



Report on the Implementation of SB 488 (2023): Relating to Municipal Incinerators

Submitted to the Oregon Legislature
Sept. 15, 2024



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Executive Summary

[Senate Bill 488 \(2023\)](#) requires an owner or operator of municipal solid waste incinerator to develop a plan to continuously monitor, where technologically feasible, or continuously sample, where it is not, specified pollutant emissions. An owner or operator of a municipal solid waste incinerator is responsible for developing a plan to conduct monitoring or sampling for 12 consecutive months. They must make emissions data available to Oregon Department of Environmental Quality and the public. The bill required an owner/operator to submit a plan within three months of the bill's effective date, Sept. 24, 2023, but provides DEQ discretion to extend the established deadlines for good cause.

The bill also provides authority to DEQ to "make such modifications to the plan as necessary to ensure the quality and accuracy of sampling or monitoring data." SB 488 caps the amount of hospital, medical and infectious waste a facility can incinerate at 18,000 tons per calendar year and requires DEQ to modify applicable permits accordingly. [Reworld Marion](#) (previously named Covanta Marion Incorporated) is Oregon's only municipal waste incinerator.

SB 488 requires DEQ to submit two reports. First, the agency must report on progress toward implementing the provisions and any data received, by no later than September 15, 2024. Second DEQ must submit a report within three months of the facility completing 12 months of monitoring or sampling. That report must contain the results of continuous monitoring or sampling and any recommendations for legislation to the interim legislative committee on environment.

Key Points:

- Reworld™ Marion twice requested, and received, extensions for submitting a monitoring and sampling plan to DEQ. The facility did not submit a complete plan until April 21, 2024.
- SB 488 requires an owner or operator to implement the monitoring and sampling plan within three months of DEQ approval. DEQ approved the plan on June 21, 2024. The facility should have begun implementation no later than Sept. 21, 2024. However, on Jul. 24 2024 Reworld Marion submitted a petition for reconsideration, asserting it could not comply with provisions of the approval letter.
- DEQ has worked closely with the facility, dedicating significant resource to providing technical assistance to help develop an approvable monitoring plan.
- At the time of publication the agency was reviewing Reworld Marion's petition for reconsideration.
- Because monitoring has not yet begun, there is currently no data or findings to report.

View the full report on the DEQ's website.

Background

Oregon [Senate Bill 488](#) was introduced during the 2023 legislative session. It requires an owner or operator of a municipal solid waste incinerator to develop plan to continuously monitor, where technologically feasible, or continuously sample, where it is not, specified pollutant emissions. The owner/operator of a municipal solid waste incinerator is responsible for developing a plan to conduct monitoring or sampling for 12 consecutive months and making emissions data available to Oregon Department of Environmental Quality and the public. The bill required an owner/operator to submit a plan within three months of the bill's effective date, Sept. 24, 2023.

Codified as [ORS 468A.875-468A.880](#), the bill gives authority to DEQ to "make such modifications to the plan as necessary to ensure the quality and accuracy of sampling or monitoring data."¹ It caps the amount of hospital, medical and infectious waste that can be incinerated at 18,000 tons per calendar year and requires DEQ to modify applicable permits accordingly.²

Reworld Marion³ (previously named Covanta Marion Incorporated) is Oregon's only municipal waste incinerator. The Reworld Marion facility processes up to 550 tons of garbage daily.⁴ Roughly 130 refuse trucks carry municipal and other waste to be weighed by truck scales. Loaded trucks move waste to the "tipping floor" where it is dumped into a 34-foot-deep pit, which can hold nearly 3,000 tons of refuse. An overhead crane mixes the garbage in the pit and lifts it into one of the two hoppers that feed the two identical combustor units. The combustor units are each rated with a capacity greater than 250 tons per day.

DEQ is required to submit two reports. First, the agency must report on progress toward implementing the provisions and any data received, by no later than Sept. 15, 2024. Second DEQ must submit a report within three months of the facility completing 12 months of monitoring or sampling. That report must contain the results of continuous monitoring or sampling and any recommendations for legislation to the interim legislative committee on environment.⁵

Regulatory Environment

Oregon's Environmental Quality Commission adopted air quality requirements for incinerators in 1993. In 1997, prompted by concerns over health impacts, the U.S. Environmental Protection Agency adopted more stringent emission regulations specific to medical waste incinerators. Facilities subject to the medical incinerator rules must meet stricter emission limits for particulate matter, hydrogen chloride, sulfur dioxide, carbon monoxide, nitrous oxide compounds, cadmium, lead, mercury, and dioxins. Under the federal rules, as long as a municipal incinerator combusts at least 30% municipal solid waste it is exempt from EPA rules for Hospital/Medical/Infectious Waste Incinerators.

Generally, incinerators are required to have a Title V permit due to the type and amount of emissions associated with waste incineration. Reworld Marion is subject to the federal emission guideline rule in [40 CFR Part 60 Subpart Cb](#) for municipal waste combustors capable of burning in excess of 250 tons of municipal solid waste per day and constructed prior to September 20, 1994.

Oregon's incinerator rules in [OAR 340 Division 230](#) for municipal waste combustors apply to Reworld Marion. Oregon's rules are equal to or more stringent than the federal rules for municipal waste combustors in 40 CFR Part 60 Subpart Cb.

Reworld Marion is subject to the [Cleaner Air Oregon program](#) established in [SB 1541 \(2018\)](#). Under the name Covanta Marion, the facility was "called in" to the program on Aug. 13, 2020. Its history with the Cleaner Air Oregon program can be found on the [DEQ program's web page](#). The final emissions inventory submittal was approved Nov. 7, 2023. As of August 2024, the program continues to work with Reworld Marion on completing

¹ ORS 468A.475(4)(a).

² ORS 468A.880(2). And Note: Sections 4, chapter 612, Oregon Laws 2023.

³ This report uses the current name of the facility throughout in order to avoid confusion. However, throughout the bulk of the process the record will show references to Covanta Marion.

⁴ <https://www.co.marion.or.us/PW/ES/disposal/Pages/mcwef.aspx> (Last accessed 9.05.2024) Note: links and references to Covanta Marion have not been updated to Reworld on this site.

⁵ Sections 4 and 5, chapter 612, Oregon Laws 2023.

a modeling protocol, risk assessment work plan, and ultimately a risk assessment. This effort will determine the health risks associated with emissions from the facility, relative to standards established by the legislature.

Implementation of SB 488

SB 488 was signed into law on Aug. 4, 2023, with an effective date of Sept. 24, 2023. Section 2(4)(a) requires, "The owner or operator of a municipal solid waste facility must submit the plan required by this section to the agency no later than three months after the effective date of this 2023 Act." The plan was due to DEQ by Dec. 24, 2023.

Because the Reworld Marion Municipal Waste facility is going through the Cleaner Air Oregon risk assessment process and is also a current Title V permittee, DEQ staff engages with the facility every other month on average. On Sept. 7, 2023, DEQ staff was at the facility and inquired after the plan but did not receive any specific information, nor questions about the new requirements.

On Oct. 5, 2023, staff reached out asking to engage on the monitoring plan required by SB 488. Reworld Marion staff responded that they had started work internally and noted they would contact DEQ once they were farther along in the process. They expressed a desire to work together on the plan.

On Dec. 5, 2023, DEQ staff reached out again to check on progress of the plan and to announce they would be on-site on Dec. 13 for annual testing of emissions from one of the combustor units under the Title V permit. During the on-site visit, Reworld Marion did not disclose any information about the monitoring plan. Reworld Marion representatives mentioned they were concerned that there were no EPA performance specifications for continuous emission monitoring systems for most metals (except mercury) or dioxins.

Reworld Marion submitted a monitoring plan on Dec. 20, 2023. However, the plan failed to outline how the facility would continuously monitor or sample for PCBs, dioxins/furans, cadmium, lead, arsenic, total chromium, magnesium, nickel, selenium, and zinc as required by SB 488. Because the plan did not address the continuous monitoring or sampling of the pollutants listed in the bill, DEQ issued a warning letter with an opportunity to correct on Jan. 4, 2024, citing to SB 488. (See Appendix A)

The warning letter required Reworld Marion to submit an updated plan by Jan. 25, 2024. On Jan. 22, 2024, Reworld Marion requested an extension under section 2(5) of the bill. DEQ granted the extension on Jan. 24 under the conditions that the facility submit a draft plan by March 4, 2024, and meet with DEQ every other week. The agency granted the facility until March 25, 2024, to submit the final plan.

DEQ provided substantial technical assistance during these meetings, including discussions of available continuous metal monitoring equipment and EPA performance specifications relevant to the monitoring and sampling of SB 488's enumerated emissions.

On Feb. 29, 2024, DEQ received a letter from the law firm Schwabe requesting another extension on behalf of Reworld Marion. The letter noted the previous time extension granted by the agency, "but a short term extension along with the Warning Letter puts Covanta (and DEQ) in a difficult position of developing a revised plan that may satisfy DEQ but not actually comply with SB 488. Importantly, the language in SB 488 does not limit the duration of an extension or otherwise prevent DEQ from granting multiple extensions." (See Attachment B) While DEQ staff was considering whether Reworld Marion had provided good cause for another extension, Reworld Marion submitted the required March 4 draft. It contained proposals for continuously monitoring: carbon monoxide; sulfur dioxide; nitrogen oxides; opacity; cadmium; lead; mercury; arsenic; chromium; manganese; nickel; selenium; and zinc. It did not address PCB or dioxin/furans.

DEQ is not currently aware of any continuous monitoring technology that produce reliable data for PCBs, dioxin/furans. Since continuous monitoring is not technologically feasible SB 488 requires the plan contain provisions for "continuous automated sampling."

DEQ agreed to extend the due date of the final monitoring plan until April 25, 2024, provided Reworld Marion continued to meet with DEQ every other week and submitted a more complete draft plan by March 25, 2024, which they did.

Though Reworld Marion continued to meet with DEQ staff and discuss options for sampling PCB and dioxin/furans, a draft plan submitted on April 8, 2024, still failed to address continuous sampling elements required under the bill. Method 23 is currently used by the facility to determine annual compliance with the dioxin/furan emission limit contained in its Title V Operating Permit though not at a frequency necessary to qualify as "continuously sampling."

Through conversations, Reworld Marion agreed that EPA performance Method 23 can be used to continuously sample PCBs and dioxin/furans but asserted that it wasn't economically feasible to do continuous sampling. The facility continued to assert that it would require 6 FTE to continuously monitor the samples and that the associated lab costs for more than a thousand samples would be prohibitive. SB 488 does not provide DEQ the discretion to waive requirements of the law because of economic or other considerations.

[EPA Method 23](#) does not specify a sampling duration maximum, so DEQ analyzed the technical requirements for testing under the method and provided specific technical information for how to accommodate a 48-hour sample run which also would reduce laboratory costs. Similarly, DEQ staff researched and provided information on continuous automated samplers that could be used.

On April 21, 2024, Reworld Marion submitted a plan to develop a predictive emissions monitor that would act as a proxy for continuous sampling PCBs and dioxin/furans. DEQ approved the monitoring plan with the inclusion of specific quality control and quality assurance procedures to validate the predictive emissions monitor through EPA's performance specification 16. (See Appendix B)

Table of monitoring /sampling methods proposed.

Pollutant	Monitoring Method
Carbon Monoxide	Continuous emission monitoring systems
Sulfur Dioxide	
Nitrogen Oxides	
Opacity	
Mercury	
Selenium	Ohio Lumex sorbent traps
Zinc	
Cadmium	
Lead	
Arsenic	
Total Chromium	
Manganese	
Nickel	
Dioxins/Furans	Boiler and control equipment parameter monitoring – baghouse inlet temperature, carbon monoxide emissions, boiler steam load and activated carbon injection feed rates.
PCBs	

Reworld Marion asserted it will be able to begin monitoring in Q1 of 2025. DEQ has been clear it expects the facility to identify vendors for equipment fabrication, installation and operations well before Q1 of 2025. While it can take months to order and install equipment needed for continuous monitoring or sampling, SB 488 provides a three-month window to implement the plan after approval. Staff suggested that significant progress toward monitoring should be made prior to Q1 2025.

On July 23, 2024, DEQ received a request for reconsideration through Reworld Marion's attorneys. The request noted they had "concluded that several conditions are impossible to satisfy or will produce data that are not representative of RMI's actual emissions." (See Appendix C) Because the plan approval is a "final order" under [ORS 183.310](#) the agency is required to act upon it within 60 days.

DEQ continues to work with Reworld Marion on the implementation of [468A.875](#). However, at this time, the facility has not made significant progress toward continuously monitoring or sampling the emissions identified in SB 488. Therefore DEQ has yet not received any data.

Permit Modification

SB 488 requires DEQ to “take all reasonable steps to ensure that any permit issued under the federal operating permit program established under ORS 468A.310 is modified” within 12 months of the bill’s effective date. Modifying Reworld Marion’s permit limiting incineration of hospital, medical or infectious waste to 18,000 ton per calendar year is considered a minor modification under [OAR 340-218-0170\(1\)\(a\)](#). Because DEQ was required to reopen the permit it was placed on public notice per [OAR 340-218-0200\(1\)\(b\)](#). The public notice was opened for comments from April 3 to May 7, 2024. Additionally, as a modification of a federal operating permit, it is required to undergo EPA review. The proposed permit was sent to EPA for a 45-day review period, which will expire on Sept. 11, 2024. The permit modification is expected to be finalized by Sept. 24, 2024.

Conclusion

Oregon DEQ has attempted to collaborate with Reworld Marion to implement SB 488. Staff has worked extensively with the facility to find cost effective methods to meet the bill’s requirements. For example, because the combustion units are identical and refuse is mixed, DEQ offered to consider mercury analyzer sharing between the two incinerators provided the sample frequency switched back and forth between municipal waste combustors every 15 minutes. However, DEQ understands that Reworld is intending to install a mercury monitor on each combustor.

Reworld Marion requested and received two time extensions for submitting a continuous monitoring and sampling plan to DEQ, and additional time in response to an initial warning letter. Ultimately, a complete plan was not submitted until April 21, 2024. Despite multiple discussions about quality assurance and control, the agency was required to use its authority to include references to approved EPA test methods for quality assurance and control.

While DEQ approved the plan on June 21, 2024. Reworld Marion filed a request for reconsideration on Aug. 21, 2024, again delaying implementation of the continuous monitoring and sampling plan. Because monitoring has not yet begun, the agency currently has no data, findings or recommendations. Oregon DEQ will report back to the legislative assembly within three months after Reworld Marion has conducted 12 months of continuous monitoring and sampling consistent with an approved monitoring plan.

Appendix A (Warning Letter From Oregon Department of Environmental Quality to Covanta Marion)



Oregon

Tina Kotek, Governor

Department of Environmental Quality

Western Region Salem Office

4026 Fairview Industrial Dr SE

Salem, OR 97302

(503) 378-8240

FAX (503) 373-7944

TTY 711

January 4, 2024

Covanta Marion, Inc.

4850 Brooklake Rd NE

Brooks, OR 97305

Sent via email only (kcarlson1@covanta.com)

RE: Warning Letter with Opportunity to Correct
Covanta Marion, Inc

2024-WLOTC-8903

24-5398-TV-01

Marion County

Dear Kasey Carlson:

On December 20, 2023, the Oregon Department of Environmental Quality (DEQ) received an incomplete test plan for the testing required by Oregon Senate Bill 488 (SB488). SB488 required Covanta Marion to submit a test plan to DEQ by December 24, 2023, to inform DEQ how Covanta Marion would continuously monitor or sample for carbon monoxide, sulfur dioxide, nitrogen oxides, opacity, PCBs, Dioxins/furans, cadmium, lead, mercury, arsenic, total chromium, manganese, nickel, selenium, and zinc. The test plan submitted on December 20, 2023 failed to include a plan to continuously monitor or sample for PCBs, dioxins/furans, cadmium, lead, mercury, arsenic, total chromium, manganese, nickel, selenium, and zinc. The plan received stated that there is no DEQ or EPA approved quality assurance performance specification for continuous monitoring. However, SB488 requires a plan for continuous emissions monitoring or automated sampling regardless of whether there are DEQ or EPA quality assurance and control performance specifications. DEQ encourages Covanta Marion, Inc. to add quality assurance and control procedures into the plan. The plan must also include how monitoring would be conducted for 12 months and how the data would be made available to DEQ and the public.

Based upon the review of the test plan, DEQ has concluded that Covanta Marion, Inc. is responsible for the following violation of Oregon environmental law:

VIOLATION:

- (1) Failing to submit a test plan to continuously monitor or sample for PCBs, dioxins/furans, cadmium, lead, arsenic, total chromium, magnesium, nickel, selenium, and zinc, in violation of Oregon Laws 2023, Chapter 612, Section 2 (Senate Bill 488); This is a class II violation according to OAR 340-012-0053(2).

Corrective Action Requested

By January 25, 2024, submit a complete test plan that complies with Oregon Laws 2023, Chapter 612, Section 2 (Senate Bill 488). The test plan must include how Covanta Marion will continuously monitor or sample emissions of:

- (A) Carbon monoxide;
- (B) Sulfur dioxide;
- (C) Nitrogen oxides;
- (D) Opacity;
- (E) PCBs;
- (F) Dioxins/furans;
- (G) Cadmium;
- (H) Lead;
- (I) Mercury;
- (J) Arsenic;
- (K) Total chromium;
- (L) Manganese;
- (M) Nickel; (N) Selenium; and (O) Zinc.

Where technologically feasible, the plan must provide for the use of a continuous emissions monitoring system to monitor the above listed air contaminants. If it is not technologically feasible to use a continuous emissions monitoring system to monitor an air contaminant listed above, the plan must provide for the use of a continuous automated sampling system to continuously sample that air contaminant.

The plan must describe how Covanta will conduct continuous monitoring or sampling for each of the air contaminants listed above for a period of 12 consecutive months and make emissions data available to the DEQ and the public.

Should this violation remain uncorrected, or should you repeat this violation, this matter may be referred to DEQ's Office of Compliance and Enforcement for formal enforcement action, including assessment of civil penalties and/or a Department order. Civil penalties can be assessed for each day of violation.



If you believe any of the facts in this Warning Letter are in error, you may provide information to me at the office at the address shown at the top of this letter. DEQ will consider new information you submit and take appropriate action.

DEQ endeavors to assist you in your compliance efforts. Should you have any questions about the content of this letter, please feel free to contact me in writing or by phone at 503-378-5070. In addition, if you desire any follow-up technical assistance, please contact Suzanne Blackburn at (503) 816-0793.

Sincerely,

Mike Eisele

Mike Eisele, PE

Environmental Engineer 3

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Oregon

Tina Kotek, Governor

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TTY 711

June 21, 2024

Joseph Walsh Reworld
Marion, Inc.
4850 Brooklake Rd NE
Brooks, OR 97305

Sent via email only (jwalsh@reworldwaste.com)

Reworld Marion, Inc. Title V Permit
24-5398-TV-01

Senate Bill 488 Monitoring Plan

This letter is in response to the monitoring plan Reworld Marion, Inc. (formerly known as Covanta Marion, Inc.) submitted to DEQ on April 25, 2024, and the subsequent revisions submitted on May 30, 2024, regarding the monitoring required by Senate Bill 488.

Below is a brief chronology of the facts and events leading up to this point:

- SB 488 Effective Date: September 23, 2023 (91 days after legislative session ended), • The bill required Reworld Marion to submit a monitoring plan within 3 months - December 23, 2023.
 - DEQ Staff reached out multiple times to Reworld Marion to offer assistance and check on progress.
 - On September 7, DEQ staff visited the site and asked about their plan.
 - On October 5, DEQ staff reached out and asked to engage with Reworld Marion on the plan required by SB 488.
 - On December 5, DEQ staff reached out to check on Reworld Marion's progress developing the plan and to announce they would be on-site the following week. ○ On December 13, DEQ staff talked with Reworld Marion while on site. Reworld Marion expressed their main concern was that metals (except mercury) and dioxin did not have performance specifications for continuous emission monitoring systems.
- DEQ received Reworld Marion's monitoring plan on December 20, but it failed to cover continuous monitoring or sampling for PCBs, dioxins/furans, cadmium, lead, arsenic, total chromium, magnesium, nickel, selenium, and zinc as required by SB 488.
- DEQ issued a warning letter on January 4, 2024, because the plan was incomplete.
 - The letter required that Reworld Marion submit a revised monitoring plan to DEQ by January 25, 2024.
- Reworld Marion requested that DEQ extend the revised monitoring plan deadline on January 22, and DEQ granted the request on January 24.

- Conditions of the extension included meeting with DEQ every other week to work through issues and demonstrate progress toward submittal of a complete monitoring plan that complies with the requirements of SB 488.
- The extension required submittal of a draft monitoring plan to DEQ by March 4, and a final monitoring plan to DEQ on March 25.
- On February 29, 2024, Reworld Marion submitted a request to DEQ to extend the due date for the final monitoring plan. DEQ granted the request on March 14.
 - Conditions of the extension included continuing to meet with DEQ every other week to work demonstrate progress toward submittal of a complete monitoring plan that complies with the requirements of SB 488. ○ The extension required submittal of a draft monitoring plan to DEQ by March 25 and a final monitoring plan to DEQ by April 25.
- DEQ and Reworld Marion met once in January, twice in February, twice in March and twice in April to discuss the monitoring plan. DEQ provided substantial technical assistance during these meetings.
- On April 25, Reworld Marion submitted their final monitoring plan to DEQ.
- On May 15, DEQ reached out to Ohio Lumex to get a better understanding of their equipment and invited Reworld Marion to join the meeting. During the meeting Reworld Marion asked to revise their monitoring plan.
- DEQ received a revised monitoring plan from Reworld Marion on May 30.
- On June 6 DEQ met with Reworld Marion.

The Senate Bill 488 monitoring plan received on April 25, 2024, and the revisions received on May 30, 2024, have been reviewed. The monitoring plan proposes the following:

Pollutant	Monitoring Method
Carbon Monoxide	Continuous emission monitoring systems
Sulfur Dioxide	
Nitrogen Oxides	
Opacity	
Mercury	
Selenium	Ohio Lumex sorbent traps
Zinc	
Cadmium	
Lead	
Arsenic	
Total Chromium	
Manganese	
Nickel	Boiler and control equipment parameter monitoring – baghouse inlet temperature, carbon monoxide emissions, boiler steam load and activated carbon injection feed rates.
Dioxins/Furans	
PCBs	

The monitoring plan is approved with the following conditions:

GENERAL PROCESS CONDITIONS

Reworld Marion:

1. Must submit to DEQ for approval, any modifications or changes to the monitoring or sampling plan prior to implementation.
2. Must perform quality assurance/quality control (QA/QC) procedures to ensure that the data is valid. Reworld Marion must provide documentation of the procedures and results to DEQ.
3. If any of the monitoring for carbon monoxide, sulfur dioxide, nitrogen oxides, opacity, mercury, cadmium, lead, arsenic, total chromium, manganese, nickel, selenium, zinc, dioxins/furans, or PCB cannot pass the criteria listed in this monitoring plan approval letter, Reworld Marion must submit to DEQ, an alternative monitoring or sampling plan for the pollutant or pollutants within 60 days of determining the QA/QC in this approval letter cannot be met.
4. Must maintain all documentation of sampling equipment calibrations and analytical results for a minimum of five years.
5. Must perform method-specific quality assurance/quality control (QA/QC) procedures to ensure that the data is valid. Only method-specific requirements explicitly exempted by DEQ need not be performed. Reworld Marion must include documentation of the procedures and results in each data set given to DEQ.
6. May suspend monitoring in progress if severe meteorological conditions occur, and for situations where the safety of workers performing the monitoring would be jeopardized. If the monitoring is underway, Reworld Marion should make every effort to complete the monitoring. All recoverable monitoring data must be retained and made available to DEQ for review.

Must not postpone or suspend monitoring if upset conditions occur. Reworld Marion must provide DEQ written documentation explaining the reasons for any postponement or stoppage of monitoring and make available to DEQ any data collected prior to the stoppage. DEQ will review the documentation and all available data.

7. Monitor all required pollutants continuously except for brief periods needed to perform quality checks, sampling, or monitoring equipment maintenance, or to change over equipment or sorbent tubes at the end of a sampling event. Reworld Marion must perform all sampling and monitoring for a 12-month period while combustion of waste and/or natural gas in the MWC unit(s) is occurring including when starting up, operating during a malfunction, operating normally, or in the process of shutting down.
8. Synchronize all sampling and monitoring device clocks.
9. In accordance with SB 488 Section 2(4)(b), must fully implement the monitoring plan no later than three months after the date of this approval letter.

All monitoring and sampling in the approved plan must begin by September 21, 2024.

Conditions for continuous monitoring of Carbon Monoxide, Sulfur Dioxide, Nitrogen Oxides and Opacity

Reworld Marion:

10. Must continue to follow the QA/QC procedures required by your Title V operating permit.
11. Must continue to follow the 40 CFR Part 60 Appendix B and F procedures and requirements for daily, quarterly, and annual operations, checks and audits.
12. Must submit hourly CEMS data in an Excel format. The monthly data report must be submitted to DEQ, and made available to the public, within 30 days after the end of each calendar month.

Conditions for continuous monitoring of Mercury

Reworld Marion:

13. Must continuously monitor both MWC-1 and MWC-2 simultaneously for mercury emissions.
14. Must follow the 40 CFR Part 60 Appendix B Performance Specification 12A, and Appendix F requirements for daily, quarterly, and annual operations, checks and audits.
15. Must ensure the range of the mercury CEMS is large enough to be able to measure mercury concentration spikes.
16. Operate the reference gas delivery system so that the flow rate exceeds the sampling system flow requirements of the CEMS, and that the gas is delivered to the CEMS at atmospheric pressure.
17. Must perform and pass an initial Measurement Error (ME) test, an initial Calibration Drift test, a 7-day calibration drift determination and RATA to start the 12-month monitoring period.
18. Must submit a full RATA test report, including a full lab data package for all samples analyzed, to DEQ no later than 60 days after the testing is completed. The ME and 7-day calibration drift determination data must be included in the test report.
19. Must submit hourly mercury CEMS data in an Excel format. The monthly data report must be submitted to DEQ, and made available to the public, within 30 days after the end of each calendar month.

Conditions for Cadmium, Lead, Arsenic, Total Chromium, Manganese, Nickel, Selenium, and Zinc monitoring using Ohio Lumex Sorbent Traps

Reworld Marion:

20. Must continuously sample MWC-1 or MWC-2 for metals emissions. DEQ prefers that Reworld Marion alternate sampling between MWC-1 and MWC-2.
21. When checking the Ohio Lumex sorbent trap results with the results of EPA reference Method 29, must evaluate each metal pollutant for validity individually, not as a sum of all metals.
22. Pre-Spiking of Sorbent Traps - Each metal pollutant should be spiked into the sorbent trap between 50% and 150% of the expected concentration for each metal pollutant before the sampling event starts. Reworld Marion may need to adjust the spiking solution after the first few sample results come in. For each spike recovery rate less than 80% for each metal pollutant, Reworld Marion must adjust the sample result up to account for the material lost. Reworld Marion must not adjust spike recovery rates above 100% recovery.
23. Proportional Sampling – must have the ability to modulate over the range of potential velocities that will be present during the duration the 12-month period. Reworld Marion must check equipment monitoring the velocity of the sampling location quarterly and have an accuracy of +/- 20%.
24. Stack Gas Moisture Determination – per our conversation on June 6, 2024, Reworld Marion will not utilize continuous moisture measurements because Reworld Marion is choosing to comply with SB 488 by monitoring or sampling for the concentration of each pollutant and not the emission rate of each pollutant.
25. Sample analysis – Must provide DEQ with the lab analysis results for the filter material, sample sorbent, breakthrough sorbent, and spike sorbent.
26. Blank Subtraction – blank subtractions for each metal pollutant are acceptable provided the sorbent tubes blanks are from the same sorbent tube lot as the sample tubes and the blanks are in agreement within 20% of each other. If the blanks are in agreement within 20% of each other, the lowest value of the blank samples may be subtracted from the sample result. Non-detect blank MDL may not be subtracted from results.

27. Gas Metering System Calibration – Must provide DEQ with all the system calibration data in advance of the “initial use”.
28. Laboratory Reports – Must provide to DEQ full lab data packages for all lab analyses – for the sorbent trap samples, and for the EPA Method 29 samples. Reworld Marion must include calibrations, sample analyses, blanks, etc. Where possible, include Excel copies of calculations and results.
29. Results of sampling completed in a calendar month must be submitted to DEQ, and made available to the public, within two months of the end the month in which sampling occurred.
Example: for any sampling completed in September, the results are due by December 1.

Conditions for Dioxin/Furan and PCB monitoring

Reworld Marion:

30. DEQ understands Reworld Marion plans to monitor operating parameters of the incinerators and associated equipment in lieu of directly measuring for D/F and PCB emissions. DEQ accepts this approach provided Reworld Marion uses these parameters to predict the emissions of D/F and PCB.
31. Must evaluate these predictive emission monitoring systems using 40 CFR Part 60 Appendix B Performance Specification 16. After meeting the quality checks of PS16, the 12-month monitoring period will begin.
32. Must provide results for each pollutant to DEQ, and make them available to the public, within 30 days of the end of each calendar month.

EPA/ODEQ METHODS 1-4 VALIDATION TESTING CONDITIONS

Reworld Marion:

33. Must check and document cyclonic flow in the test report, unless no modifications have been made that would influence the direction of flow since the last time cyclonic flow was measured.
34. For validation source testing the exhaust stacks must meet the EPA Methods 1 & 2 criteria. Reworld Marion must include clear diagrams and documentation of this in the source test report.
35. If using EPA Method 3B measurements, an integrated sample may be taken at a constant rate over the duration of the pollutant sampling period.
36. ALT-153 may be used for the analysis of the integrated samples. If using ALT-153, the integrated Tedlar bag sample may be analyzed using Method 3A analyzers.

EPA METHOD 23 VALIDATION TESTING CONDITIONS

Reworld Marion:

37. Must ensure enough sample volume is collected to achieve the desired in-stack detection limit for each Method 23 test run.
38. Must submit a full lab data package to DEQ for all lab analyses.
39. Must submit each Method 23 Validation test report to DEQ no later than 60 days after the testing event is completed, unless a longer time frame is approved by DEQ in writing prior to the start of testing.

EPA METHOD 29 VALIDATION TESTING CONDITIONS

Reworld Marion:

40. Must ensure enough sample volume is collected to achieve the desired in-stack detection limit for each Method 29 test run.
41. Must submit a full lab data package to DEQ for all lab analyses.
42. Must submit each Method 29 Validation test report to DEQ no later than 60 days after the testing event is completed, unless a longer time frame is approved by DEQ in writing prior to the start of testing.


GENERAL

Reworld Marion:

43. Must submit a searchable electronic PDF copy of each report, in addition to the Excel data pages.
44. Beginning 15 days after the receipt of this letter, must submit a monthly progress report by email to Mike Eisele, Suzanne Blackburn, and Zach Loboy at DEQ, until all monitoring systems are running. The monthly progress reports must be submitted within 10 days of the end of the previous calendar month. The monthly reports must document progress on the engineering, purchasing, site preparation, and installation and startup of each of the monitoring and sampling systems.

Please contact me at (503) 816-0793 or at suzanne.blackburn@deq.oregon.gov if you have any questions.

Sincerely,



Suzanne Blackburn
Source Test Coordinator
Environmental Engineer
DEQ Salem Office

cc: Zach Loboy, DEQ WR AQ Manager zach.loboy@deq.oregon.gov
Eisele, DEQ Environmental Engineer michael.eisele@deq.oregon.gov

Mike



July 23, 2024

Brien J. Flanagan

Admitted in Oregon
D: 503-796-2915 C: 503-860-9297
bflanagan@schwabe.com

VIA E-MAIL

Suzanne Blackburn
Department of Environmental Quality
4026 Fairview Industrial Dr. SE Salem, OR 97302

RE: Petition for Reconsideration of DEQ's Final Order Approving Reworld Marion's SB 488
Monitoring Plan
Our File No.: 142332-284051

Dear Ms. Blackburn:

Thank you for your letter dated June 21, 2024 ("the letter") in which you approved a SB 488 monitoring plan for Reworld Marion, Inc.'s ("RMI") municipal waste combustor, operating under Title V Permit 24-5398-TV-01. The letter approved the monitoring plan so long as RMI follows 44 specific conditions attached to the approval. RMI analyzed the conditions to determine their feasibility. We also consulted with Ohio Lumex, the supplier of our Hg continuous emission monitoring system ("CEMS") and multi-metal sorbent traps, to determine the practicability of satisfying these conditions. **Based on our analysis and consultation, we have concluded that several conditions are impossible to satisfy or will produce data that are not representative of RMI's actual emissions.** Specifically, conditions 6, 7, 9, 22, 23, 26, 30, and 31 present challenges that cannot be overcome without additional time or modification of conditions. Because we cannot satisfy the above conditions as written, we petition for reconsideration of those conditions and request conferral with DEQ.

This petition for reconsideration is authorized because the Department's letter constitutes a "final order" under ORS 183.310(6)(a) and (b). Those provisions state that an order is "any agency action expressed orally or in writing directed to a named person or named persons," and that a final order means "final agency action expressed in writing." Here, DEQ's letter providing final approval of RMI's SB 488 monitoring plan constitutes a final agency action expressed in writing. Further, where an agency, like DEQ, issues a final order, the affected party may seek reconsideration under ORS 183.484(2) and OAR 137-004-0080, within 60 days of issuance of that order. Finally, following Conditions 1 and 3 in the letter, RMI submits this petition as notice that RMI's monitoring cannot meet certain criteria contained in the letter. As required by OAR 137-004-0080(2), the remainder of this petition details the specific grounds for reconsideration and modifications or changes necessary to ensure that data are valid.

Grounds for Reconsideration

Condition 6: "May suspend monitoring in progress if severe meteorological conditions occur, and for situations where the safety of workers performing the monitoring would be jeopardized. If the monitoring is underway, Reworld Marion should make every effort to complete the monitoring. All recoverable monitoring data must be retained and made available to DEQ for review.

"Must not postpone or suspend monitoring if upset conditions occur. Reworld Marion must provide DEQ written documentation explaining the reasons for any postponement or stoppage of monitoring and make available to DEQ any data collected prior to the stoppage. DEQ will review the documentation and all available data."

Response: RMI appreciates that DEQ will allow us to suspend monitoring during severe weather or when conditions present a safety risk to workers, but requiring monitoring during all upset conditions will be detrimental to DEQ's overall monitoring goals. Certain upset conditions may damage monitoring equipment, which will likely cause monitoring delays while RMI repairs or replaces the monitoring equipment. Examples of such upset conditions include a boiler tube rupture that fills the boiler and downstream equipment with steam,

a total "black plant" where no internal power is available, or where damage to grate bars occurs such that the stoker must be shut down immediately. Given the unique application of these monitoring technologies to a municipal waste combustor, such operational upset conditions have the potential to damage the monitoring equipment. Delays could be avoided if DEQ provides monitoring exceptions for these and other upset conditions. To that end, RMI requests a conferral with DEQ to discuss formulating a list of upset conditions that could damage equipment, with the goal of modifying Condition 6 to allow RMI to suspend monitoring under such upset conditions.

Condition 7: "Monitor all required pollutants continuously except for brief periods needed to perform quality checks, sampling, or monitoring equipment maintenance, or to change over equipment or sorbent tubes at the end of a sampling event. Reworld Marion must perform all sampling and monitoring for a 12-month period while combustion of waste and/or natural gas in the MWC unit(s) is occurring including when starting up, operating during a malfunction, operating normally, or in the process of shutting down."

Response: Due to the technical limitations of the Ohio Lumex sorbent traps and their proportional flow sampling equipment, monitoring under every condition mentioned in Condition 7 is not feasible. Further, under certain conditions, process monitoring parameters may produce invalid data due to variable steam flows and carbon monoxide concentrations at high % O₂. Specifically, RMI can satisfy Condition 7 for monitoring Hg during warm-up with natural gas, start up and shutdown, but after consulting with Ohio Lumex, the Hg CEMS cannot continue to operate during all malfunctions. As to multi-metals, RMI and Ohio Lumex believe that the Ohio Lumex sorbent tube sampling system cannot operate during warm-up, start-up, shutdown, or during malfunctions. To the best of our ability, RMI will implement good combustion practices pursuant to our Title V permit and as described in EPA's municipal waste combustor ("MWC") maximum achievable control technology ("MACT") regulations during warm-up, start-up, shutdown, and malfunctions. However, due to the uncertainty as to whether our monitoring equipment, which has been approved by DEQ, can satisfy this approval condition necessitates additional discussion and clarification.

Condition 9: "In accordance with SB 488 Section 2(4)(b), must fully implement the monitoring plan no later than three months after the date of this approval letter.

"All monitoring and sampling in the approved plan must begin by September 21, 2024."

Response: As indicated in our monitoring plan submittal, RMI cannot satisfy this timeline due to procurement and construction timelines, therefore we request an extension to this date. Implementation of the monitoring plan requires RMI to finalize internal procedures, conduct engineering required for installing monitoring equipment, engage a contractor capable of completing the infrastructure to install the equipment, consult with Ohio Lumex and the proportional flow sampling equipment supplier, and procure the necessary equipment. The construction work alone will extend beyond September 21, 2024, as it requires building sampling platforms and the shelters for the mechanical and electrical infrastructure required to install the monitoring equipment. Further, once the equipment is received, the installation and calibration timeline is uncertain, but certainly cannot be finished by September 21, 2024. RMI appreciates DEQ's statutory deadline, but we request reconsideration of this condition, with final approval occurring once RMI has completed the necessary foundational work to fully implement the plan.

Condition 22: "Pre-Spiking of Sorbent Traps - Each metal pollutant should be spiked into the sorbent trap between 50% and 150% of the expected concentration for each metal pollutant before the sampling event starts. Reworld Marion may need to adjust the spiking solution after the first few sample results come in. For each spike recovery rate less than 80% for each metal pollutant, Reworld Marion must adjust the sample result up to account for the material lost. Reworld Marion must not adjust spike recovery rates above 100% recovery."

Response: Due to the variability in the composition of RMI's feed stream and the testing lag times inherent in using sorbent traps, there is no way to on-demand pre-spike the traps. Ohio Lumex anticipates a 14-day lag between sorbent traps being removed from the stack, tested, and being able to spike new traps at masses that correspond to the concentrations measured in the traps. This essentially necessitates a "rolling pre-spike" process. For example, examining the testing process over a month period: the Week 1 trap is removed from the stack and sent to Ohio Lumex for testing and the Week 2 trap is installed when the Week 1 trap is removed. Only upon installation of the Week 4 trap will the results from the Week 1 trap be ready, at which point the pre-spiking mass that corresponds to the Week 1 trap will be used. This delay is inherent to using sorbent test

traps. Based on that, the pre-spiking requirements in Condition 22 cannot be met, and RMI requests DEQ modify the spiking requirements based on its approval of our use of Ohio Lumex's sorbent traps.

Condition 23: "Proportional Sampling – must have the ability to modulate over the range of potential velocities that will be present during the duration the 12-month period. Reworld Marion must check equipment monitoring the velocity of the sampling location quarterly and have an accuracy of +/- 20%."

Response: RMI seeks to clarify the proportional sampling methodology that our proposed multimetal sampling equipment will use. The multi-metal sampling equipment will use EPA's Performance Specification 12B, more specifically the methodologies and calculations for flowproportional sampling in Sec. 12.2. Any other flue gas velocity sampling methodology is not compatible with the approved sampling equipment for multi-metals.

Condition 26: "Blank Subtraction – blank subtractions for each metal pollutant are acceptable provided the sorbent tubes blanks are from the same sorbent tube lot as the sample tubes and the blanks are in agreement within 20% of each other. If the blanks are in agreement within 20% of each other, the lowest value of the blank samples may be subtracted from the sample result. Nondetect blank MDL may not be subtracted from results."

Response: RMI seeks clarification on this condition. It appears to correspond with Ohio Lumex's Quality Assurance/Quality Control ("QA/QC") Plan related to its manufacturing of sorbent traps, but does not entirely reflect the contents of that Plan. The "20%" rule contained in the original QA/QC Plan was in regards to the percent difference between production lots. A production lot is a batch of sorbent material Ohio Lumex synthesizes in the laboratory, which could be anywhere from 50g to 1.5kg of sorbent material. Once a production lot is created, Ohio Lumex measures its background and uses it for the production of sorbent traps (each of which uses 1.5g of material). That means there could be weeks or months between production lots, depending on how many traps they manufacture.

The 20% rule was, according to Ohio Lumex: "To assess the suitability of blank subtraction for a specific sorbent material production lot, analyze three method blanks and three laboratory control samples, ensuring they meet the performance criteria outlined EPA Method 6020b.

Repeat this process for each production lot of sorbent material if the background concentration varies by more than 20% between lots." The 20% rule was not intended to apply to sampling but rather the production of the traps. Ohio Lumex manufactures its sorbent traps to comply with EPA Method 6020b. As such, RMI requests modification of Condition 26 to include an exemption to this condition such that it does not apply to Ohio Lumex sorbent traps, because they already conduct sufficient QA/QC to ensure compliance with EPA Method 6020b.

Condition 30: "DEQ understands Reworld Marion plans to monitor operating parameters of the incinerators and associated equipment in lieu of directly measuring for D/F and PCB emissions. DEQ accepts this approach provided Reworld Marion uses these parameters to predict the emissions of D/F and PCB."

Response: RMI requests clarification on this condition. In EPA's municipal waste combustors ("MWC") maximum achievable control technology ("MACT") rules (40 CFR Part 60, Subpart Eb), the Agency proposed that where the operating parameters did not exceed MWC MACT limits, the annual dioxin/furan testing results would be representative of the annual dioxin/furan emissions until the next annual dioxin test. RMI proposes to use the operating parameters in the plan approval during the one year of SB 488 monitoring to ensure that dioxin/furan emissions remain below the RMI Title V permit emission limits. Based on the last 12 years of testing data, since the Title V renewal on 7/2/2012, by continuously monitoring good combustion parameters mandated by RMI's Title V Permit, we can confirm that the dioxin/furan emission results never exceeded the permitted limit. This methodology also comports with EPA's MWC MACT. For that reason, RMI requests that Condition 30 be modified to comply with EPA's approach.

Condition 31: "Must evaluate these predictive emission monitoring systems using 40 CFR Part 60 Appendix B Performance Specification 16. After meeting the quality checks of PS16, the 12month monitoring period will begin."

Response: RMI cannot use Performance Specification 16 ("PS 16") to evaluate the emissions parameters mentioned in Condition 30. To our knowledge, there have been no successful attempts to predict dioxin/furan emissions for MWCs under PS 16. PS 16 is intended for use in predictive emission monitoring systems ("PEMS"). See 40 CFR Part 60, Appendix B, Performance Specification 16, Sec. 1. It expressly requires that a PEMS "must

pass a relative accuracy (RA) test and accompanying statistical tests in the initial certification test to be acceptable for use in demonstrating compliance with applicable requirements." Nowhere in RMI's monitoring plan do we suggest that the Marion facility will implement a PEMS.

Developing a PEMS for use in MWCs that satisfies PS 16 would take an extended period of development. RMI does not understand why DEQ requires Condition 31 based on the emission sampling equipment it has approved. RMI requests that Condition 31 be removed.

RMI appreciates the opportunity to continue discussions with DEQ regarding its approval of our SB 488 monitoring plan. RMI requests that DEQ grant this petition for reconsideration and confer with us regarding the added conditions, a number of which we cannot satisfy as currently written.

Best regards,

A handwritten signature in cursive script, appearing to read "Brien Flanagan".

Brien J. Flanagan BF:cst

cc: Zach Loboy, DEQ WR AQ Manager
Mike Eisele, DEQ Environmental Engineer
Terry Coble, Reworld
Steve Nipp, Reworld
Joseph Walsh, Reworld