

January 22, 2018
File: 160950528

Attention: Mr. Gioseph Anello, Manager, Waste Planning, and Technical Services

The Regional Municipality of Durham
605 Rossland Rd. E.
P.O. Box 623
Whitby, ON L1N 6A3

Dear Mr. Anello,

Reference: Durham York Energy Centre, Ambient Monitoring Program, Notification of Potential Exceedance of Total Suspended Particulate (TSP)

The purpose of this letter is to provide a Notification of Exceedance to the Regions of Durham and York, the District Manager of the Ministry of the Environment and Climate Change (MOECC), and the Region of Durham Medical Officer of Health (MOH) of a measured Total Suspended Particulate (TSP) exceedance for the Durham York Energy Center (DYEC) monitoring network. This notification is being provided as per Section 9 of the Ambient Monitoring Plan (AMP) (Stantec, 2012).

The November 27, 2017 TSP measurement at the Rundle Road Station was 232 µg/m³, exceeding the 24-hour Ontario Ambient Air Monitoring Criteria (AAQC) of 120 µg/m³ by 93%. The exceedance was identified on January 12, 2018 during Stantec's review of the previous month's non-continuous monitoring data as per MOECC protocols.

Following the requirements of the AMP, Stantec examined the filter media and data sampling records for this sample and conducted a root cause assessment of the exceedance. Furthermore, the potential impact on human health was evaluated by a Stantec Toxicologist.

Our review indicates the following:

1. Stantec did not identify any equipment malfunctions or issues with the non-continuous monitor. The laboratory did not identify any error in the TSP laboratory analysis. Re-analysis of the filter media for TSP is not feasible, since part of the filter media was used for laboratory analyses of metals in the TSP.
2. Photographs taken on November 22, 2017 and November 28, 2017 (one day after the sample collection day) indicated ongoing heavy truck traffic and idling along Rundle Road and dusty road conditions. The filter media had visibly heavier loading compared with the samples collected on the same day at the Courtice WPCP and Fenceline Stations.



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Photographs of the truck traffic on November 28th and their proximity to the Rundle Road Station are shown in Figures 1 and 2.

3. The 24-hour TSP measurements at the Courtice WPCP and Fenceline Stations on November 27, 2017 were $18.6 \mu\text{g}/\text{m}^3$ and $28.3 \mu\text{g}/\text{m}^3$, respectively, both well below the 24-hour TSP AAQC. The measurements at these stations suggest that the source of the TSP exceedance was likely local to the Rundle Road Station area.
4. Over the course of November 27th, the wind directionality varied from blowing from westerly to north-easterly directions with an average wind direction of north-northwesterly. The DYEC is not upwind of the Rundle Road Station for these wind directions.
5. A review of the DYEC Continuous Emissions Monitoring (CEMs) data for November 27 showed the measured opacity for both boilers to be 0% all day.
6. No Air Quality Alerts were issued by the MOECC on November 27.
7. The potential human health risks associated with TSP are related to the concentrations of the inhalable TSP fraction ($\text{PM}_{2.5}$). On November 27, 2017, the measured daily average $\text{PM}_{2.5}$ concentration at the Rundle Road Station was $7.2 \mu\text{g}/\text{m}^3$. This is below the 24-hour human health-based ambient air quality criterion of $30 \mu\text{g}/\text{m}^3$. Therefore, $\text{PM}_{2.5}$ concentrations measured on November 27, 2017, represented a negligible human health risk. The exceedance of the TSP criterion therefore, also represented a negligible human health risk.



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Figure 1 Idling Truck Traffic Along Unpaved Access Road Adjacent to the Rundle Road Station





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Figure 2 Heavy Vehicle Traffic on Unpaved Access Road Adjacent to the Rundle Road Station





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Based on Stantec's review, the likely cause of the TSP exceedance was heavy truck traffic on roads near the Rundle Road Station. The measured TSP concentration is not expected to have resulted in an adverse effect on human health or the environment.

If you have any comments or questions, please contact the undersigned.

Regards,

STANTEC CONSULTING LTD.

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Attachment:

- c. Celeste Dugas, District Manager (A), York-Durham District Office, MOECC
Dr. Robert Kyle, Commissioner & Medical Officer of Health, Region of Durham
Christian Shelepuk, The Regional Municipality of Durham
Seth Dittman, The Regional Municipality of York
Kimberly Ireland, Toni Zbieranowski, Connie Lim, Ali Elhussein, Stantec Consulting Ltd.

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