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Stantec

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Corporation of the Town of Oakville
P.O. Box 310
1225 Trafalgar Road
Oakville ON L6J 5A6

Attention: **Mr. Jeffrey Lee, P.Eng., Environmental Policy**

Dear Mr. Lee:

Reference: **Suncor Health Protection Air Quality Bylaw (HPAQB) – Response to Peer Review of the Complete Application**

On behalf of Suncor Energy Products Partnership Inc. (Suncor), Stantec Consulting Ltd. (Stantec) is submitting this written response to the bylaw mandated peer review of the complete application.

1) Item 3.2 Concentration and Risk Contour Mapping – As advised in previous communications, concentration and risk contour mapping were not required for the Suncor submittal as the facility will not have Fine Particulate Matter (FPM) concentrations in excess of 0.2 µg/m3 on an annual basis. Suncor did advise that they would be willing to provide such mapping as a goodwill gesture, upon the Town accepting the application as submitted. We note that this acceptance has not yet occurred, and that the process is instead being prolonged by ongoing requests for further information.

2) Item 3.6 Control Efficiencies for each emission control device and/or pollution prevention practice are not provided as it is not practical to do so for a complex facility and operation. There are two main sources of Volatile Organic Compounds (VOC's) at this facility; the loading racks and storage tanks. There is a vapour recovery unit (VRU) at the loading racks. The VRU and its associated Continuous Emission Monitoring (CEM) is tested yearly. In 2012, the unit efficiency was 99.99%.

All the tanks have internal floating roofs and any emissions would be at the seals along the tank wall perimeter. There are no CEM devices at the tanks and it is not an industry practice or standard.

3) Item 3.7 Number of tanks – There are twenty (20) large tanks on site. An approximation based on experience is that the paint lasts approximately 10 years on a tank, and on average one tank is painted at the facility each year. Note that as a maximum, two tanks would be painted each year.

Averaging calculations - Daily average concentrations are calculated from the annual average. The annual average value is divided by 365 days to determine the daily average. For the Max emission scenarios the annual emissions are divided by the specific number of days the activity would occur to determine the max daily emissions.

TANKS input files – The tanks version 4.09 files are provided electronically on optical media (CD). There are two (2) input (MS Access) files and 1 output file (MS Excel). The naming is as follows- "tankdata.mdb" has composition data and "Sunmax.mdb" has the tank parameters. "Avg_forMaxDay.xls" contains results ("emission" tab contains raw data, the other tabs are processed data).

TANKS speciation – The TANKS model default speciation was used in the emission results presented and then used for dispersion analysis. The actual speciation at Suncor, where available, is provided in the report for comparison, but it was deemed that modification of the established and proven defaults would not materially influence emission prediction outcomes, and a more consistent set of output would result from using the defaults.

Reference: Suncor HPAQB Submission – Response to Peer Review

4) Item 4.2.1 Frequency of emissions within 90% of the worst-case emissions - Based on the available data, this cannot be conclusively determined. The variability of emissions can be inferred from the difference between the maximum and average values presented in the data contained in the submission. The complex inter relationship of sources and related emissions does not allow conclusions to easily establish frequency of 90% of the worst case emissions. As the impact of emissions results are not significant, this analysis is determined to not be material.

5) Item 5 – Mapping – See 1) Item 3.2 Concentration and Risk Contour Mapping above. Suncor's offer of providing this mapping as a goodwill gesture is conditional on written acceptance of the Suncor HPAQB submission by the Town.

6) Appendix 2 -Stantec is unable to comment on Dillon's challenges with the CALPUFF runs using the input files provided for the HPAQB by the bylaw specified CALPUFF Ver 5.8 model code. We note that version 5.8 is a circa 2007 CALPUFF code. We acknowledge there have now been several revisions since the bylaw mandated version was released. Stantec obtained results with the bylaw mandated version. It was our understanding Dillon carried out CALPUFF modelling with the software on a desktop system setup, and was required to use a different version from the one mandated by the bylaw as there were numerical concerns with version 5.8. Stantec maintains a high performance computing cluster (HPC) specifically for air dispersion modelling in our Stantec Calgary office. This system is available to our Stantec Atmospheric Environment team across Canada and the USA to reduce the turnaround time for our modelling runs. The HPC system is a Linux based operating system, and Stantec compiles and validates the source code distributed by publishers (in this case EPA maintained by TRC for version 5.8 of CALPUFF) on this system. Stantec would be pleased to discuss Dillon's challenges with the Version 5.8 code as part of a separate follow up assignment on behalf of the account of the Town or Dillon should that be necessary. However, as Dillon verifies that the results of the modelling provided by Stantec are valid for all scenarios, we request deletion in its entirety of the third paragraph of Appendix 2.

In closing, we remind the Town of our written request to you in April 2011 when embarking on this HPAQB process. Suncor requests that, apart from the final emissions data, all other detailed facility information be kept confidential. This includes equipment used at the facility, throughputs, any source testing data, facility operations, and assumptions and methodologies used for emissions estimation.

If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

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cc. Suncor – Bernard Barreyre
– Mike Cassaday