

December 12, 2023



**SOLID WASTE DISPOSAL**  
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Mr. Bill Flagg  
Department of Ecology  
Air Quality Program  
P.O. Box 47600  
Olympia, WA 98504-7600

RE: City of Spokane Comments  
Department of Ecology's New Rule, Chapter 173-408 WAC, Landfill Methane Emissions

Dear Mr. Flagg:

The City of Spokane (City) would like to thank the Department of Ecology (Ecology) for taking the time for our meeting on November 29<sup>th</sup> to review the discussion points that the City had after its review of the proposed Chapter 173-408 WAC – Landfill Methane Emissions Rule ("Proposed Rule"). The meeting was useful, but as you know, Ecology was not able to provide conclusive responses to several of the discussion points either due to Ecology policies/rulemaking procedures or because the issues have not been resolved. The Discussion Points are included as Attachment 1, and we would encourage Ecology to both consider and resolve the issues during the final rule adoption.

The City offers the following comments on the Proposed Rule. The Proposed Rule would implement Chapter 70A.540 RCW – Landfills – Methane Emissions, which was adopted in 2022. The purpose of the Chapter 70A.540 is control methane emissions from landfills. Methane is a potent greenhouse gas (GHG) that accounts for about 2.4% of statewide GHG Emissions.

The City is concerned that the Proposed Rule deviates from the enabling statute in key areas. First, Chapter 70A.540 RCW specifically provides exemption for: "Landfills that receive only hazardous waste, or are currently regulated under the comprehensive environmental response, compensation, and liability act, 42 U.S.C. chapter 103", i.e., CERCLA Superfund sites along with various other categories of landfills that are to be exempt (hazardous waste landfills and landfills that accept only inert/decomposable waste". The Proposed Rule adds criteria for a CERCLA Superfund site to meet to be exempt. Further, the legislature, in the adoption of Chapter 70A.540 RCW also states that the rules adopted by Ecology "must be informed by the landfill methane regulations adopted by California air resources board, the Oregon environmental quality commission, and the United States environmental protection agency." Again, the Proposed Rule deviates from the spirit and intentions of the statute. The City respectfully requests that Ecology revise the Proposed Rule to:

- Be consistent with the implementing statute, Chapter 70A.540 RCW;
- Be informed by similar rules adopted by US EPA, California Air Resources Board (CARB), and Oregon Department of Environmental Quality (OR DEQ); and

- Provide a clear, concise, and enforceable rule, avoiding the need to regulate by guidance – a practice that does not provide regulated entities the full opportunity to participate in adoption, i.e., not done in accordance with Chapters 42.30 and 34.05 RCW.

The City's prior comments, submitted July 21, 2023 during the informal comment period are attached and incorporated herein (Attachment 2) for consideration during this phase of rulemaking. Below, the City re-emphasizes these essential comments, and provides the following additional comments, to achieve more consistency with the enabling statute and improve regulatory fairness among landfills:

1. WAC 173-408-030 lists Exemptions. RCW 70A.540, the underlying statute for the rule, specifically exempts all landfills that "are currently regulated under the comprehensive environmental response, compensation, and liability act, 42 USC chapter 103", i.e., Superfund sites. In section WAC 173-408-030(2) through (3), Ecology adds limitations to the statutory blanket exemption that Superfund site landfills are provided.

Did Ecology evaluate the addition of these criteria and the effect on overall landfill methane emissions reductions? Similarly, did Ecology evaluate the other exempted categories to see if qualifications/criteria should be added to those exemptions?

The City strongly encourages Ecology to grant the outright exemption provided under the statute to Superfund sites. A review of possible Superfund sites indicates at most one or two landfills will get pulled into the program. All the state programs that Ecology is required to use to "inform" development of the rule (i.e., California and Oregon) and Maryland, which, during the public hearing on December 6, 2023, Ecology indicated was also used during rule development), offer outright exemptions to Superfund sites. Ecology should follow suit, not only with these other state programs but with the enabling statute.

2. Section 6.3.6 of the Regulatory Analysis discusses an exemption from monitoring and reporting requirements for CERCLA sites. This sounds like something different from the statutory CERCLA exemption and the exemption provided in the Proposed Rule.

If Ecology insists on including the extra criteria for Superfund sites in the Proposed Rule and a site does not meet these extra criteria, an exemption from monitoring and reporting would greatly help the site which likely has limited financial means to cover new, costly, monitoring.

3. The statutory applicability date of waste accepted after 1/1/1992 does not match up to the transition from Chapter 173-304 WAC to 173-351 WAC and so creates problems within the Proposed Rule such as how closed landfills are defined - i.e., closed under WAC 173-351-500. If a landfill accepted waste after 1/1/1992 but not after 11/26/1993, then it would be closed under Chapter 173-304 WAC plus federal standards, not WAC 173-351-500 which was not effective until 11/26/1993.

Ecology should revise the definition of Closed MSW landfill to say closed in accordance with one of the following (Ecology can use either and it would solve the issue related to the waste acceptance date cutoff of 1/1/1992):

- Chapter 173-351 WAC;
  - WAC 173-351-010(2) or WAC 173-351-500; or
  - (as the California, Oregon, and Maryland rules are written) the applicable statutes, regulations, and local ordinances in effect at the time of closure.
4. The City has asked a company for estimated costs for performing surface monitoring. It takes a group of 5 people almost a week to complete the site work for a landfill the size of the City's closed landfill. The cost estimate is from \$20,000 to \$45,000 per quarter, so between \$80,000 and \$180,000 annually. The added cost of this monitoring will nearly double the annual expenses for the City's closed landfill. A closed landfill such as the City's has a Post Closure Plan and a financial assurance account that must cover costs until the landfill is stable. Limited additional financial resources are available to cover potential new post closure costs like this. Ecology should consider adding a reduced monitoring provision for a closed landfill that has been closed for a significant number of years at the time the rule becomes effective (say 25 or 30 years).

Landfills closed for a significant amount of time have experienced the majority of settling and have lower methane production than newly closed landfills, warranting alternate monitoring. For example, reasonable monitoring might include an initial monitoring event and if it shows no exceedances, the landfill should be allowed to go to 100 feet spacing once every 5 years.

5. Municipal Solid Waste Landfill is defined as a discrete area of land or an excavation that receives household waste, while other parts of the rule refer to a facility, defined as all contiguous land & structures. The rule seems to clearly identify which requirements apply to the "landfill" vs a "facility" by use of these terms.

At the City's Northside Landfill there is a large area called the Closed Refuse Unit (CRU). It is about 160 acres; is separate and distinct (i.e., discrete); is a Superfund site; and did not receive waste after 12/31/1991. Under the solid waste program this landfill is regulated under Chapter 173-304 WAC (and the CERCLA clean up agreement). On the same contiguous property, there is an active landfill that receives waste. This landfill is regulated under Chapter 173-351 WAC. It is an excavation separate and distinct from the closed Superfund area. It would be reasonable under the rule, to look at the two landfills separately (just as is done for regulation, i.e., CRU under Chapter 173-304 WAC & the active landfill under Chapter 173-351 WAC) to determine applicability/requirements of the Proposed Rule (particularly given the statutory potential exemption for Superfund sites). Does this differ from Ecology's view?

This is not an issue that should be decided after rule adoption as it is critical that regulated sources be offered the opportunity to clearly understand the rule and its impacts during the adoption process thereby allowing sources to provide comment in an open and public process, i.e., in accordance with Chapters 42.30 and 34.05 RCW.

6. WAC 173-408-070(2)(a)(i) requires a temperature monitoring device with a continuous recorder. Probably the only recording device that is closest to a continuous recorder is a strip chart but this would not be useful for generating averages. The rule should clearly detail a minimum allowable recording period. Most continuous monitoring devices under the state air pollution rules rely on a 15-minute minimum data period and the details of calculating averages are explicit in the rules. Ecology should carefully consider how much data can be rapidly generated if "continuous recorder" means something like every second, or every minute. To avoid confusion and/or differing opinions between sources and agencies, specifics of data recording should be included in the rule along with how the 3-hour average is to be calculated for comparison to the source test temperature.

Implementation Guidance for the California landfill methane rule discusses recording each 15-minute average for the combustion temperature. Then, the 15-minute values during the source test are averaged to establish an on-going temperature limit that must be maintained. Under this approach an average is recorded for each 15-minute operating period. Does Ecology agree with this approach, and if so, could it be written into the rule? Including these details in the Proposed Rule will help minimize the necessity of issuing lengthy guidance and avoid agency regulation by guidance which can be an unfair practice because guidance development does not need to follow the same procedures as rule development.

Similarly, WAC 173-408-120(3) requires continuous recording of the wind speed during surface monitoring. In this case, the rule discusses a 15-minute average, but no information on how that average is to be calculated, and refers to an instantaneous value. Can Ecology describe how this monitoring will be done, including the specifics of averaging, and taking instantaneous methane and wind speed readings?

Does Ecology envision that a source will have to install permanent anemometer and barometric pressure instruments at the landfill in order to comply with the rule?

7. WAC 173-408-080(6) covers source testing of gas control devices. The Proposed Rule says if compliance with source testing requirement is not done before 6/9/2022 then annual testing is required until 5 years of compliant testing then can go to once every 5 years. Would a test in 2015 qualify as being before 6/9/2022?
8. Appendix I seems to be identical to CARB rules Appendix I except some tables are missing (Waste Types, Waste Characterizations...) that appear to be needed to do the HIC calculations. Were the tables left out intentionally? How will landfills determine needed inputs to the HIC equation without these tables? For instance, how will a source know what percentage of each year's accepted waste is characterized (newspaper, food, grass, lumber, etc...) and what the Total Degradable Organic Carbon (TDOC) fraction and Decomposable Anaerobic Fraction (DANF) is for each category?
9. While local authorities play a role in much of the rule – i.e., approve alternate decomposable fraction values, receiving reports, request demonstration of whether the rule applies, etc... - the Civil Penalties section (WAC 173-408-180) only refers to the Department. Is this intentional?

What roles does Ecology envision for itself & local authorities in counties where a local authority exists in regard to enforcement actions?

Similarly, the rule only gives Ecology the authority to approve alternative compliance methods (WAC 173-408-130). Will Ecology make all decisions as to alternative compliance methods?

If a local authority adopts its own rule and revises the language to say the local authority will have these powers, will the source have to work with both Ecology and the local authority?

10. Site specific HIC data may be substituted for the Appendix I calculation if available – the CRU measures landfill gas collected along with methane content and could calculate HIC using these data. Is this something that would fall under “site specific HIC data”? The rule does not say that Ecology or the local authority must approve use of site-specific data. Is that correct?
11. Surface CH<sub>4</sub> measurements must be done when average wind speed is less than 5 mph, at average barometric pressures, and no rain within 72 hours. Measurements must be taken within 3 inches of the surface. These criteria are concerning for several reasons:
  - Landfills are often located in open, windy areas. The 5 mph limit might prove impossible to meet given that the extended time (~5 days) it takes to complete the monitoring. The Oregon and Maryland rules provide that a wind barrier, such as a funnel, could be used under certain wind conditions. Could Ecology provide a similar provision in the Proposed Rule?
  - What if there is an extended period of snow cover >3 inches? How would the distance from the landfill surface be determined and does a frozen surface, or a saturated surface, interfere with accurate measurement?

Thank you again for the opportunity to provide comments on the Proposed Rule. The City is committed to protecting and improving our environment and working with Ecology for the health of our community, state, and beyond. Please do not hesitate to contact me should you have any question or would like more information relating to any of our comments.

Sincerely,



Chris Averyt  
Director  
Solid Waste Management

## Attachment 1 to City of Spokane Comments on Proposed Chapter 173-408 WAC

### Discussion Points – Chapter 173-408 WAC (Proposed Rule)

1. WAC 173-408-030 lists Exemptions. RCW 70A.540, the underlying statute for the rule, specifically exempts all landfills that “are currently regulated under the comprehensive environmental response, compensation, and liability act, 42 USC chapter 103”, i.e., Superfund sites. In section WAC 173-408-030(2) through (3), Ecology adds limitations to the statutory blanket exemption that Superfund site landfills are provided.

Has Ecology evaluated how many CERCLA landfills will be subject to the proposed rule? In a quick review of CERCLA sites indicate the City of Spokane Closed Refuse Unit (CRU) at the Northside Landfill & possibly the Pasco landfill.

If the CERCLA actions require methane control, what is Ecology hoping to gain? Has Ecology considered the impacts to closed landfills, e.g., limited revenue streams to cover:

- monitoring, testing, & reporting requirements (see #4 below)
- updates to post closure plans
- potential update to design plans & gas collection system costs for modifications and control system replacements (needed as methane production tapers off)

2. Section 6.3.6 of the Regulatory Analysis discusses an exemption from monitoring and reporting requirements for CERCLA sites. This sounds like something different from the statutory CERCLA exemption and the exemption provided in WAC 173-408-040. Is it?

- An exemption from monitoring and reporting would help the City a great deal if CRU does not get an outright exemption.

3. Where does the statutory applicability date of waste accepted after 1/1/1992 date come from? It does not match up to the transition from Chapter 173-304 WAC to 173-351 WAC and so creates some applicability problems such as how closed landfills are defined (i.e., closed under WAC 173-351-500, but if the landfill accepted waste after 1/1/1992 but not after 11/26/1993, then it would be closed under Chapter 173-304 WAC plus some federal standards, not WAC 173-351-500 which was not effective until 11/26/1993.

(If Ecology revised the definition of Closed MSW landfill to say closed under Chapter 173-351 WAC, or a landfill closed under WAC 173-351-010(2) or WAC 173-351-500, or (as Oregon does) closed under the applicable statutes, regulations, and local ordinances in effect at the time of closure, then it would be better. WAC 173-351-010(2)(b) applies to CRU and says the CRU must meet certain federal closure requirements along with WAC 173-304....)

4. We have asked a company for estimated costs for performing surface monitoring. It takes a group of 5 people almost a week to complete the site work for a landfill our size. The cost estimate is from \$20,000 to \$45,000 per quarter, so between \$80,000 and \$180,000 annually. As discussed above, the CRU is a closed landfill with limited financial resources to cover new post closure costs like this (see #5 below).

Could Ecology consider annual monitoring for closed landfills that have been closed for a long time, perhaps 25 to 30 years. For these landfills, methane generation is much lower than in the initial closure period and most of the settling has occurred, leading to a decreased likelihood that methane surface emissions would exceed the standard.

5. Will there be opportunities to seek CCA funds to cover extra costs the rule will create for NSLF CRU? This is a closed site – City uses the Open Cell intermittently as backup to WTE (only about 260,000 tons in place since 1992). WTE is facing increased costs due to inclusion in the Cap & Invest program, several million dollars per year, whereas landfills are exempt. The City is being significantly impacted from both the Landfill Methane and Cap & Invest programs without the mechanisms that a non-municipal landfill operator would have to cover costs under the proposed rule (i.e., the City has limited ability to increase rates to constituents).
6. Municipal Solid Waste Landfill is defined as a discrete area of land or an excavation that receives household waste.... Other parts of the rule refer to a facility, defined as all contiguous land & structures. The rule should be written to clearly identify what a landfill is versus a facility.

At the City of Spokane's Northside Landfill, there is a large area, called the Closed refuse Unit (CRU). It is about 160 acres and is separate and distinct (i.e., discrete) and is a Superfund site and did receive waste after 1992. Under the solid waste program this landfill is regulated under Chapter 173-304 WAC (and the CERCLA clean up agreement). On the same contiguous property, there is an active landfill that receives waste. This landfill is regulated under Chapter 173-351 WAC. It is separate and distinct from the closed Superfund area. It would be reasonable, under the rule, to look at the two landfills separately (just as is done for regulation, i.e., CRU under Chapter 173-304 WAC & the active landfill under Chapter 173-351 WAC) to determine applicability/requirements of the proposed rule (particularly given the statutory potential exemption for Superfund sites). Does this differ from Ecology's view? Can the rule be made clearer as to what a landfill versus a facility is?

7. WAC 173-408-070(2)(a)(i) requires temperature monitoring device with a continuous recorder. Probably the only recording device that is closest to a continuous recorder is a strip chart but even this is probably not truly continuous and would not be useful for generating averages. The rule should clearly detail a minimum allowable recording period. Most continuous monitoring devices under the state air pollution rules rely on a 15-minute minimum data period and the details of calculating averages are explicit in the rules. Ecology should carefully consider how much data can be rapidly generated if "continuous recorder" means something like every second, or every minute. To avoid confusion and/or differing opinions between sources and agencies, specifics of data recording should be included in the rule along with how the 3-hour average is to be calculated for comparison to the source test temperature.

CARB Implementation Guidance for the CA rule discusses a 15-minute averaging period for the combustion temperature. And then the 15-minute values during the source test are averaged to demonstrate conditions during the source test are being maintained. Does Ecology agree with this approach, and, if so, could it be written into the rule (to avoid regulating by guidance)?

Similarly, WAC 173-408-120(3) requires continuous recording of the wind speed during surface monitoring. In this case the rule discusses a 15-minute average, but no information on how that average is to be calculated, and refers to an instantaneous value. Can Ecology describe how this monitoring will be done, including the specifics of averaging, and taking instantaneous methane and wind speed readings?

Does Ecology envision that a source will have to have anemometer and barometric pressure instruments at the landfill all year long?

8. WAC 173-408-080(6) covers source testing of gas control devices. The proposed rule says if compliance with source testing requirement is not done before 6/9/2022 then annual testing is required until 5 years of compliant testing then can go to once every 5 years. Would a test in 2015 qualify as being before 6/9/2022?
9. Appendix I seems to be identical to CARB rules Appendix I except some tables are missing (Waste Types, Waste Characterizations, ...) that appear to be needed to do the HIC calculations. Were the tables left out intentionally? How will landfills determine needed inputs to the HIC equation without these tables?
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Similarly, the rule only gives Ecology the authority to approve alternative compliance methods (WAC 173-408-130). So, Ecology will make all decisions as to alternative compliance methods?

If a local authority adopts its own rule and revises the language to say the local authority will have these powers, will the source have to work with both Ecology and the local authority?

11. Site specific HIC data may be substituted for the Appendix I calculation if available – the CRU measures landfill gas collected along with methane content and could calculate HIC using this data. Is this something that would fall under “site specific HIC data”. The rule does not say that Ecology or the local authority has to approve use of site-specific data. Is that correct?
12. Surface CH<sub>4</sub> measurements must be done when average wind speed is less than 5 mph and at average barometric pressures and no rain within 72 hours. Measurements must be taken within 3 inches of the surface. What if there is an extended period of snow cover >3 inches?

## City of Spokane- Solid Waste Disposal

1. WAC 173-408-030 lists Exemptions. RCW 70A.540, the underlying statute for the rule, specifically exempts all landfills that -1-are currently regulated under the comprehensive environmental response, compensation, and liability act, 42 USC chapter 103-1-, i.e., Superfund sites. In section WAC 13-408-030(2) through (3), Ecology adds limitations to the statutory blanket exemption that Superfund site landfills are provided. Ecology should remove these limitations and provide the statutorily provided exemption as written in the law.

2. -1-Municipal Solid Waste Landfill-1- is defined as a discrete area of land or an excavation that receives household waste. Other parts of the rule refer to landfill areas and landfill facilities. The rule should be written to clearly identify which portions of a landfill will be covered by the rule. For example, within the fenced boundary of the City of Spokane's Northside Landfill, there is a 160 acre discrete Superfund landfill site that did not receive waste after 1991. Under the solid waste program this landfill unit is regulated under Chapter 173-304 WAC. On the same property there is also an active landfill currently receiving waste. This landfill is regulated under Chapter 173-351 WAC. It is separate and distinct from the closed Superfund area. For landfill sites containing multiple units (some of which have closed prior to 1992 and therefore should not be regulated under Chapter 173-408), please clarify which portions of the landfill are covered by the rule.

3. In the definition for -1-Owner,-1- please add -1-or-1- at the end of (c) to show that an owner only needs to be at least one entity described in (a) through (d). Otherwise the reader might assume -1-and,-1- indicating that all descriptions must apply.

4. The definition of -1-Waste-in-Place-1- seems overly specific (and in the rule it is usually waste in place, not waste-in-place). If a landfill has supporting data for an alternate refuse density, they should be allowed to use the more accurate value.

5. For older landfills, such as the Northside Landfill's Superfund Landfill, records of waste in place have not always been required (Chapter 173-304 WAC was first adopted in 1988). An allowance should be made if a landfill such as this one is brought into the rule. At best waste in place can be estimated, as the landfill was in use in the early 1900's. Can a new rule legally require records that pre-date the rule?

6. WAC 173-408-070(2)(a)(i) requires a temperature monitoring device with a continuous recorder. The rule should clearly detail a minimum allowable recording period. Most continuous monitoring devices under the state air pollution rules rely on a 15-minute averaging period and the details of calculating this average are explicit in the rules. Ecology should carefully consider how much data can be rapidly generated if -1-continuous recorder-1- means something like every second, or every minute. Some kind of averaging period should be allowed and the averaging period should align with the length of the performance testing test runs.

In addition, WAC 173-408-080(4)(a)(iv) states -1-The gas control device must be operated within the parameter ranges established during the initial or most recent source test.-1- More details should be provided as to what this means. Is the parameter range for the combustion temperature the temperature averaged over the most recent source test? And if so, does continuous monitoring mean

having an average temperature for each test run length? CARB Implementation Guidance for the CA rule discusses a 15-minute averaging period for the combustion temperature, and 15-minute values during the source test are then averaged to demonstrate that appropriate operating conditions during the source test are maintained.