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17250 Yonge Street
Newmarket ON L3Y 6Z1

**Re: Durham/York Energy from Waste Project
Ambient Air Monitoring 2015, 3rd and 4th Quarterly Reports
Notice of Approval, Condition 11**

Dear Ms. Januszkiewicz and Ms. McDowell,

A data validation review was conducted by the Ministry of the Environment and Climate Change (MOECC) Central Region staff for the *2015 Third and Fourth Quarterly Submission Reports* prepared by Stantec on behalf of Durham and York Regions for the Rundle and Courtice Stations in Clarington.

This letter pertains to the following continuous parameters; sulphur dioxide (SO₂), nitrogen oxides (NO_x) and particulate matter smaller than 2.5 microns (PM_{2.5}). The following comments are offered for your consideration.

General Comments

1. Please provide the monthly calibration trends for the SO₂, NO_x and PM_{2.5} monitors, including the auto zero and auto span trends.

PM_{2.5} Comments

1. The third quarter edit log for Courtice PM_{2.5} has the following discrepancies regarding the July 25th to September 9th relative humidity issues.
 - The missing data on August 4th between 2:00 and 6:00 should be added to the edit log.
 - The end hour for the August 20th string of missing data should be 10:00 rather than 12:00.

- The end hour for the August 30th string of missing data should be 2:00 rather than 3:00.
 - The September 6th string of missing data should end on September 7th, rather than September 17th.
 - The end hour for the September 8th string of missing data should end at 11:00 rather than 12:00.
2. The third quarter edit log for Courtice PM_{2.5} should indicate that the missing data between September 23rd at 13:00 and September 30th at 23:00 is a result of the instrument being down for annual maintenance. Please also specify what annual maintenance was performed.
 3. Table 3-3 in the fourth quarterly report should reflect that as a result of the pump issue PM_{2.5} data between October 29th and November 3rd was not collected.
 4. Table 3-3 in the fourth quarterly report should reflect that as a result of instrument issues, the November 5th to November 12th PM_{2.5} data was invalidated. The date of this event should also be changed in Table 3-3 from November 5th to November 6th, as indicated in the edit log.
 5. On December 13th at 10:00 the PM_{2.5} concentration at Courtice was reported as -0.4 µg/m³. Please explain this negative value.
 6. A number of days experienced multiple consecutive hours where the instrument readings showed consistent concentrations of 0.2 µg/m³. The three longest strings of 0.2 µg/m³ are provided below. Please explain.
 - Between October 1st at 0:00 and October 4th at 23:00 at Courtice, with the exception of three hourly values.
 - Between October 22nd at 9:00 and October 24th at 11:00, with the exception of three hourly values, at Courtice.
 - Between November 12th at 15:00 and November 14th at 22:00, with the exception of one hourly value, at Courtice.
 7. Multiple hourly values of PM_{2.5} concentrations elevated above 30 µg/m³ were observed. The three highest hourly concentrations are provided below. Do these events correspond to any particular operations at the facility?
 - On September 1st at Courtice, an elevated concentration of 97.6 µg/m³ was observed at 20:00.
 - On September 2nd at Courtice, an elevated concentration of 108.7 µg/m³ was observed at 4:00.
 - On December 23rd at Courtice, an elevated concentration of 141.3 µg/m³ was observed at 9:00.

SO₂ Comments

1. A number of days experienced multiple consecutive hours where the instrument readings showed consistent SO₂ concentrations of zero µg/m³. The three longest strings of zero µg/m³ are provided below. Please explain.
 - Between August 1st at 0:00 and August 10th at 14:00 at Rundle.
 - Between October 1st at 0:00 and October 19th at 9:00, with the exception of 13 hours, at Courtice.
 - Between October 4th at 12:00 and October 8th at 8:00 at Rundle.
2. On November 16th between 6:00 and 9:00 and 11:00 and 17:00 at Courtice, concentrations were reported as zero µg/m³. The monitor was restarted on this day according to Table 3-3 in the fourth quarterly report. A comment should be made in this table regarding how the indicated fault could have affected the data and whether or not this could have contributed to the multiple concentrations of zero µg/m³ reported for this day.
3. On November 18th between 2:00 and 8:00 and 16:00 and 23:00 at Courtice, concentrations were reported as zero µg/m³. Low flow and low lamp output warnings were experienced on this day according to Table 3-3 in the fourth quarterly report. A comment should be made in this table regarding how the indicated fault could have affected the data and whether or not this could have contributed to the multiple concentrations of zero µg/m³ reported for this day.
4. On July 2nd between 8:00 and 10:00 at Rundle, concentrations were reported as zero µg/m³. A UV lamp warning was experienced on this day according to Table 3-3 in the third quarterly report. A comment should be made in this table regarding how the indicated fault could have affected the data and whether or not this could have contributed to the multiple concentrations of zero µg/m³ reported for this day.
5. According to Table 3-4 in the fourth quarterly report, between October 29th and November 6th at Rundle there was a UV lamp warning and the lamp was adjusted. A comment should be made regarding how this may have affected the data.

NO_x Comments

1. A number of days experienced multiple consecutive hours where the instrument readings showed consistent NO_x concentrations of zero µg/m³. The three longest strings of zero µg/m³ are provided below. Please explain.
 - On August 1st between 7:00 and 19:00 at Courtice.
 - On August 5th between 8:00 and 19:00 at Courtice.
 - Between August 16th at 23:00 and August 17th at 23:00 at Courtice.
2. On December 31st at Courtice between 15:00 and 19:00, the sum of the NO and NO₂ hourly concentrations differed by over 3 ppb from the NO_x concentration for these hours. Please explain.

Comments Regarding Station Operation

1. The log book in the stations is required to be regularly maintained and updated with equipment repairs, equipment changes, station visits, audits, calibrations, observations, and maintenance requirements. This has been brought to the attention of the operator several times over the past year without improvement.
2. The general upkeep of the station should be improved, including the cleaning of debris on the station floor and of cobwebs inside the station.
3. The power issues noted at the Courtice station as identified by the operator should be addressed.
4. Data monitoring disruptions should be kept to a minimum with regularly scheduled maintenance to avoid data loss.

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,



Emilee O'Leary
Regional Environmental Assessment Coordinator
Technical Support Section

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