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

Dear Ms. Januszkiewicz and Ms. McDowell,

A data validation review was conducted for the 2016 Fourth 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 fourth quarter of 2016, six daily PM_{2.5} concentrations at Rundle station were elevated above the PM_{2.5} daily Canadian Ambient Air Quality Standard (CAAQS). There are no elevated daily PM_{2.5} concentrations above the CAAQS at Courtice Station during the fourth quarter.

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 in fact above the CAAQS. In addition, on days of elevated concentrations at Rundle high concentrations of PM_{2.5} originated from the northeast, east and southeast quadrants, indicating that local sources of particulates contributed to these elevated concentrations.

There were also two benzo(a)pyrene exceedances, one at Rundle station and one at Courtice station on November 8, 2016. Concentrations of benzo(a)pyrene above the Ontario Ambient Air Quality Criteria (AAQC) of 0.05 ng/m³ are typically measured throughout Ontario, as benzo(a)pyrene is a combustion byproduct from many natural and man-made processes including motor vehicles. Therefore, it is likely that background concentrations of benzo(a)pyrene and nearby construction activities contributed to these exceedances.

Below are our comments for your consideration.

Continuous Parameters

1. Statistics summarized in Table 4-2 and referenced in Section 4.0 of the quarterly report are slightly different when compared to the averages reported in the monthly matrices under Appendix B, C, D and E. Please confirm if the statistics reported in Table 4-2 are based on running averages and therefore are not based on a clock average as provided in the monthly matrices.
2. During the fourth quarter of 2016, the PM_{2.5} data and NO₂ is deemed to be valid with the exception of SO₂ for the reasons noted in items 3 & 4 below.
3. There were instances of SO₂ hourly readings (ppb) that were continuously zero ppb for the following timeframes at Rundle Station:
 - Oct 21 - Oct 28 (9 days) - 157/192 hours, 81% of the time
 - Oct 30 - Nov 10 (12 days) - 204/288 hours, 70% of the time
 - Nov 15 - Nov 28 (14 days) - 285/336 hours, 84% of the time
 - Dec 9 - Dec 11 (3 days) - 90% of the time

The edit log provides a rationale for the span of zeros at Rundle; however the ministry at this time is requesting a copy of the SO₂ raw data files at both stations to determine the validity of the SO₂ data for Q4 2016. Please refer to Figure1 for the span of zeroes.

4. SO₂ concentrations at Rundle & Courtice were compared to Toronto Wes AQHI (the closest AQHI with SO₂ data) for Q4 2016. It appears Courtice is measuring higher SO₂ readings than typical as illustrated in Figure 2 below. Based on the last quarterly audit conducted by MOECC an adjustment was made. Please provide the revised SO₂ data based on the span drift that occurred from October 8 to December 13, 2016 along with the rationale for the edit.

Figure 1 SO₂ Daily Concentration at Courtice and Rundle Stations in Fourth Quarter 2016

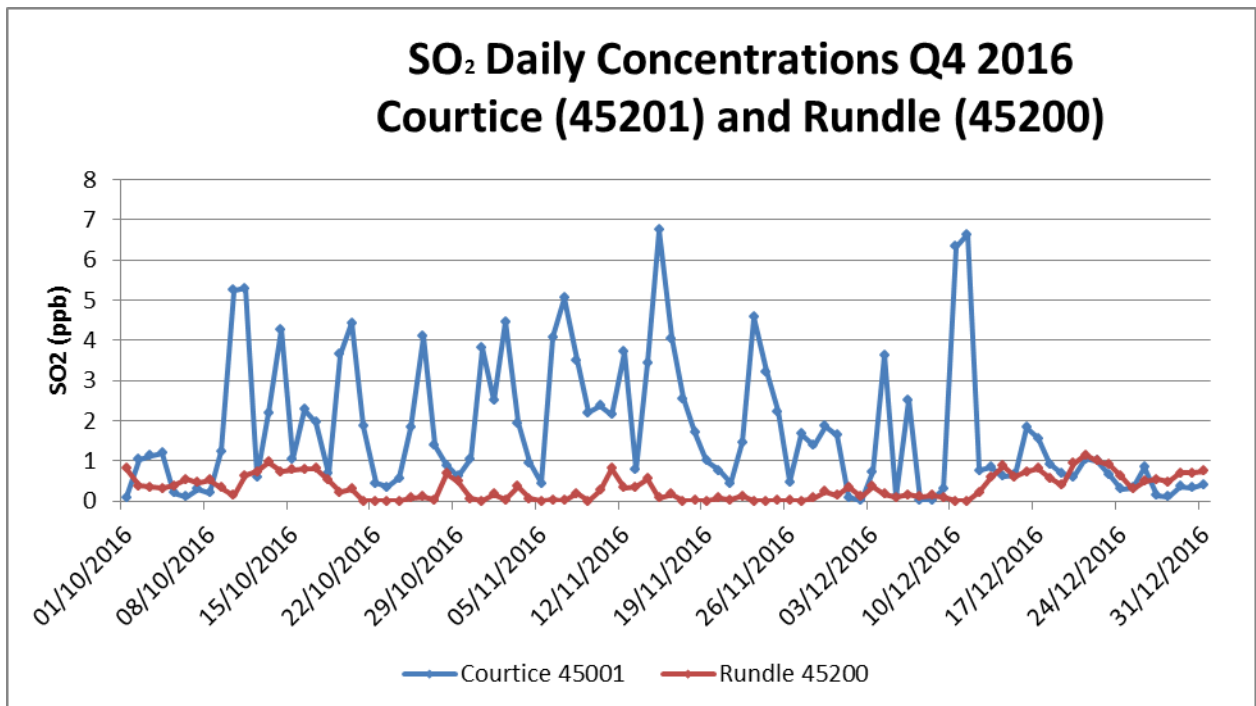
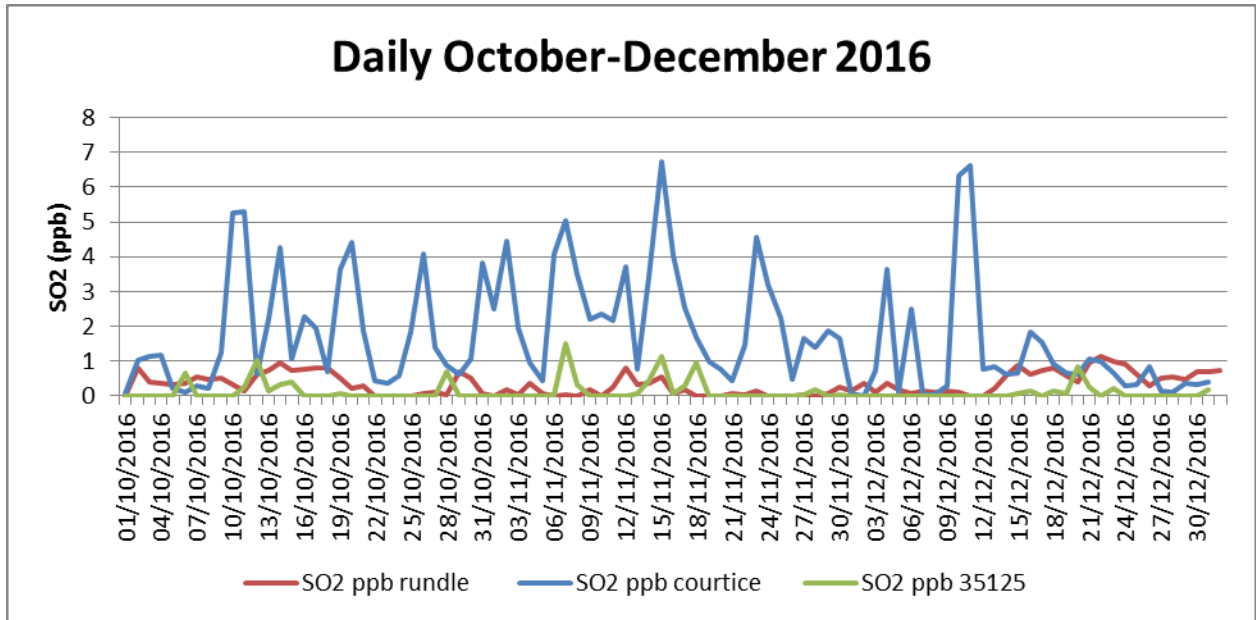


Figure 2 SO₂ Concentration at Toronto West versus Courtice and Rundle during Fourth Quarter 2016



Non Continuous Parameters

1. Please note that a number of PAHs and Dixons / Furans (D / F) samples had flows slightly higher than the recommended flow range of 7.2 to 8.8 cfm. It is recommended to add a note to the tables in future report submissions when the HiVol flows exceed the 8.8 cfm.
2. Based on the supporting documentation provided, the PAHs, DF and TSP and metals are deemed to be valid for the Fourth Quarter 2016.

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, MOECC Central Region, at (416) 326-3526.

Sincerely,

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

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