	2.945E+01
1967	3.333E+02	4.997E+05	3.357E+01	9.146E+02	4.997E+05	3.357E+01
1968	3.787E+02	5.676E+05	3.814E+01	1.039E+03	5.676E+05	3.814E+01
1969	4.288E+02	6.428E+05	4.319E+01	1.177E+03	6.428E+05	4.319E+01
1970	4.845E+02	7.262E+05	4.879E+01	1.329E+03	7.262E+05	4.879E+01
1971	5.461E+02	8.186E+05	5.500E+01	1.498E+03	8.186E+05	5.500E+01
1972	6.146E+02	9.212E+05	6.190E+01	1.686E+03	9.212E+05	6.190E+01
1973	6.906E+02	1.035E+06	6.955E+01	1.895E+03	1.035E+06	6.955E+01
1974	7.750E+02	1.162E+06	7.805E+01	2.126E+03	1.162E+06	7.805E+01
1975	8.687E+02	1.302E+06	8.749E+01	2.384E+03	1.302E+06	8.749E+01
1976	9.730E+02	1.458E+06	9.799E+01	2.670E+03	1.458E+06	9.799E+01
1977	1.089E+03	1.632E+06	1.097E+02	2.988E+03	1.632E+06	1.097E+02
1978	1.218E+03	1.825E+06	1.226E+02	3.341E+03	1.825E+06	1.226E+02
1979	1.331E+03	1.995E+06	1.340E+02	3.651E+03	1.995E+06	1.340E+02
1980	1.446E+03	2.167E+06	1.456E+02	3.967E+03	2.167E+06	1.456E+02
1981	1.563E+03	2.343E+06	1.574E+02	4.288E+03	2.343E+06	1.574E+02
1982	1.682E+03	2.521E+06	1.694E+02	4.614E+03	2.521E+06	1.694E+02
1983	1.802E+03	2.702E+06	1.815E+02	4.945E+03	2.702E+06	1.815E+02
1984	1.914E+03	2.869E+06	1.928E+02	5.252E+03	2.869E+06	1.928E+02
1985	2.029E+03	3.042E+06	2.044E+02	5.568E+03	3.042E+06	2.044E+02
1986	2.148E+03	3.220E+06	2.164E+02	5.894E+03	3.220E+06	2.164E+02
1987	2.271E+03	3.404E+06	2.287E+02	6.230E+03	3.404E+06	2.287E+02
1988	2.392E+03	3.586E+06	2.409E+02	6.564E+03	3.586E+06	2.409E+02
1989	2.516E+03	3.771E+06	2.534E+02	6.903E+03	3.771E+06	2.534E+02
1990	2.695E+03	4.040E+06	2.715E+02	7.396E+03	4.040E+06	2.715E+02
1991	2.878E+03	4.313E+06	2.898E+02	7.896E+03	4.313E+06	2.898E+02
1992	3.060E+03	4.587E+06	3.082E+02	8.397E+03	4.587E+06	3.082E+02
1993	3.322E+03	4.979E+06	3.345E+02	9.114E+03	4.979E+06	3.345E+02
1994	3.649E+03	5.469E+06	3.675E+02	1.001E+04	5.469E+06	3.675E+02
1995	3.986E+03	5.975E+06	4.015E+02	1.094E+04	5.975E+06	4.015E+02
1996	4.311E+03	6.462E+06	4.342E+02	1.183E+04	6.462E+06	4.342E+02
1997	4.623E+03	6.929E+06	4.656E+02	1.268E+04	6.929E+06	4.656E+02
1998	5.114E+03	7.665E+06	5.150E+02	1.403E+04	7.665E+06	5.150E+02
1999	5.628E+03	8.435E+06	5.668E+02	1.544E+04	8.435E+06	5.668E+02
2000	6.162E+03	9.236E+06	6.206E+02	1.691E+04	9.236E+06	6.206E+02
2001	6.635E+03	9.945E+06	6.682E+02	1.820E+04	9.945E+06	6.682E+02
2002	7.125E+03	1.068E+07	7.175E+02	1.955E+04	1.068E+07	7.175E+02

Results (Continued)

Year	Methane			Carbon dioxide		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2003	7.625E+03	1.143E+07	7.679E+02	2.092E+04	1.143E+07	7.679E+02
2004	8.001E+03	1.199E+07	8.058E+02	2.195E+04	1.199E+07	8.058E+02
2005	8.716E+03	1.307E+07	8.779E+02	2.392E+04	1.307E+07	8.779E+02
2006	9.417E+03	1.412E+07	9.484E+02	2.584E+04	1.412E+07	9.484E+02
2007	1.016E+04	1.523E+07	1.023E+03	2.788E+04	1.523E+07	1.023E+03
2008	1.080E+04	1.619E+07	1.088E+03	2.963E+04	1.619E+07	1.088E+03
2009	1.128E+04	1.691E+07	1.136E+03	3.096E+04	1.691E+07	1.136E+03
2010	1.163E+04	1.743E+07	1.171E+03	3.190E+04	1.743E+07	1.171E+03
2011	1.193E+04	1.788E+07	1.201E+03	3.273E+04	1.788E+07	1.201E+03
2012	1.229E+04	1.842E+07	1.237E+03	3.371E+04	1.842E+07	1.237E+03
2013	1.266E+04	1.898E+07	1.275E+03	3.474E+04	1.898E+07	1.275E+03
2014	1.295E+04	1.942E+07	1.305E+03	3.554E+04	1.942E+07	1.305E+03
2015	1.325E+04	1.986E+07	1.335E+03	3.636E+04	1.986E+07	1.335E+03
2016	1.364E+04	2.044E+07	1.373E+03	3.742E+04	2.044E+07	1.373E+03
2017	1.410E+04	2.114E+07	1.420E+03	3.869E+04	2.114E+07	1.420E+03
2018	1.559E+04	2.336E+07	1.570E+03	4.276E+04	2.336E+07	1.570E+03
2019	1.711E+04	2.565E+07	1.724E+03	4.696E+04	2.565E+07	1.724E+03
2020	1.853E+04	2.777E+07	1.866E+03	5.083E+04	2.777E+07	1.866E+03
2021	1.944E+04	2.914E+07	1.958E+03	5.334E+04	2.914E+07	1.958E+03
2022	2.041E+04	3.059E+07	2.055E+03	5.600E+04	3.059E+07	2.055E+03
2023	2.166E+04	3.246E+07	2.181E+03	5.942E+04	3.246E+07	2.181E+03
2024	2.303E+04	3.451E+07	2.319E+03	6.318E+04	3.451E+07	2.319E+03
2025	2.570E+04	3.852E+07	2.588E+03	7.051E+04	3.852E+07	2.588E+03
2026	2.826E+04	4.236E+07	2.846E+03	7.755E+04	4.236E+07	2.846E+03
2027	3.073E+04	4.606E+07	3.095E+03	8.432E+04	4.606E+07	3.095E+03
2028	3.310E+04	4.961E+07	3.333E+03	9.082E+04	4.961E+07	3.333E+03
2029	3.538E+04	5.303E+07	3.563E+03	9.706E+04	5.303E+07	3.563E+03
2030	3.756E+04	5.630E+07	3.783E+03	1.031E+05	5.630E+07	3.783E+03

INVENTORY

Landfill Name or Identifier: Coffin Butte Landfill

Enter year of emissions inventory: 2030

Gas / Pollutant	Emission Rate				
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(ft^3/year)*	*(short tons/year)*
Total landfill gas	1.408E+05	1.126E+08	7.566E+03	3.977E+09	1.547E+05
Methane	3.756E+04	5.630E+07	3.783E+03	1.988E+09	4.132E+04
Carbon dioxide	1.031E+05	5.630E+07	3.783E+03	1.988E+09	1.134E+05
NMOC	2.402E+02	6.700E+04	4.502E+00	2.366E+06	2.642E+02
1,1,1-Trichloroethane (methyl chloroform) - HAP	2.999E-01	5.405E+01	3.632E-03	1.909E+03	3.299E-01
1,1,2,2-Tetrachloroethane - HAP/VOC	8.648E-01	1.239E+02	8.323E-03	4.374E+03	9.512E-01
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	1.112E+00	2.703E+02	1.816E-02	9.544E+03	1.224E+00
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	9.081E-02	2.252E+01	1.513E-03	7.953E+02	9.989E-02
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	1.900E-01	4.617E+01	3.102E-03	1.630E+03	2.090E-01
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	9.526E-02	2.027E+01	1.362E-03	7.158E+02	1.048E-01
2-Propanol (isopropyl alcohol) - VOC	1.408E+01	5.630E+03	3.783E-01	1.988E+05	1.548E+01
Acetone	1.904E+00	7.883E+02	5.296E-02	2.784E+04	2.095E+00
Acrylonitrile - HAP/VOC	1.566E+00	7.094E+02	4.767E-02	2.505E+04	1.722E+00
Benzene - No or Unknown Co-disposal - HAP/VOC	6.951E-01	2.140E+02	1.438E-02	7.556E+03	7.646E-01
Benzene - Co-disposal - HAP/VOC	4.024E+00	1.239E+03	8.323E-02	4.374E+04	4.427E+00
Bromodichloromethane - VOC	2.379E+00	3.491E+02	2.345E-02	1.233E+04	2.617E+00
Butane - VOC	1.361E+00	5.630E+02	3.783E-02	1.988E+04	1.497E+00
Carbon disulfide - HAP/VOC	2.068E-01	6.531E+01	4.388E-03	2.307E+03	2.275E-01
Carbon monoxide	1.837E+01	1.577E+04	1.059E+00	5.567E+05	2.020E+01
Carbon tetrachloride - HAP/VOC	2.882E-03	4.504E-01	3.026E-05	1.591E+01	3.170E-03
Carbonyl sulfide - HAP/VOC	1.379E-01	5.518E+01	3.707E-03	1.949E+03	1.516E-01
Chlorobenzene - HAP/VOC	1.318E-01	2.815E+01	1.892E-03	9.942E+02	1.450E-01
Chlorodifluoromethane	5.265E-01	1.464E+02	9.836E-03	5.170E+03	5.791E-01
Chloroethane (ethyl chloride) - HAP/VOC	3.928E-01	1.464E+02	9.836E-03	5.170E+03	4.321E-01
Chloroform - HAP/VOC	1.678E-02	3.378E+00	2.270E-04	1.193E+02	1.845E-02
Chloromethane - VOC	2.838E-01	1.351E+02	9.079E-03	4.772E+03	3.122E-01
Dichlorobenzene - (HAP for para isomer/VOC)	1.446E-01	2.365E+01	1.589E-03	8.351E+02	1.590E-01
Dichlorodifluoromethane	9.061E+00	1.802E+03	1.211E-01	6.363E+04	9.967E+00
Dichlorofluoromethane - VOC	1.253E+00	2.928E+02	1.967E-02	1.034E+04	1.379E+00
Dichloromethane (methylene chloride) - HAP	5.570E+00	1.577E+03	1.059E-01	5.567E+04	6.127E+00
Dimethyl sulfide (methyl sulfide) - VOC	2.270E+00	8.783E+02	5.902E-02	3.102E+04	2.497E+00
Ethane	1.253E+02	1.002E+05	6.734E+00	3.539E+06	1.379E+02
Ethanol - VOC	5.827E+00	3.040E+03	2.043E-01	1.074E+05	6.410E+00
Ethyl mercaptan (ethanethiol) - VOC	6.693E-01	2.590E+02	1.740E-02	9.146E+03	7.362E-01
Ethylbenzene - HAP/VOC	2.287E+00	5.180E+02	3.480E-02	1.829E+04	2.516E+00
Ethylene dibromide - HAP/VOC	8.800E-04	1.126E-01	7.566E-06	3.977E+00	9.680E-04
Fluorotrichloromethane - VOC	4.890E-01	8.558E+01	5.750E-03	3.022E+03	5.379E-01
Hexane - HAP/VOC	2.664E+00	7.432E+02	4.994E-02	2.625E+04	2.930E+00
Hydrogen sulfide	5.746E+00	4.054E+03	2.724E-01	1.432E+05	6.321E+00
Mercury (total) - HAP	2.725E-04	3.266E-02	2.194E-06	1.153E+00	2.997E-04
Methyl ethyl ketone - HAP/VOC	2.398E+00	7.995E+02	5.372E-02	2.823E+04	2.638E+00
Methyl isobutyl ketone - HAP/VOC	8.913E-01	2.140E+02	1.438E-02	7.556E+03	9.804E-01
Methyl mercaptan - VOC	5.633E-01	2.815E+02	1.892E-02	9.942E+03	6.197E-01
Pentane - VOC	1.115E+00	3.716E+02	2.497E-02	1.312E+04	1.227E+00
Perchloroethylene (tetrachloroethylene) - HAP	2.874E+00	4.166E+02	2.799E-02	1.471E+04	3.161E+00
Propane - VOC	2.272E+00	1.239E+03	8.323E-02	4.374E+04	2.499E+00
t-1,2-Dichloroethene - VOC	1.271E+00	3.153E+02	2.118E-02	1.113E+04	1.398E+00
Toluene - No or Unknown Co-disposal - HAP/VOC	1.683E+01	4.392E+03	2.951E-01	1.551E+05	1.851E+01
Toluene - Co-disposal - HAP/VOC	7.336E+01	1.914E+04	1.286E+00	6.760E+05	8.069E+01
Trichloroethylene (trichloroethene) - HAP/VOC	1.723E+00	3.153E+02	2.118E-02	1.113E+04	1.896E+00
Vinyl chloride - HAP/VOC	2.137E+00	8.220E+02	5.523E-02	2.903E+04	2.351E+00
Xylenes - HAP/VOC	5.967E+00	1.351E+03	9.079E-02	4.772E+04	6.563E+00

Air Quality Analysis Summary Memo

State of Oregon
DEQ Department of Environmental Quality

Memorandum

To: Coffin Butte [02-9502] FILE

From: Kristen Martin

Date: 11/13/24

Subject: Modeling Memo for Coffin Butte

Results Snapshot

Source Description: Coffin Butte Landfill north of Corvallis, OR in Benton County. Coffin Butte Landfill triggered New Source Review for PM_{10} and SO_2 from landfill growth and refined analysis of emissions from roads. Per the Internal Management Directive on September 1, 2021, all sources triggering New Source Review must show compliance with the short-term National Ambient Air Quality Standards (NAAQS) for 1-hour NO_2 and SO_2 and 24-hour $PM_{2.5}$. The permittee submitted an air dispersion modeling analysis of potential impacts on the following NAAQS: 24-hour $PM_{2.5}$, 24-hour PM_{10}, 3-hour SO_2, and 1-hour NO_2 and SO_2. The facility also included modeling showing compliance with the updated annual $PM_{2.5}$ standard. All other NAAQS pollutants were below emission thresholds and did not trigger modeling. The facility modeled 2 scenarios. The first with the flare operating at full capacity. The second with the flare operating at 29% capacity and the remaining landfill gas going to the PNGC competing source engines.

Scenario 1: Flare operating at full capacity, no PNGC operation

Pollutant Modeled	Total Impact ($\mu g/m^3$)	NAAQS	Exceed NAAQS	% of NAAQS	Permit Conditions Needed?
$PM_{2.5}$ – 24- hour	23.3	35	No	67%	No
$PM_{2.5}$ – annual	7.0	9	No	78%	Yes
PM_{10} – 24- hour	101.6	150	No	68%	No
NO_2 - 1-hour	80.15	188	No	43%	No
SO_2 - 1-hour	44.17	196	No	23%	No
SO_2 - 3 hour	34.67	1310	No	3%	No

Scenario 2: Flare operating at 29% capacity and remaining gas sent to PNGC engines.

Pollutant Modeled	Total Impact ($\mu g/m^3$)	NAAQS	Exceed NAAQS	% of NAAQS	Permit Conditions Needed?
$PM_{2.5}$ – 24- hour	25.60	35	No	73%	No
$PM_{2.5}$ – annual	7.46	9	No	83%	Yes
PM_{10} – 24- hour	101.65	150	No	68%	No
NO_2 - 1-hour	172.55	188	No	92%	Yes

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Pollutant Modeled	Total Impact ($\mu g/m^3$)	NAAQS	Exceed NAAQS	% of NAAQS	Permit Conditions Needed?
SO_2 - 1-hour	141.8	196	No	72%	No
SO_2 - 3 hour	126.5	1310	No	10%	No

The NAAQS impact analysis uses specific modeling inputs and assumptions, such as emission rates, stack parameters, and unit locations. Permit should include conditions to ensure that the permittee follows modeling assumptions to protect NAAQS.

Operating Assumption

- The landfill operates between 7am and 6pm Monday-Saturday. No Sunday operations.

Source Contribution for Pollutants Triggering Permit Conditions

Scenario 1: $PM_{2.5}$

Source	Annual $PM_{2.5}$ - Maximum Total Impact at any receptor ($\mu g/m^3$)
Coffin Butte Landfill	6.14
PNGC Engines	2.58

Note: The maximum impact occurs at different locations, so the sum of the impacts does not equal the overall impact displayed in the results.

Scenario 2: NO_2

Source	1-Hour NO_2 - Maximum Total Impact at any receptor ($\mu g/m^3$)
Coffin Butte Landfill	42.32
PNGC Engines	139.39

Note: The maximum impact occurs at different locations, so the sum of the impacts does not equal the overall impact displayed in the results.

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Modeling Summary

Facility Information			
Date Modeling Submitted	11/6/2024	Revision Summary	Numerous iterations of this modeling were submitted between 2021-2024
Facility Location	28972 Coffin Butte Rd, Corvallis, OR 97330		

Emission Unit Summary

The emission units modeled at the facility are shown in the table below.

EU ID	Description
TIP2	Tipper 2
TIP3	Tipper 3
EFLARE*	Enclosed Flare
UPR1	Unpaved Roads - Commercial
UPR1PV	Unpaved Roads - Public
PIR	Paved Roads
AI	Aggregate Insignificant

*Enclosed flare was modeled in two scenarios, see emissions section

Modeling Basics

Model Versions		Meteorology	
AERMOD	v23132	Surface	On-site from neighboring PNGC
AERMET	v23132	Upper Air	Salem Airport
AERMINUTE	v15272	Time Period	2004-2005
AERSURFACE	v20060	Notes	
AERMAP	v18081		
BPIP	v04274		

Additional Notes

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Emissions Summary

The following emissions units and emissions were used in modeling. For roads, activity was limited to 3,120 hours/year (10 hours/day, 6 day/week). Note, the road emissions were modeled from 7am-6pm, although only 10 hours of operations were assumed when calculating the hourly emission rate. This results in overestimated hourly emissions in the model.

Scenario 1 is defined as the flare operating at full capacity and the nearby PNGC engine not operating.

Scenario 2 is defined as the flare operating at 29% capacity and the nearby PNGC engines burning the remainder of the landfill gas.

All other emission units are the same in Scenario 1 and 2.

EU	NO_2 Emission Rate (lbs/hr)	SO_2 Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (lbs/hr)	PM_{10} Emission Rate (lbs/hr)
TIP2	1.48	0.46	0.074	0.074
TIP3	0.11	0.36	0.006	0.006
EFLARE1: Scenario 1	5.56	9.09	1.69	1.69
EFLARE2: Scenario 2	1.79	2.63	0.49	0.49
UPR1	--	--	0.87	8.68
UPR1PV	--	--	0.015	0.15
PIR	--	--	0.42	1.70
AI	0.11	0.001	0.20	0.20

Background Data

Background data derived from NW Airquest unless otherwise noted.

Pollutant	Background Value ($\mu g/m^3$)	Notes
$PM_{2.5}$ – 24-hour	17.10	Average of NW, SW, SE, NE nodes
$PM_{2.5}$ – Annual	4.94	Average of NW, SW, SE, NE nodes
PM_{10} – 24-hour	56.2	Average of NW, SW, SE, NE nodes
NO_2 - 1-hour	33.13	Average of NW, SW, SE, NE nodes
SO_2 - 1-hour	12.47	Average of NW, SW, SE, NE nodes
SO_2 - 3-hour	16.95	Average of NW, SW, SE, NE nodes

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Secondary Formation

A MERPs analysis was done, following EPA guidance, to calculate the formation of secondary $PM_{2.5}$. Note the facility used a combination of EPA hypothetical sites to conduct this analysis. DEQ used the Morrow County site, and those results are displayed here.

Location	Secondary Pollutant	Hypothetical Source		This Source	
		Emissions	Modeled Conc. ($\mu g/m^3$)	Emissions (tpy)	Potential Impact from Secondary Pollutant ($\mu g/m^3$)
Morrow County WUS Source 18	NO_x	500	0.2	28	1.12E-02
	SO_2	500	0.26	42	2.18E-02
Total $PM_{2.5}$ 24-hour Secondary Contribution					0.0330
Morrow County WUS Source 18	NO_x	500	0.01	28	7.05E-04
	SO_2	500	0.01	42	7.07E-04
Total $PM_{2.5}$ Annual Secondary Contribution					0.0014

Results

SIL Analysis	Yes	Cumulative Analysis	Yes

SIL Analysis Results

Modeling revealed the facility was above the SIL for all modeled pollutants and moved to a cumulative analysis.

Pollutant	Modeled Conc. ($\mu g/m^3$)	SIL ($\mu g/m^3$)	Above SIL
$PM_{2.5}$ – 24-hour	11.65	1.2	Yes
$PM_{2.5}$ – Annual	2.05	0.3	Yes
PM_{10} – 24-hour	49.68	1.0	Yes
NO_2 – 1-hour	88.68	8.0	Yes
SO_2 - 1-hour	50.82	8.0	Yes

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Cumulative Analysis Results

The cumulative analysis included background and competing sources. The modeled competing sources are included Appendix B. Roadway emissions were assumed to occur between 7am-6pm on Monday-Saturday only. The following results were approved by DEQ.

Scenario 1: Flare operating at full capacity

Pollutant	Modeled Conc. ($\mu g/m^3$)[a]	MERPs Analysis ($\mu g/m^3$)	Background Conc. ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Above NAAQS (% of NAAQS)?
$PM_{2.5}$ – 24-hour	6.17	0.033	17.1	23.3	35	No (67%)
$PM_{2.5}$ – Annual	2.05	0.0014	4.94	7.0	9	No (78%)
PM_{10} – 24-hour	45.46	n/a	56.20	101.6	150	No (68%)
NO_2 – 1-hour	47.02	n/a	33.13	80.15	188	No (43%)
SO_2 - 1-hour	31.70	n/a	12.47	44.17	196	No (23%)
SO_2 - 3-hour	17.72	n/a	16.95	34.67	1310	No (3%)

Scenario 2: Flare operating at 29% capacity and remaining landfill gas going to PNGC engines.

Pollutant	Modeled Conc. ($\mu g/m^3$)[a]	MERPs Analysis ($\mu g/m^3$)	Background Conc. ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Above NAAQS (% of NAAQS)?
$PM_{2.5}$ – 24-hour	8.46	0.033	17.1	25.60	35	No (73%)
$PM_{2.5}$ – Annual	2.52	0.0014	4.94	7.46	9	No (83%)
PM_{10} – 24-hour	45.45	n/a	56.20	101.65	150	No (68%)
NO_2 – 1-hour	139.42	n/a	33.13	172.55	188	No (92%)
SO_2 - 1-hour	129.33	n/a	12.47	141.8	196	No (72%)
SO_2 - 3-hour	109.56	n/a	16.95	126.5	1310	No (10%)

Additional Considerations

Corrections need by DEQ	No
Corrections	

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Appendix A. Modeled Source Parameters

Point Sources

EU	Description	UTM E (m)	UTM N (m)	Stack Temperature (K)	Stack Velocity (m/s)	Stack Height (m)	Stack Diameter (m)
TIP2	Tipper 2	481770.50	4949660.96	820.15	17.60	2.74	0.20
TIP3	Tipper 3	481767.92	4949659.88	770.45	7.4	2.29	0.20
EFLARE1	Enclosed Flare-Scenario 1	482235.86	4949362.94	1144.26	12.04	12.22	3.56
EFLARE2	Enclosed Flare-Scenario 2	482235.86	4949362.94	1144.26	3.5	12.22	3.56

Line Volume Sources

EU	Description	Number of Line Volume Sources	Release Height (m)	Length of Side (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)
UPR1	Unpaved Road	112	3.5	10.88	5.06	3.25
UPR1PV	Unpaved Public	13	1.55	10.88	5.06	1.45
PIR	Paved Roads	83	3.5	10.88	5.06	3.25

Area Poly Source

EU	Description	Number of Verts	UTM E (m)	UTM N (m)	Release Height (m)	Initial Vertical Dimension (m)
AI	Aggregate Insignificant	5	481898.93	4949727.429	0	0

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Appendix B. Competing Source Inventory

The PNGC engines, located on the same property as the flare, were identified as the only competing sources. The emissions for NO_2 and SO_2 were only included for Scenario 2 when the PNGC engines are operating. $PM_{2.5}$ emissions were included for both scenarios.

EU	Description	Stack Temp (K)	Stack Vel (m/s)	Stack Height (m)	Stack Diam (m)	PM10/ PM2.5 Emission Rate (lbs/hr)	NO2 Emission Rate (lbs/hr)	SO2 Emission Rate (lbs/hr)
CS_ENG1	Caterpillar 3516 Landfill Gas Engines	730.372	61.6	7.62	0.26	0.39	2.99	1.26
CS_ENG2		708.15	61.6	7.62	0.26	0.39	2.99	1.26
CS_ENG3		715.372	61.6	7.62	0.26	0.39	2.99	1.26
CS_ENG4	Caterpillar 3520 Landfill Gas Engines	764.817	48.1	7.62	0.41	1.11	3.40	2.46
CS_ENG5		763.706	48.1	7.62	0.41	1.11	3.40	2.46

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800-452-4011 | TTY: 711 | deqinfo@deq.oregon.gov

Air Quality Division
700 NE Multnomah Street, Suite 600, Portland, OR 97232
503-229-5263, Toll-free in Oregon: 800-452-4011

DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.