

**Ministry of the Environment and
Climate Change**

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**Ministère de l'Environnement et de l'Action
en matière de changement climatique**

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April 20, 2018

EAAB 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 - 2017 Third Quarter Report and 2017 Fourth Quarter Report
Notice of Approval, Condition 11**

Dear Ms. Januszkiewicz and Ms. McDowell,

A data validation review was conducted for the 2017 *Third Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre (DYEC)* and the 2017 *Fourth Quarterly Ambient Air Quality Monitoring Report for the DYEC*, prepared by Stantec on behalf of Durham and York Regions for the continuous and periodic parameters measured at 45201 (Courtice), 45200 (Rundle) and Fenceline stations. Please find comments pertaining to each report below for your consideration.

Comments for the 2017 Third Quarter Report

On August 26 and August 27, 2017, there were two daily PM_{2.5} concentrations at the Courtice station above the daily reference level of 28 µg/m³. The maximum 24-hour PM_{2.5} average on August 26th and August 27th were 28.1 µg/m³ and 43.5 µg/m³, respectively. The elevated particulate levels observed on August 26 and August 27, 2017 correspond to winds blowing from the Northwest and Northeast directions, which at the time were upwind of the DYEC facility. Furthermore, there was also a fire from the Waste Management transfer facility north of Highway 401, which likely contributed to the elevated readings. The Rundle and Oshawa monitoring stations measured significantly lower PM_{2.5} levels at this time indicating it may be local sources that contributed to the elevated PM_{2.5} levels on August 26th and 27th at the Courtice station.

There were no PM_{2.5} concentrations above the daily reference level at the Rundle station during the third quarter.

During the third quarter, there were also two daily BaP exceedances at the Courtice and Rundle stations on September 16th, 2017 where the winds were blowing from the Northeast and North directions, 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 on September 16, 2017 in addition to any background emission sources.

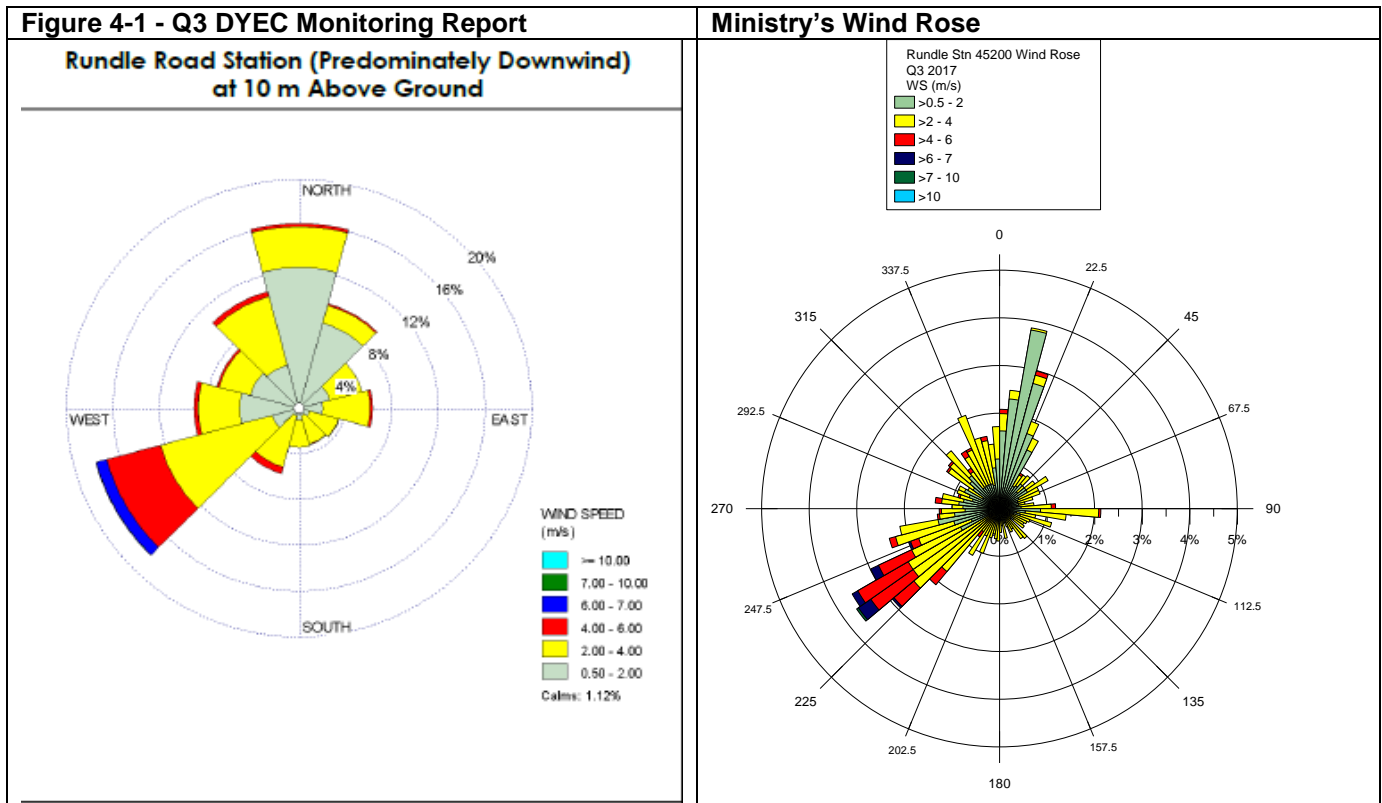
Below are our comments and recommendations for your consideration.

Continuous Parameters

1. While reviewing the wind rose for the Rundle station, a discrepancy was found when comparing the wind rose shown in Figure 4-1 of the quarterly report with that of the wind rose prepared by the ministry as shown in Figure 1 below.

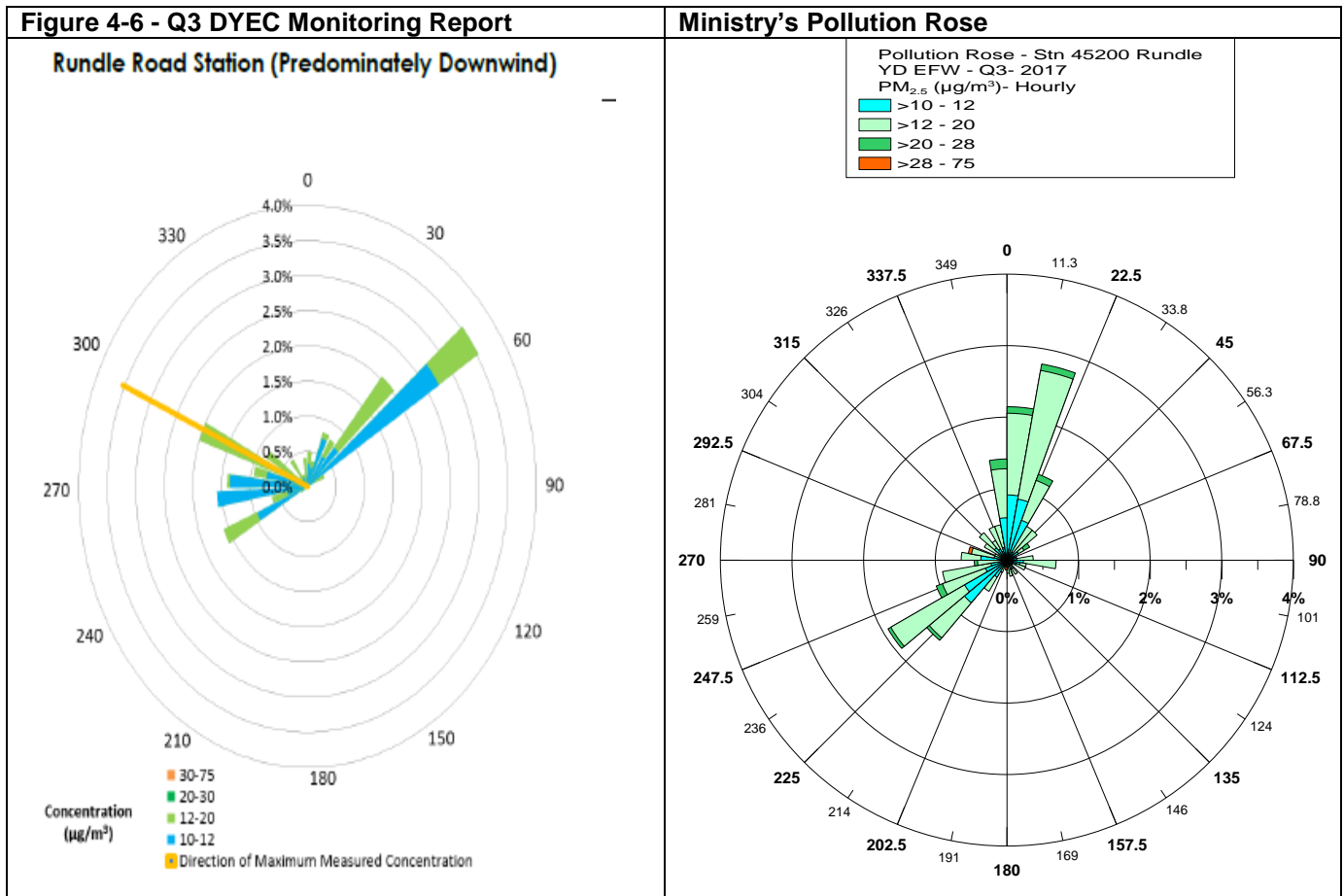
Please revisit the quarterly wind rose for the Rundle station to ensure validity and accuracy in the representation of wind patterns for Q3.

Figure 1. 2017 Third Quarterly Wind Rose at Rundle Station



2. While reviewing the 24-hour average PM_{2.5} pollution rose, there were some discrepancies noted in the wind direction as illustrated in Figure 2. Please revisit the PM_{2.5} pollution rose at the Rundle station and clarify that the wind direction is accurate.

Figure 2. Daily PM_{2.5} Pollution Rose at Rundle Station



3. With respect to PM_{2.5}, the data is deemed to be valid; however the above noted discrepancies in regards to the pollution rose must be clarified.
4. Based on the supporting documentation provided, the SO₂ and NO₂ data for Q3 2017 is deemed to be valid.

Non Continuous Parameters

1. Based on the supporting documentation provided, PAHs, Dioxins/Furans, TSP and metals are deemed to be valid for the third quarter of 2017.

During our review, there were some minor typos noted which are summarized below:

- When reviewing Appendix F edit logs for PM_{2.5} at the Courtice station, edit # 60 records the incorrect start and end dates. The dates should read 26-Aug-17 and 27-Aug-17 not 26-Jul-17 and 27-Jul-17. Please re-visit and correct this entry.
- The reason and date provided for edit # 73 at the Courtice station for PM_{2.5} are incorrect, as the reason provided does not match with the start and end date/times. Please re-visit and correct this entry.

- The reason provided for edits # 83 and #84 are not valid, the date referenced in the reason does not match the start and end date/times. Please revisit and correct this entry.
- Please revisit and correct the maximum value reported in Table 4-4 for BaP at the Rundle station.
- Please revisit the maximum values reported in Table 4-6 for the Dioxins and Furans at the Courtice station. It appears September 28th, 2017 values may not have been incorporated in the calculation.

The above items summarize the comments in regards to the 2017 Third *Quarterly Ambient Air Quality Monitoring Report for the DYEC*.

Comments for the 2017 Fourth Quarter Report

There were no PM_{2.5} concentrations above the daily reference level at the Courtice or Rundle station during the fourth quarter.

During the fourth quarter, there were three daily BaP exceedances. Two of the exceedances occurred on December 9th 2017, at the Courtice and Rundle stations where the winds were blowing from the West and South- West directions, according to Wind Roses prepared by MOECC TSS. 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 on December 09, 2017 in addition to any background emission sources.

Below are our comments and recommendations for your consideration.

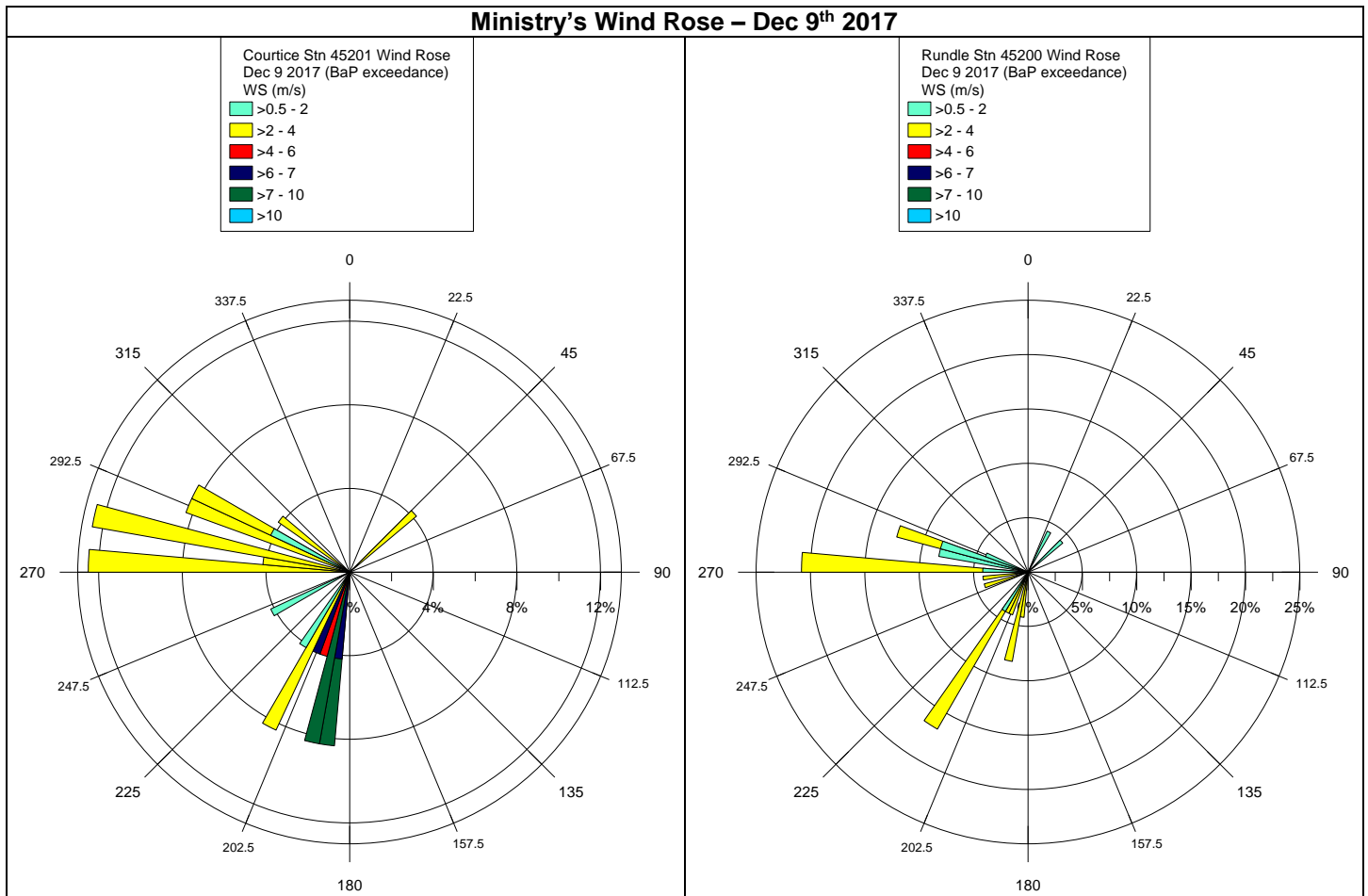
Continuous Parameters

1. Based on the supporting documentation provided, the PM_{2.5}, SO₂ and NO₂ data for Q4 2017 is deemed to be valid.

Non Continuous Parameters

1. While reviewing Table 4-6 "Source Contribution Analysis – Quarter 4 2017 B(a)P Exceedances" a discrepancy was found with the reported Wind Direction. Figure 1 displays the wind roses for Dec 9th 2017, created by MOECC TSS, utilizing the submitted validated continuous meteorological data. Our wind rose shows that the winds were blowing from the west and southwest. However Table 4-6 indicates that the winds were blowing from the northeast. Please provide the Met data used to determine the wind direction on December 9th 2017.

Figure 3. MOECC's Wind Rose – Dec 9th 2017 for Courtice and Rundle Station, created by TSS



2. Please revisit the minimum values reported in Table 4-3 for the TSP/Metals at Courtice and Rundle stations. It appears December 27th, 2017 values may not have been incorporated in the calculation.
3. Please revisit and correct the minimum values reported in Table 4-5 for total PAH at the Courtice station.
4. Please review the elapsed time readings found in the field data sheets for DF/PAH for the December 21st 2017 start date.

The non-continuous data is deemed to be valid for TSP and metals; however additional clarification is required on the DF/PAH field data sheets. This additional information can be included in the Annual 2017 Ambient Monitoring Report.

The above items summarize the comments in regards to the 2017 Fourth Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre.

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,

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

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

cc: Marinha Antunes, Air Quality Analyst, Technical Support Section, Central Region, MOECC
Lubna Hussain, Manager, Technical Support Section, Central Region, MOECC
Paul Martin, APEP Supervisor, Technical Support Section, Central Region, MOECC
Celeste Dugas, District Manager, York-Durham District Office, MOECC
Valerie Bowering, Issues Coordinator, York-Durham District Office, MOECC
Phil Dunn, Senior Environmental Officer, York-Durham District Office, MOECC
Gavin Battarino, Project Officer, Environmental Approvals Branch, MOECC
Giuseppe Anello, Manager, Waste Planning and Technical Service, Region of Durham
Melodee Smart, Administrative Assistant, Region of Durham