

Scientific and technical advice

Proposed Gas Plasma Energy-From-Waste Facility in Hamilton – Response to Conestoga-Rovers & Associates

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The following has been prepared in response to the comments addressed by Conestoga-Rovers & Associates (CRA) in our scientific and technical advice document entitled *Proposed Gas Plasma Energy-From-Waste Facility in Hamilton* dated February 18, 2015. Our responses have been numbered to match CRA's response document.

COMMENT 1: HUMAN HEALTH RISK ASSESSMENT METHODOLOGY

Comment 1a:

Response: No response required.

Comment 1b:

Response: No response required.

Comment 1c:

Response: This response addresses our comment about accounting for baseline soil and vegetation concentrations in the HHRA. Since baseline soil and vegetation are not necessarily collected from the

proposed Project area and/or sensitive receptor locations, it is suggested that CRA discusses how representative these samples are for determining the baseline conditions in the HHRA.

Comment 1d:

Response: This response addresses our comment about traffic-related emissions.

Comment 1e:

Response: The operation upset scenario would be improved upon if it also considered emissions that may result if air pollution controls are not working as intended or malfunction. Alternatively CRA could clarify how this has been accounted for with the continuous emission monitoring system and/or any other any contingencies in the facility design. It would be useful to provide clarification in the HHRA of which scenarios were considered but not evaluated.

Comment 1f:

Response: Our assessment is that the Executive Summary of the HHRA report is not a “plain language” summary and is not likely to be easily understood and interpreted by members of the community.

COMMENT 2: EXTRAPOLATING FROM THE SWINDON PILOT

Comment 2a:

Response: There is agreement on the amount of testing that has been performed on the Swindon plant. Whether this is ‘extensive’ for a new process is open to debate. For example, regulators require over 4200 hours when testing modifications to drinking water technology. Accredited stack testing is a necessary component of evaluating a thermal process, but we are not aware that this makes for a comprehensively valid pilot for forecasting performance over the life of all of the process equipment and encompassing variation in feedstock quality. It is appropriate that that pilot conditions were conservative since the pilot is a short-term, small-scale, test in a controlled environment. Compliance with A-7 Guidelines, legal requirements, conditions in the approval and monitoring are distinct from the HHRA.

Comment 2b:

Response: It is not clear from the HHRA that normal and bypass operating conditions were weighted equally. It is noted that risk estimates in bypass mode are lower than during the normal mode. Clarity on this aspect could be improved.

Comment 2c:

Response: As noted the data quality definitions and labels, including “un-validated,” “marginal” etc., are those of the MOECC. CRA considers the stack test data itself to be of high quality.

Comment 2d:

Response: No response required.

Comment 2e:

Response: It is noted that pollution abatement efficacies of 90% for TOC, and PAH and 95% for NO_x and PM were applied based on estimates provided to the proponent, PFMSI, from “local suppliers” and that CRA considers these claims readily achievable over the life of the technology.

Comment 2f:

Response: No response required.

Comment 2g:

Response: No response required.

Comment 2h:

Response: To clarify, this was in response to the following question posed by Hamilton Public Health Services, “Will the extrapolated data be valid and representative of the full-scale operation?” The pilot is of a new process for which there are no full-scale comparisons. One concern relates to the reliability and the generalizability of the emissions estimates for the full scale facility. Although air emissions are based on third party stack testing, data from the Swindon pilot are limited in the following respects:

- Information about the pilot test protocol is not provided e.g., spectrum of operating conditions; piloting of failure modes.
- Information to evaluate how emissions may change given possible variations in full-scale operating conditions is not provided.
- Explicit references to abatement technology suppliers, performance claims and limitations are not provided.
- Swindon is only one plant, to satisfactorily understand the performance of this new technology under different operating conditions and locations, data from multiple facilities are needed.

COMMENT 3: OZONE

Response: No response required.

COMMENT 4: KEITH NEIGHBOURHOOD

Response: No response required.

We hope this write-up has been helpful for you. If you have any questions or require clarification, please do not hesitate to contact us.