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August 20, 2018

EAPB File No.: EA-08-02  
CR File No.: EA-05-09

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, First Quarterly Report  
Notice of Approval, Condition 11**

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Dear Ms. Januszkiewicz and Ms. McDowell,

A data validation review was conducted for the 2018 first Quarterly Report prepared by Stantec on behalf of Durham and York Regions for the continuous and periodic parameters measured at Stations 45201 (Courtice) and 45200 (Rundle).

During the first quarter of 2018, there were two daily PM<sub>2.5</sub> concentrations at the Courtice and Rundle station above the daily reference level of 28 µg/m<sup>3</sup> on January 21, 2018. The 24-hour PM<sub>2.5</sub> average at Courtice and Rundle stations were 30.8 µg/m<sup>3</sup> and 31.4 µg/m<sup>3</sup>, respectively. The elevated particulate levels observed correspond to winds blowing from East and Southeast directions, at which time the Courtice station was downwind and the Rundle station was upwind of the Durham York Energy Centre (DYEC) facility. The Oshawa monitoring stations measured similar PM<sub>2.5</sub> levels at this time.

The CAAQS for PM<sub>2.5</sub> is based on a 98<sup>th</sup> percentile level over 3 consecutive calendar years. Since the first quarter reports measurements for three months, there is insufficient data to determine with any certainty if the elevated concentrations are in fact above the CAAQS.

During the first quarter, there were also five daily Benzo(a)pyrene (BaP) exceedances, two at Courtice and three at Rundle stations. BaP daily concentrations above the AAQC of 0.05 ng/m<sup>3</sup> at Courtice station occurred on January 2, 2018 and February 7, 2018 with 0.054 ng/m<sup>3</sup> and 0.079 ng/m<sup>3</sup>, respectively. At Rundle, BaP daily exceedances occurred on January 2, January 26, and February 7, 2018 with 0.06 ng/m<sup>3</sup>, 0.13 ng/m<sup>3</sup> and 0.07 ng/m<sup>3</sup>, respectively. During this time, construction was also occurring along Rundle Road, as well as ongoing construction activities at the Highway 401-418 interchange, which is situated north of the Courtice station. These activities are typically comprised of heavy duty diesel equipment and associated emissions likely contributed to the daily BaP measurements.

Below are our comments and recommendations 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 first quarter of 2018.

### Non Continuous Parameters

1. Based on the supporting documentation provided, total suspended particulate matter (TSP) and metals are deemed to be valid for the first quarter of 2018.
2. In regards to the PAHs and Dioxins/Furans data, further clarification on the reported flows is required as noted below.
  - a. Please clarify why the flows for PAHs HiVol samples collected on February 7, February 19, March 3, March 15 and March 27, 2018 at the Rundle Station were lower than the recommended acceptable flow range (7.2 to 8.8 CFM). Table 3-5 "*Summary of Instrument issues at the Rundle Road Station*" did not address any equipment issues for the above noted dates for the PAH HiVol Sampler.
  - b. The flows were also below the acceptable flow range for the Dioxins and Furans samples collected on February 19 and March 15, 2018 at Rundle Station. Please clarify.
3. For future quarterly report submissions, when the quarterly period does not meet the minimum requirement of 75% valid data, the quarterly average should be reported as "INS" (insufficient data). Since during Q1 2018, the HiVol samples collected at Rundle station comprised of 53% valid data for TSP and metals, it is therefore recommended to report the Q1 average as insufficient data. The rationale provided for the invalid data is acceptable which comprised of the Hi-Vol being improperly initialized, resulting in the flow rates exceeding the acceptable range.
4. During our review, the following typographical errors and discrepancies were noted for your consideration:
  - a. The submitted excel data for *Dioxin and Furans at Courtice station* has 2017 dates rather than 2018 dates. Please revisit the submitted data, and ensure that all measurements given are for the first quarter of 2018.
  - b. Table 4-3 "*Summary of Measured Ambient TSP/Metals Concentrations*" there were discrepancies found in the calculated Maximum and Minimum concentrations at Courtice station - they do not correlate with the submitted data. This discrepancy was also noted in the minimum concentrations reported at Courtice station in Table 4-4. Please revisit the data to ensure the correct calculations were performed.

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, Central Region at (416) 326-3526.

Sincerely,

A handwritten signature in cursive script that reads "Emilee O'Leary".

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

cc: Lubna Hussain, Manager, Technical Support Section, Central Region, MECP  
Paul Martin, APEP Supervisor, Technical Support Section, Central Region, MECP  
Marinha Antunes, Air Quality Analyst, Technical Support Section, Central Region, MECP  
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