Stantec Consulting Ltd.
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June 7, 2017
File: 160950528

Attention: Ms. Emilee O'Leary, Regional Environmental Assessment Coordinator
Ministry of the Environment and Climate Change
Technical Support Section
5775 Yonge Street, 8th Floor
North York, ON M2M 4J1

Dear Ms. O'Leary,

Reference: Durham/York Energy from Waste Project, Ambient Air Monitoring 2016, Fourth Quarterly Report, Notice of Approval, Condition 11

The Ministry of the Environment and Climate Change (MOECC) conducted a review and issued a comment letter (dated May 17, 2017) regarding the Q4 2016 quarterly report for the Durham York Energy Centre (DYEC) project. This letter provides our comments and responses to the MOECC's comments and is an addendum to the report.

1.0 CONTINUOUS PARAMETERS

MOECC Comment #1 (page 2 of 3): *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.*

Stantec Response: The statistics provided in Table 4-2 are based on running averages in accordance with the reporting requirements in Section 2.5 of the MOECC document *Operations Manual for Air Quality Monitoring in Ontario* (March 2008) while the monthly data summaries in Appendices B, C, D, and E include calculations of daily average (i.e., midnight to midnight) concentrations.

MOECC Comment #2 (page 2 of 3): *During the fourth quarter of 2016, the $PM_{2.5}$ data and NO_2 is deemed to be valid with the exception of SO_2 for the reasons noted in items 3 & 4 below.*

Stantec Response: Noted

MOECC Comment #3 (page 2 of 3): *There were instances of SO_2 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*

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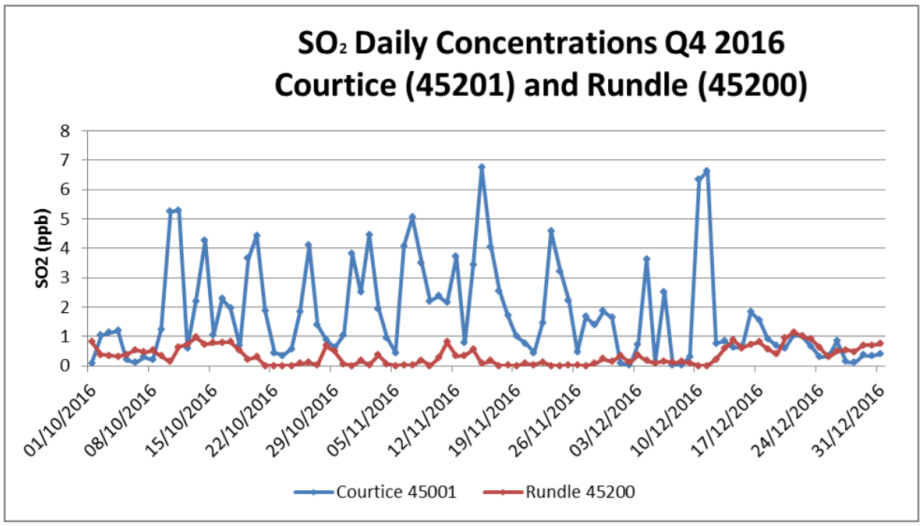
- *Nov 15 - Nov 28 (14 days) - 285/336 hours, 84% of the time*
- *Dec 9 - Dec 11 (3 days) - 90% of the time*

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 SO_2 raw data files at both stations to determine the validity of the SO_2 data for Q4 2016. Please refer to Figure1 for the span of zeroes.

Figure 1 SO_2 Daily Concentration at Courtice and Rundle Stations in Fourth Quarter 2016



Stantec Response: Continuous raw data files for both stations were sent to the MOECC with the 2016 Q4 report submission. If required, Stantec can re-submit this data to the MOECC.

Daily average SO_2 concentrations at both stations for Q4 2016 are plotted with wind direction (measured at the Courtice WPCP Station) in Figure A below. Elevated SO_2 concentrations at the Courtice WPCP Station relative to the Rundle Road Station generally occurred when winds were blowing from north to northeasterly directions (0 to 45 degrees). Possible SO_2 sources impacting the Courtice WPCP Station from this direction could include Highway 418 construction activities north of, and in close proximity to the Courtice WPCP Station. As the Rundle Road Station is located northeast (and is further removed) from these highway construction activities, the Rundle Road Station would not measure this source for these wind directions.

Elevated SO_2 concentrations at both stations are often associated with winds blowing from the direction of St. Mary's Cement. For the Rundle Road Station in Q4 2016, winds blew from this direction (east-southeast) less frequently relative to other quarters (approximately 4% of the time in Q4 2016 versus up to approximately 9% in other quarters). This may have also influenced the SO_2 measurements at the Rundle Road Station in Q4 2016.

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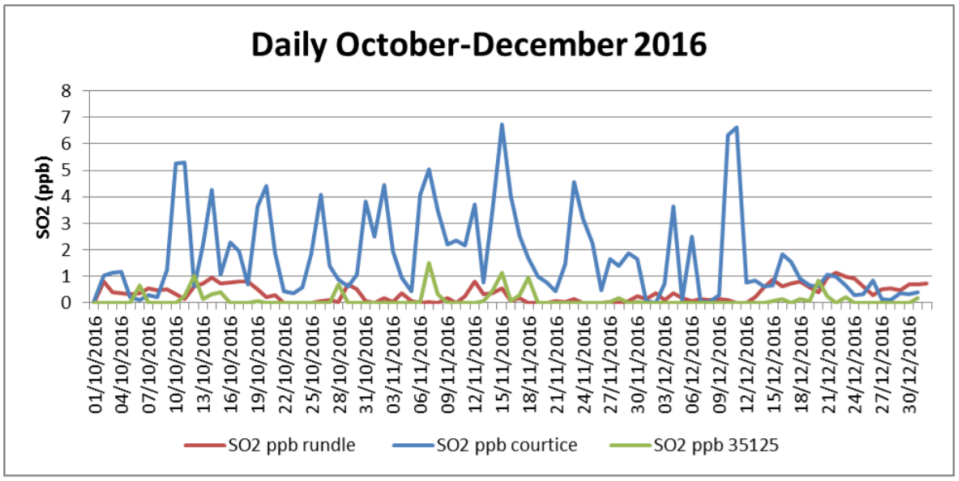
MOECC Comment #4: *SO_2 concentrations at Rundle & Courtice were compared to Toronto Wes AQHI (the closest AQHI with SO_2 data) for Q4 2016. It appears Courtice is measuring higher SO_2 readings than typical as illustrated in Figure 2 below. Based on the last quarterly audit conducted by MOECC an adjustment was made. Please provide the revised SO_2 data based on the span drift that occurred from October 8 to December 13, 2016 along with the rationale for the edit.*

Figure 2 SO_2 Concentration at Toronto West versus Courtice and Rundle during Fourth Quarter 2016



Stantec Response: The Toronto West AQHI station is located approximately 70 km west of the two monitoring stations. Measurements from the Toronto West AQHI station are not directly comparable since at this distance, the scale of representativeness would be even greater than urban scale (up to 50 km).

As discussed in the response above, Courtice and Rundle daily SO_2 concentrations generally correspond well except when winds were blowing from the north/northeast. This could be a result of Highway 418 construction activities north of the Courtice WPCP Station/ DYEC which would not be detected at the Rundle Road Station.

The letter titled "*Durham York Energy Centre, MOECC Continuous Monitor Performance Audits on December 13, 2016*" submitted to the MOECC on January 11, 2017 addressed any required data adjustments because of the December 13, 2016 MOECC audit and are summarized below.

The Courtice WPCP Station SO_2 analyzer had passed its audit which indicates that the calibration gas went off-specification near the time of the MOECC audit and that measurements prior to December 12th would have had a span setting within the MOECC acceptable range. Therefore,

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no further adjustments to the Courtice WPCP data were required.

The SO_2 measurements collected at the Rundle Road Station prior to December 12, 2016 are also expected to be valid, and that the span setting was only out of the acceptable range at the Rundle Road Station during the time between VES's calibration of the unit on December 12 and the MOECC audit on December 13, 2016. On December 12, 2016, as part of routine maintenance, an adjustment to the SO_2 monitor's lamp output was required and the span setting was re-set with the off-specification calibration gas. Data in this period was adjusted in the submitted 2016 Q4 report.

As noted in the above rationale, the data provided in the 2016 Q4 Report already incorporates the adjustments requested by the MOECC.

2.0 NON-CONTINUOUS PARAMETERS

MOECC Comment #1 (page 3 of 3): *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.*

Stantec Response: The PAH/dioxin and furan sampler flow rates were discussed and agreed upon with the MOECC during the development of the Ambient Monitoring Plan and again at the initiation of the ambient monitoring. As discussed in the Stantec response letter to the MOECC's 2016 Q1 review, the samplers for PAHs/dioxins and furans are to run at their maximum flow rate in order to increase Method Detection Limits (MDL) by collecting as large a volume of air as possible. Therefore, sampler flow rates for the PAHs/dioxins and furans sampling equipment may be above the range noted in the MOECC Guidance Manual. As requested, future report submissions will include a note to indicate which samples had flows greater than 8.8 cfm.

MOECC Comment #2 (page 3 of 3): *Based on the supporting documentation provided, the PAHs, DF and TSP and metals are deemed to be valid for the Fourth Quarter 2016.*

Stantec Response: Noted.

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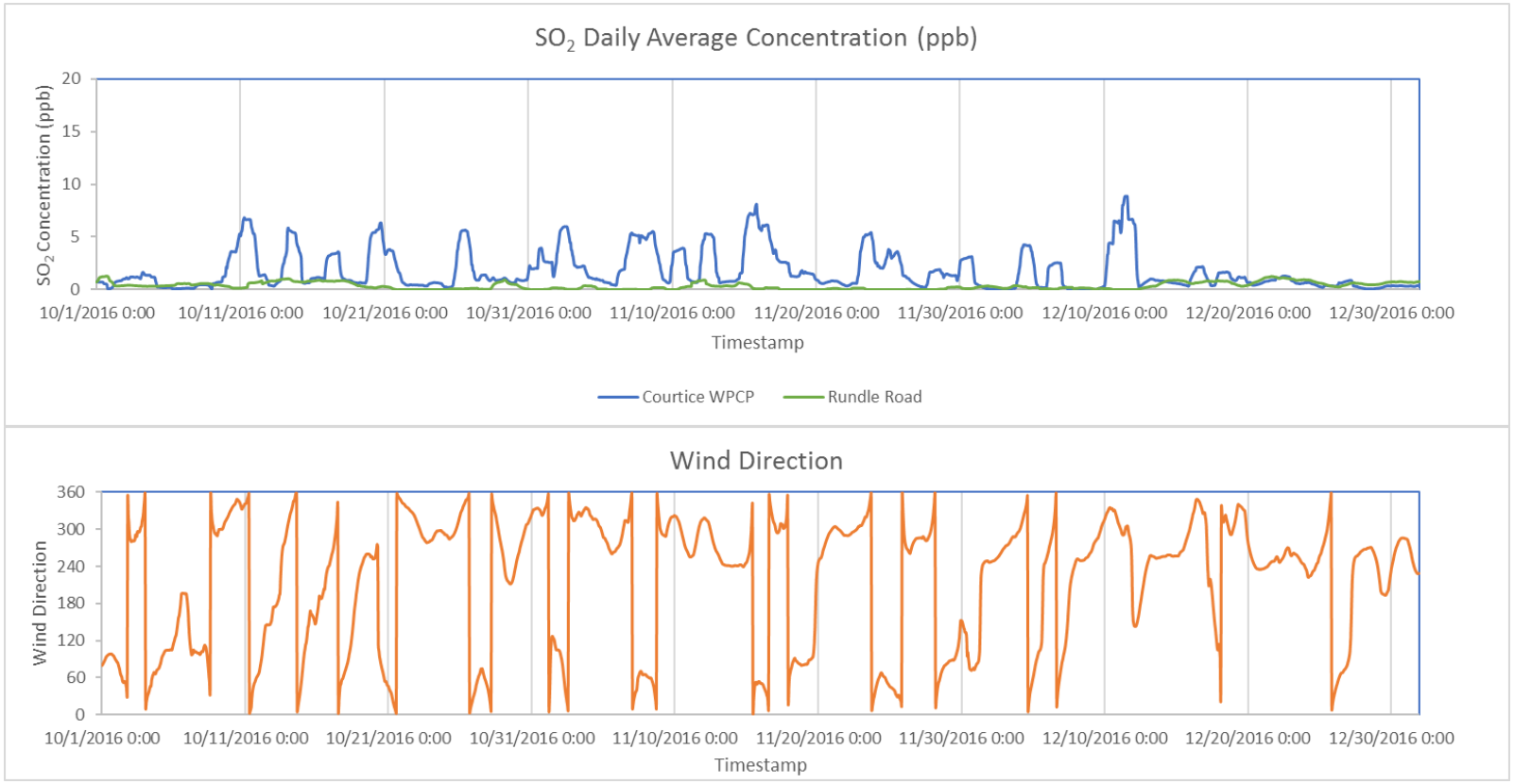
Figure A – Measured Ambient SO_2 Concentrations vs. Wind Direction



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We trust that this letter has addressed the MOECC's questions and comments. Please contact the undersigned if you have any further questions.

Regards,

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