

July 26, 2017
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 in 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 June 12, 2017 TSP measurement at the Rundle Road Station was $126 \mu\text{g}/\text{m}^3$, exceeding the 24-hour Ontario Ambient Air Monitoring Criteria (AAQC) of $120 \mu\text{g}/\text{m}^3$ by 5%. The exceedance was identified on July 13, 2017 during Stantec's review of the previous month's non-continuous monitoring data as per MOECC protocols. The filter results were received from the analytical laboratory on June 29, 2017. Following the requirements of the AMP, Stantec reviewed and confirmed the TSP filter results with the analytical laboratory and conducted a root cause assessment of the exceedance. 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. Minor damage to the TSP filter, likely caused by birds, was noted for the June 12 TSP sample at the Rundle Road Station. This damage is not expected to have affected the particulate loading on the filter.



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2. Wind directionality over the day was blowing from west-southwesterly to west-northwesterly wind directions. Under these conditions, the DYEC is not upwind of the Rundle Road Station. Highway 418 construction activities were observed to be occurring that were upwind of the Rundle Road Station for these wind directions.
3. The highest TSP readings of 2017 were measured at the Rundle Road, Courtice WPCP and Fenceline Stations on June 12, 2017. On June 12, the Courtice WPCP station was upwind of the DYEC. At this location, TSP was measured at $60 \mu\text{g}/\text{m}^3$ (50% of the criterion). At the Fenceline station, TSP was reported at $76 \mu\text{g}/\text{m}^3$ (63% of the criterion).
4. A review of the DYEC Continuous Emissions Monitoring (CEMs) data for June 12 showed the measured opacity for both boilers to be 0% all day.
5. No Air Quality Alerts were issued by the MOECC on June 12.
6. June 12, 2017 was the only day in approximately 3 years of monitoring where the measured TSP marginally exceeded (5%) the criterion of $120 \mu\text{g}/\text{m}^3$. The potential human health risks associated with TSP are related to the concentrations of the inhalable TSP fraction ($\text{PM}_{2.5}$). On June 12, 2017, measured daily average $\text{PM}_{2.5}$ concentrations at the Courtice WPCP and Rundle Road Stations ranged between $14.8 \mu\text{g}/\text{m}^3$ and $15.5 \mu\text{g}/\text{m}^3$. These are 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 June 12, 2017, represented a negligible human health risk. Based on this, the minor exceedance of the TSP criterion represented a negligible human health risk.

Based on Stantec's review, the likely cause of the TSP exceedance was high background TSP levels combined with Highway 418 construction activities. The measured TSP concentration is not expected to have resulted in an adverse effect on human health or the environment.

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

Regards,

STANTEC CONSULTING LTD.

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