



August 19, 2016

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The Regional Municipality of Durham
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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 2016, First Quarterly Report
Notice of Approval, Condition 11**

Dear Ms. Januszkiewicz and Ms. McDowell,

A data validation review was conducted for the 2016 First Quarter 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).

Overall, during the first quarter of 2016, three daily PM_{2.5} concentrations at Rundle station were elevated above the PM_{2.5} 24 hour Canadian Ambient Air Quality Standard (CAAQS). The CAAQS for PM_{2.5} is based on a 98th percentile level over 3 years. Since, the operational monitoring commenced February 13, 2015, there is insufficient data collected to determine with any certainty if the elevated concentrations are above the CAAQS. In addition, on these days of elevated concentrations at Rundle, high concentrations of PM_{2.5} originated from the northwest, southwest, southeast and northeast quadrants, indicating that local sources of particulates contributed to these elevated concentrations.

There were also two exceedances, one at Rundle and one at Courtice station, of benzo(a)pyrene. Concentrations of benzo(a)pyrene above the Ontario Ambient Air Quality Criteria are commonly measured throughout Ontario as benzo(a)pyrene is a combustion byproduct from many natural and man-made processes including motor vehicles, and therefore it is likely that background concentrations of benzo(a)pyrene contributed to these exceedances.

Continuous Parameters

1. In future quarterly and annual reports, consider providing a short analysis for days with elevated concentrations, describing local and regional conditions, plant operations, comparison with the Durham York Energy Center and the MOECC monitoring stations, and any other factors that may have contributed to any observed elevated concentrations.

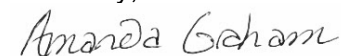
2. The ministry's *Operations Manual for Air Quality Monitoring in Ontario (2008)* states that 75% of the total number of possible samples is required to calculate a valid mean. Since Rundle Station yielded 55% valid data for PM_{2.5} during the month of January, the Q1 January mean for PM_{2.5} is not valid.
3. Please provide the monthly calibration trends for the SO₂, NO_x and PM_{2.5} monitors, including the auto zero and auto span trends.
4. Please confirm the following statistics provided in Table 4-2, as they did not match with our calculated statistics.
 - PM_{2.5} 24-Hour Maximum at Courtice and Rundle Stations
 - NO₂ 24-Hour Minimum at Courtice and Rundle Station
5. As previously discussed, it is highly unusual in ambient monitoring to see precise linear PM_{2.5} measurements of the same recurring value for extended periods of time, as seen at Courtice station. The two longest strings of 0.2 µg/m³ are provided below. Please explain these occurrences.
 - a. Between January 10th at 9:00 and January 11th at 20:00 at Courtice.
 - b. Between January 17th at 16:00 and January 20th at 7:00 at Courtice, with the exception of four hours.

Non Continuous Parameters

1. To confirm sample flow measurements for PAHs, dioxins and furans, please provide the daily temperature and pressure recordings for non-continuous sampling events in the field sample log sheets. Please also note that a number of the samples for PAHs, dioxins and furans had samples flows slightly above the recommended range of 7.2 to 8.8 cfm.
2. The field sheets provided suggest that the "Elapsed Time Reading" is measured in minutes, whereas the values would suggest measurements in hours. Please clarify what unit of measurement was used.
3. The field sheets provided for TSP/metals lists "Pigeon Racing Club" as a sample location. Please change this to Rundle station. These sheets should also specify the units for the section "Chart Recorder Reading for Mass Flow Samplers".
4. Supporting documentation for the TSP/metals measurements indicate that all TSP samples at the Fence Line location and a number of samples at Courtice and Rundle stations experienced flows that were either below or above the recommended flow range of 40 cfm +/- 10% outlined in the Ministry's Operations Manual. Please explain these occurrences as they may have had an impact on the data validity.

Thank you for the opportunity to comment. If there are any technical questions or concerns regarding these comments, please contact Amanda Graham, Air Quality Analyst, MOECC Central Region, at (416) 326-5745.

Sincerely,



Amanda Graham
Air Quality Analyst
Technical Support Section

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