From:	DEGAGNE Julia * DEQ
To:	"Terry D. Coble"; Jesse Gonzalez
Cc:	Hahn,Jeffrey; Walsh,Joseph; GISKA JR * DEQ; Mattigan Kelly; Josh Haar; POULSEN Mike * DEQ; MARTIN Kristen * DEQ
Subject:	RE: Reworld (Previously Covanta) - Response to Modeling Protocol and Risk Assessment Workplan Letter
Date:	Wednesday, January 29, 2025 4:41:00 PM
Attachments:	image001.png image002.png H-Power HRA Analysis_DEQ.xlsx

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Hi Terry and all,

I'm following up from my last email with some specifics on what we'd like to discuss, and have included our updated availability for a call at the end of this email:

In the CAO permitting process for the Reworld facility, questions were raised within DEQ and by the public about potential exposure scenarios not adequately included in the default multi-pathway adjustment factors used to develop default RBCs. Rather than immediately require a Level 4 risk assessment, DEQ was willing to accept a justification for why a Level 4 assessment was not necessary. In June 2024, Reworld provided the equivalent of a Level 4 risk assessment for a similar facility in Hawai'i. Our understanding is that Reworld submitted the Hawai'i risk assessment with the expectation that it would justify not conducting a Level 4 risk assessment at the Marion Facility for air deposition to ponds, uptake by fish, and consumption by humans. However, based on an internal analysis using the emission rates in the approved Emissions Inventory (see description below), DEQ still has concerns that need to be addressed before DEQ can make a determination on whether a Level 4 Risk Assessment is required.

To better understand the potential risks from mercury emissions and deposition, DEQ performed a screening air deposition evaluation. Together with mercury emission rates for the Oregon facility, we used these results along with those of the Hawai'i risk assessment to estimate potential risks of consuming fish from the St. Louis ponds, focusing on mercury exposure. DEQ's spreadsheet is attached. The health risk comparison presented in the spreadsheet includes many detailed assumptions from the Hawai'i facility that may not be accurate for the Marion facility, and we emphasize that this estimate does not represent the results of a site-specific health risk assessment for Reworld Marion. However, our initial analysis based on Reworld's response to our comments, and using the mercury emission rates from the Emissions Inventory, indicated a potential risk from mercury exposure that could justify conducting a Level 4 risk assessment.

The following steps were taken to evaluate if the Hawai'i Risk Assessment was adequate to justify not conducting a Level 4 risk assessment at the Marion Facility:

- Chemical emission rates associated with the Hawai'i and Marion facilities are different, so a direct comparison of risks cannot be made; however, ratios can be used to estimate risks in Oregon based on calculated risks from Hawai'i study.
- Compared to the Marion facility, the Wahiawa reservoir evaluated in the Hawai'i report is more than twice as far from the facility, about 13 miles compared with less than five miles. In

addition, the reservoir is substantially upwind, resulting in very little air deposition in the area of the reservoir. Salem meteorological data indicates winds are blowing towards the St. Louis ponds (S and SW winds) about 30% of the time. DEQ's study used relevant meteorology in the modeling.

- Using ratios of chemical emission rate and air deposition rate estimates for Hawai'i and Marion, we calculated potential risks focusing on methyl mercury. The initial conclusion is exposure to mercury in fish may warrant a Level 4 risk assessment. We are providing these preliminary screening calculations to facilitate discussion about the methods and assumptions used.

The following elements of our evaluation highlight the issues that need to be resolved before DEQ can determine whether a Level 4 risk assessment is needed to characterize this risk more accurately.

- The values used in the ratios should be checked to confirm that they appropriately consider how deposition and transport to the reservoir were incorporated in the Hawai'i report.
- Mercury speciation is an important element to estimate noncancer risk. DEQ requests further discussion and documentation before making a determination on the appropriate approach to modeling exposure to mercury.
- Fish ingestion rates may not be comparable between Hawai'i and Oregon. This is an area where Oregon-specific adjustments to assumptions in the Hawai'i study could potentially be made.

However, DEQ has determined that the emission rate presented in Reworld Marion's CAO Emissions Inventory, which is very conservatively estimated, is likely the parameter that could be most easily revised to have the largest impact on the analysis. In the attached workbook, DEQ has presented three emissions/risk scenarios: (1) using the conservative emissions from the CAO Inventory; (2) using the average of 2013 and 2014 site-specific source testing values multiplied by a safety factor of 5; and (3) using the average of 2013 and 2014 site-specific source testing values with no safety factor – that is, actual emissions data. It is clear from these results that the actual data obtained from source testing leads to a significant reduction in potential risk in the aforementioned analysis. To reduce estimated potential risk from this pathway, DEQ would consider proposed revisions to the Emissions Inventory, with appropriate justification.

The above issues need to be addressed before DEQ can determine if a Level 4 risk assessment is required and provide assurances to the public that potential risks have been adequately evaluated.

Here is our updated availability for a meeting:

Mon Feb 3, 3-4 or 3:30-4:30pm
Tues Feb 4, 3-4 or 3:30-4:30pm
Wed Feb 5, 3:30-4:30
Thurs Feb 6, 1-2

Thank you,

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