

Ministry of the Environment,  
Conservation and Parks

Ministère de l'Environnement, de  
la Protection de la nature et des Parcs

Central Region

Région du Centre

5775 Yonge Street, 8<sup>th</sup> floor

North York ON M2M 4J1

Tel.: 416 326-6700

Fax.: 416 325-6345

8<sup>e</sup> étage, 5775, rue Yonge

North York ON M2M 4J1

Tél. : 416 326-6700

Télééc. : 416 325-6345

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Mirka Januszkiewicz, P. Eng  
Director, Waste Management  
The Regional Municipality of Durham  
605 Rossland Road East  
Whitby ON L1N 6A3

Laura McDowell, P. Eng  
Director, Environmental Promotion and Protection  
The Regional Municipality of York  
17250 Yonge Street  
Newmarket ON L3Y 6Z1

**Re: Durham/York Energy from Waste Project  
Ambient Air Monitoring 2018, Third and Fourth Quarterly Reports  
Notice of Approval, Condition 11**

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Dear Ms. Januszkiewicz and Ms. McDowell,

A data validation review was conducted for the 2018 Third and Fourth Quarterly Report prepared by RWDI on behalf of Durham and York Regions for the continuous and periodic parameters measured at Stations 45201 (Courtice) and 45200 (Rundle). The review also included the discrete measurements conducted at the Fenceline Station from July to December 4, 2018, which has since been discontinued as per the ministry's approval.

### Overview

There were no Benzo(a)pyrene (BaP) exceedances reported during the third quarter. However, during the fourth quarter, there were three daily BaP exceedances, one at Courtice and two at Rundle stations. BaP daily concentrations above the AAQC of 0.05 ng/m<sup>3</sup> at Courtice station occurred on December 4<sup>th</sup>, 2018 with measurement of 0.07 ng/m<sup>3</sup>. At Rundle station, BaP daily exceedances occurred on December 4<sup>th</sup> and December 16<sup>th</sup>, 2018 with measurements of 0.08 ng/ m<sup>3</sup>, and 0.06 ng/ m<sup>3</sup>, respectively. These elevated daily BaP concentrations are potentially due to the construction in the area, vehicle exhaust emissions, and heavy-duty diesel equipment.

In addition, there were two daily PM<sub>2.5</sub> concentrations at the Courtice and Rundle stations above the daily reference level of 28 µg/m<sup>3</sup>. At Courtice and Rundle stations, the elevated daily PM<sub>2.5</sub> levels occurred on December 14<sup>th</sup>, 2018 with measurements of 35 µg/ m<sup>3</sup>, and 31 µg/ m<sup>3</sup>,

respectively. These observations coincide with the December 14<sup>th</sup> BaP exceedance due to potential construction and vehicle exhaust emissions, etc.

There were no dioxins and furans, total suspended particulate (TSP) or metal daily exceedances observed during the third and fourth quarters.

Below are our comments for your consideration.

### **Continuous Parameters**

1. Based on the supporting documentation provided, the continuous parameters (NO<sub>2</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>) are deemed to be valid for the third quarter (Q3) of 2018.
2. Based on the supporting documentation provided, the validity of the continuous data (NO<sub>2</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>) is questionable for the fourth quarter (Q4) of 2018. Further documentation and clarification are required at this time. Please provide a copy of the station log book for October to December 2018 to review the maintenance and corrective actions conducted at the Courtice and Rundle stations.
3. Based on the zero and span curves under Appendix C for the Q4 monitoring report, the SO<sub>2</sub> analyzer drifted beyond 2 ppb at Courtice Station. For future, this drift requires an offset adjustment as per the revised *Operations Manual for Air Quality Monitoring in Ontario* (MECP, 2018). Please ensure this offset is included in future quarterly report submissions.
4. Similarly, a drift beyond 2 ppb was also observed for the NO<sub>2</sub> analyzer at Rundle Station. For future, this drift requires an offset adjustment. Please ensure this offset is included in future quarterly report submissions.
5. Please provide a calibration record for 2018 for the meteorological tower at Courtice Water Pollution Control Plant and at Rundle Station. This information is required as supporting documentation for the ministry's review and validity of the meteorological data.
6. The percent of valid hours reported for wind direction for Q4 at Rundle station does not match the percent of valid hours for wind speed. Please clarify.
7. The report did not include a section on MECP audits. Please revise and include a discussion if corrective actions were performed at each station.
8. The Courtice and Rundle NO<sub>2</sub> hourly data submitted to the ministry has been edited. As confirmed via email with the Regions and RWDI, the edited data includes the proposed NO and NO<sub>x</sub> correction algorithm summarized in the RWDI January 18, 2019 letter.

Based on our review of the NO<sub>2</sub> hourly data, there are many inconsistencies predominantly from November to December with the NO<sub>x</sub> balance. Please provide station logs for each station to verify that appropriate corrective action was taken.

9. The hourly pollution roses (Figures 6, 7 & 8) in the Q4 submission does not appear to follow the same wind pattern as presented in Figure 5 (Windrose). Please clarify.

10. The ministry will comment on the validity of the continuous parameters for Q4 once the additional information requested above has been submitted.

### **Non Continuous Parameters**

1. Please provide the Q3 and Q4 edit logs and lab certificate of analysis for the non-continuous parameters for all stations. It is recommended to include this information in all future quarterly report submissions.
2. The PAH sample at Courtice station was invalid on November 22, 2018. Please provide a rationale (edit log) and the lab certificate of analysis for the ministry's review.
3. TSP and metal samples were invalid on November 10, 2018 at Rundle station. Please provide a rationale as to why this sample was invalid in the edit log for the non-continuous parameters.
4. TSP and metal samples for Q4 which exceeded the ministry's HiVol flow requirement of 40 CFM should be reported as is with a note stating that the flows were above the flow requirement, as stipulated in the *Operations Manual for Air Quality Monitoring in Ontario* (MECP, 2018). Please confirm that the TSP and metals for Q4 were not corrected to 60 CFM as proposed in the RWDI January 18/2019 letter.
5. Based on the supporting documentation provided, the ministry cannot comment at this time on the validity of the Q3 and Q4 dioxins and furans, TSP/metals and PAHs data due to missing information (edit logs and lab certificate of analysis).

Please note the additional information requested above for both continuous and non continuous parameters can be included in the 2018 Annual Monitoring Report submission.

Thank you for the opportunity to comment. If there are any technical questions or concerns regarding these comments, please contact Marinha Antunes, Air Quality Analyst, MECP Central Region, at (416) 326-3526.

Sincerely,



Emilee O'Leary  
Regional Environmental Assessment Coordinator  
Central Region, Technical Support Section

cc: Marinha Antunes, Air Quality Analyst, Technical Support Section, Central Region, MECP  
Lubna Hussain, Manager, Technical Support Section, Central Region, MECP  
Paul Martin, APEP Supervisor, Technical Support Section, Central Region, MECP  
Celeste Dugas, Manager, York-Durham District Office, MECP  
Kristen Sones, Issues Manager (A), York-Durham District Office, MECP  
Phil Dunn, Senior Environmental Officer, York-Durham District Office, MECP  
Gavin Battarino, Project Officer, Environmental Approvals Branch, MECP  
Giuseppe Anello, Manager, Waste Planning and Technical Service, Region of Durham  
Lyndsay Waller, Operations Technician, Region of Durham