



Stantec Consulting Ltd.
401 Wellington Street West, Suite 100, Toronto ON M5V 1E7

December 16, 2014
File: 160950528

Attention: Ms. Nisha Shirali, Environmental Planner & EA Coordinator

Air, Pesticides and Environmental Planning
Ministry of the Environment and Climate Change
Central Region, Technical Support Section
5775 Yonge Street, 8th Floor
Toronto, ON M2M 4J1

Dear Ms. Shirali,

Reference: Durham York Energy Centre, MOECC Data Validation Review of Q1 and Q2 2014 Quarterly Reports (January 2014 to June 2014)

The Ministry of the Environment and Climate Change (MOECC) conducted a data validation review and issued a comment letter (dated October 29, 2014) for the Q1 and Q2 2014 Quarterly reports (January 2014 to June 2014) for the Durham York Energy Centre project. As requested by the MOECC, this letter is an addendum to these two reports and provides our responses to the MOECC's comments. The sections below correspond to the items listed in the MOECC's letter.

1.0 CONTINUOUS PARAMETERS (JANUARY TO JUNE 2014)

MOECC has requested clarification on the validity of five (5) individual hourly measurements out of the approximately 26,000 hourly NO_x/SO₂/PM_{2.5} measurements collected in this period. All the continuous measurement data underwent a data validation process by Stantec following guidance provided by MOECC (Operations Manual for Ambient Air Quality Monitoring in Ontario, 2008). Monitoring data was invalidated based on information available at the time of the data review and only if sufficient justification was available to provide a high degree of confidence that the data was not representative of actual conditions.

1.1 VALIDITY OF PM_{2.5} MEASUREMENTS AT THE COURTICE WPCP STATION ON JANUARY 10, 2014

MOECC has requested clarification of the validity of the PM_{2.5} measurement recorded at the Courtice WPCP Station on January 10, 2014 at 08:00, due to the elevated hourly measurement at the time without corresponding increases at the Rundle Road Station or the Oshawa AQI Station.

The elevated concentration corresponds to a period of time when the wind was blowing from the northeast with relatively low wind speeds. Slightly elevated NO₂/NO_x measurements were also recorded at the station during this same period. By 10:00 AM, the wind direction had shifted to the southwest and both PM_{2.5} and NO_x/NO₂ levels reduced. The higher PM_{2.5} levels may have been due to local sources of PM_{2.5} in the area such as construction emissions from DYEC site (e.g. earth moving activities, etc.), or train traffic on the CN rail line to the north of the Courtice Water



December 16, 2014

Ms. Nisha Shirali, Environmental Planner & EA Coordinator

Page 2 of 6

Reference: Durham York Energy Centre, MOECC Data Validation Review of Q1 and Q2 2014 Quarterly Reports (January 2014 to June 2014)

Pollution Control Plant (WPCP). The minute average data during the 8AM period showed no unusual trends for either PM_{2.5} or NO_x/NO₂.

An audit was performed by the MOECC on the same morning between 09:00-11:00 AM. All continuous monitors at the Courtice WPCP Station met the Ministry's performance, site audit and calibration criteria. In conducting the data validation review, Stantec saw no justification for invalidating the data for this hour as the changes in concentrations showed a gradual decline as the wind direction shifted from the northeast to the southwest, and there were no issues recorded for the monitor during this period.

1.2 VALIDITY OF PM_{2.5} MEASUREMENTS AT THE RUNDLE ROAD STATION ON JANUARY 17 AND JANUARY 26, 2014

MOECC has requested a clarification of the validity of the hourly average PM_{2.5} measurements recorded at the Rundle Road Station on January 17, 2014 at 13:00 and January 26, 2014 at 09:00.

Based upon additional detailed review of the minute data for these two hours, Stantec concurs that these measurements should be invalidated due to the relatively abrupt rate of changes, with no corresponding increases measured at the Courtice WPCP Station or Oshawa AQL Station. An updated data recovery rate table and ambient CAC summary table for the Rundle Road station (Tables 3-7 and 4-2 in the Q1 2014 Report) are provided in Attachment A of this letter. The updated Data Summary Table – Rundle Road Station - January 2014 (Q1 2014 report) is also provided in Attachment A.

Relative to the previously reported values, the PM_{2.5} data recovery rate for the Courtice Station between January and March 2014 has changed from 99.4% to 99.3%, the mean PM_{2.5} level for January decreases from 9.1 to 9.0 µg/m³ and the mean PM_{2.5} level for the Q1 period decreases from 10.2 to 10.1 µg/m³. The 98th percentile PM_{2.5} level remains unchanged with this revision to the PM_{2.5} data set. These minor data edits did not affect the results or conclusions of the Q1 2014 Report with regard to ambient PM_{2.5} levels.

1.3 VALIDITY OF NO₂ MEASUREMENTS AT THE RUNDLE ROAD STATION ON MAY 8, 2014

MOECC has requested a clarification of the validity of the NO / NO₂ / NO_x measurements recorded at the Rundle Road Station on May 8 due to the different pattern observed at the Courtice WPCP Station and Oshawa AQL station. The letter also requested for clarification of the validity of the NO₂ measurements during the month of May at this station due to a warning message recorded on May 27, 2014.



December 16, 2014

Ms. Nisha Shirali, Environmental Planner & EA Coordinator

Page 3 of 6

Reference: Durham York Energy Centre, MOECC Data Validation Review of Q1 and Q2 2014 Quarterly Reports (January 2014 to June 2014)

Compared with the Courtice WPCP Station and Oshawa AQI station, elevated NO₂/NO_x concentrations on May 8, 2014 between 11:00 and 13:00 were noted as per the MOECC comments. These measurements correspond to a period of time when the wind was blowing from the east-southeast direction with low to medium wind speeds. Slightly elevated PM_{2.5} measurements were noted between 12:00 and 13:00. The elevated NO₂/NO_x levels and slight elevations in PM_{2.5} levels may have been due to the train traffic on the CN rail line which runs along the southeast to southwest of this station. As the changes in concentrations showed gradual increases and declines in concentration and the values were well within the measurement range of the instrument, there was no clear justification to invalidate this data due to the rate of change of the measured levels.

Upon review of the Quarterly Ambient Air Quality Monitoring Report for Quarter 2, 2014 and field log book, the error message was noted on May 22, 2014 (not May 27 as indicated in the MOECC letter) during a routine site visit at the monitoring station. The Stantec technician on site during that day, while conducting a routine quality review of the instrumentation operation, noticed a "sample pressure warning" message on the NO₂ monitor. Upon consulting with Valley Environmental Services Inc. (equipment sub-consultant for this project), Stantec cleared the error message. Valley Environmental downloaded the NO₂ data remotely and found that the data was intact and there was no missing data during this period. The error message was likely caused by a very brief power outage, after which the analyzer automatically restarted and continued to operate. There is no indication that this incident affected the validity of the NO_x/NO₂ data.

2.0 NON-CONTINUOUS PARAMETERS (JANUARY TO JUNE 2014)

TSP/metals and PAH and Dioxins/Furans samples are collected with mass-flow controlled high-volume air samplers. TSP/metals samplers at the Courtice WPCP and Rundle Road stations are being maintained at 40 cfm +/- 10% as per the MOECC Operations Manual. The PAH /dioxin and furan samplers at the Courtice WPCP and Rundle Road stations have been maintained at the maximum flow rate that the flow controller is capable of, as agreed upon with the MOECC.

MOECC has deemed the metals and TSP data to be valid from January to June 2014, however, MOECC has noted that there were instances in Quarter 1, 2014 where the average flow rate over the course of the TSP/metals samples was outside of the MOECC recommended flow rate. As requested by the MOECC, a note will be added in the 2014 Annual Report regarding these samples being outside the flow range of 40 cfm ±10%.



December 16, 2014

Ms. Nisha Shirdali, Environmental Planner & EA Coordinator

Page 4 of 6

Reference: Durham York Energy Centre, MOECC Data Validation Review of Q1 and Q2 2014 Quarterly Reports (January 2014 to June 2014)

Table 4-3, Summary of Measured Ambient TSP/Metals Concentrations in the 1st Quarterly Report was revised to correct a typo for the minimum particulate measurement recorded at the Courtice WPCP Station as noted in the MOECC letter. The revised table is provided in Attachment B.

Regards,

STANTEC CONSULTING LTD.

Original Signature on File

Original Signature on File

Connie Lim, B.A.Sc.
Air Quality Specialist
Phone: (905) 415-6385
Fax: (905) 474-9889
connie.lim@stantec.com

Gregory Crooks, M.Eng., P.Eng.
Principal, Environmental Services
Phone: (416) 598-7687
Fax: (416) 596-6680
gregory.crooks@stantec.com

Attachment: Attachment A – Updated Table 3-7, Table 4-2 and Data Summary Table – Rundle Road Station - January 2014
Attachment B – Updated Table 4-3: Summary of Measured Ambient TSP/Metals Concentrations in Quarterly Ambient Air Quality Monitoring Reports for Quarter 1, 2014

- c. Greg Borchuk, Region of Durham
Marinha Antunes, Air Quality Analyst, Technical Support Section, MOECC
Dan Delaquis, Supervisor (A), Air, Pesticides and Environmental Planning, MOECC
Dan Orr, Technical Support Manager
Dave Fumerton, District Manager, York-Durham District Office, MOECC
Sandra Thomas, Issues Coordinator, York-Durham District Office, MOECC

lc v:\01609\active\160950528\planning\correspondence\moecc\2014q1q2_review\160950528_moecc_comments_2014q1q2_16dec2014_final.docx



December 16, 2014

Ms. Nisha Shirali, Environmental Planner & EA Coordinator

Page 5 of 6

Reference: Durham York Energy Centre, MOECC Data Validation Review of Q1 and Q2 2014 Quarterly Reports (January 2014 to June 2014)

ATTACHMENT A – UPDATED TABLE 3-7 DATA RECOVERY RATE TABLE, TABLE 4-2 AMBIENT CAC SUMMARY TABLE FOR THE RUNDLE ROAD STATION, AND UPDATED DATA SUMMARY TABLE – RUNDLE ROAD STATION - JANUARY 2014 (Q1 2014 REPORT)

Table 3-7 Summary of Data Recovery Rates for the Rundle Road Station (Downwind) – January to March 2014

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2144	99.3%
NO _x	2144	99.3%
PM _{2.5}	2144	99.3%
Temperature	2151	99.6%
Rainfall	2151	99.6%
Relative Humidity	2151	99.6%
Wind Speed/Direction	2151	99.6%
TSP/Metals	15 ^A	100%
PAHs	7 ^A	100%
Dioxins and Furans	4 ^A	100%

Note:

A. Number of filters/24-hour average samples.

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
SO ₂	1	250	690	Maximum	15.2	42.2	8.6	24.7
				Minimum	0.0	0.0	0.0	0.0
				Mean (January)	1.0	2.8	0.5	1.5
				Mean (February)	1.0	2.9	0.4	1.1
				Mean (March)	0.8	2.2	0.7	1.9
				Mean (Period)	0.9	2.6	0.5	1.5
				Standard Deviation	1.5	4.5	0.7	2.0
	# of Exceedances	0	0	0	0			
	24	100	275	Maximum	5.2	15.9	2.8	8.1
				Minimum	0.0	0.0	0.0	0.0
				Mean (January)	1.0	2.8	0.5	1.5
				Mean (February)	1.0	2.9	0.4	1.1
				Mean (March)	0.7	2.2	0.7	1.9
				Mean (Period)	0.9	2.6	0.5	1.5
Standard Deviation				0.8	2.5	0.5	1.3	
# of Exceedances	0	0	0	0				
PM _{2.5}	24	N/A	30 ^A	Maximum	-	43.2	-	41.3
				Minimum	-	2.5	-	2.1
				Mean (January)	-	8.5	-	9.0
				Mean (February)	-	12.6	-	12.2
				Mean (March)	-	10.9	-	9.4
				Mean (Period)	-	10.6	-	10.1
				Standard Deviation	-	7.0	-	6.6
				# of Exceedances	-	N/A	-	N/A

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
NO ₂	1	200 ^B	400 ^B	Maximum	52.7	108.6	45.7	97.6
				Minimum	0.6	1.1	0.0	0.0
				Mean (January)	8.9	18.8	7.6	15.9
				Mean (February)	13.5	28.6	8.3	17.5
				Mean (March)	9.5	19.7	7.2	14.8
				Mean (Period)	10.5	22.1	7.7	16.0
				Standard Deviation	10.0	21.2	7.1	14.9
				# of Exceedances	0	0	0	0
	24	100 ^B	200 ^B	Maximum	31.7	68.8	28.0	60.4
				Minimum	2.0	4.1	0.0	0.0
				Mean (January)	8.8	18.6	7.5	15.8
				Mean (February)	13.7	28.9	8.3	17.5
				Mean (March)	9.3	19.3	7.2	14.8
				Mean (Period)	10.5	22.0	7.6	16.0
Standard Deviation				6.3	13.4	5.1	10.7	
# of Exceedances				0	0	0	0	

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
NO _x	1	NA	NA	Maximum	79.1	108.3	38.2	53.5
				Minimum	0.1	0.2	0.1	0.2
				Mean (January)	3.4	4.6	2.3	3.2
				Mean (February)	4.7	6.6	2.1	2.8
				Mean (March)	3.0	4.1	1.8	2.5
				Mean (Period)	3.7	5.0	2.1	2.8
				Standard Deviation	7.4	10.2	3.4	4.6
	# of Exceedances	N/A	N/A	N/A	N/A			
	24	NA	NA	Maximum	21.7	30.3	11.2	15.8
				Minimum	0.5	0.6	0.4	0.5
				Mean (January)	3.4	4.7	2.4	3.2
				Mean (February)	4.7	6.5	2.0	2.8
				Mean (March)	2.9	4.0	1.9	2.5
				Mean (Period)	3.6	5.0	2.1	2.8
Standard Deviation				4.0	5.6	1.6	2.2	
# of Exceedances	N/A	N/A	N/A	N/A				

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
NO _x	1	200 ^B	400 ^B	Maximum	122.2	256.7	68.2	146.2
				Minimum	1.2	2.6	0.0	0.0
				Mean (January)	12.0	25.4	9.4	19.7
				Mean (February)	17.8	37.8	9.9	20.8
				Mean (March)	11.8	24.7	8.4	17.4
				Mean (Period)	13.8	29.0	9.2	19.2
				Standard Deviation	16.0	34.0	9.3	19.5
				# of Exceedances	0	0	0	0
	24	100 ^B	200 ^B	Maximum	52.1	112.5	38.6	83.4
				Minimum	2.7	5.6	0.0	0.0
				Mean (January)	11.9	25.4	9.5	19.9
				Mean (February)	18.0	38.0	9.8	20.7
				Mean (March)	11.6	24.2	8.5	17.5
				Mean (Period)	13.7	28.8	9.2	19.3
Standard Deviation				9.9	21.2	6.5	13.6	
# of Exceedances				0	0	0	0	

Note:

- A. Canada-Wide Standards for Respirable Particulate Matter. The Respirable Particulate Matter Objective is referenced to the 98th percentile over 3 consecutive years.
- B. As per current version (April 2012) of Reg 419 Summary of Standards and Guidelines, the air standard for NO_x is compared to a monitored NO_x concentration, although the Reg419 Schedule 3 standard for NO_x is based on health effects of NO₂.
- C. NO has no regulatory criteria.

**PM_{2.5} - Rundle Road
January 2014
(ug/m3)**

Day	Hour																								Count	Maximum	Minimum	Average	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300					
1	6.3	6.1	5.9	5.5	6.2	6.7	7.0	8.4	6.3	4.1	3.4	3.1	2.9	2.7	3.0	3.4	3.8	4.9	4.8	4.3	4.3	4.4	4.2	3.9	24	8.4	2.7	4.8	
2	4.0	4.5	4.8	4.6	5.0	5.0	4.9	4.7	4.8	4.7	4.2	4.4	3.3	2.9	2.6	2.9	2.8	3.2	3.1	3.1	3.3	3.2	2.9	3.1	24	5.0	2.6	3.8	
3	3.6	3.9	4.4	4.3	4.3	4.6	5.2	6.0	5.7	5.0	4.1	2.8	2.2	1.8	2.1	2.1	2.4	5.0	13.3	14.0	11.8	11.2	9.4	6.3	24	14.0	1.8	5.6	
4	3.0	2.5	2.2	2.0	1.9	2.0	2.1	2.2	2.1	1.8	1.4	1.6	1.8	2.1	2.5	3.2	3.7	4.5	4.2	7.4	18.9	23.9	8.1	9.5	24	23.9	1.4	4.8	
5	12.5	13.6	13.7	13.4	14.1	16.8	18.7	21.9	28.0	27.7	26.6	28.7	27.9	19.9	15.5	14.9	10.7	11.3	10.5	12.3	11.3	11.0	10.5	10.1	24	28.7	10.1	16.7	
6	10.6	9.9	9.0	6.1	7.3	5.4	5.8	5.1	5.4	6.1	5.9	6.2	5.3	4.9	4.2	5.5	5.6	34.5	5.3	5.6	6.5	7.7	7.4	5.5	24	34.5	4.2	7.5	
7	7.2	5.8	6.2	7.0	9.4	10.4	11.4	11.7	11.8	12.1	10.4	9.0	8.7	7.5	7.1	8.2	9.7	9.3	7.2	8.3	8.8	8.7	9.1	9.2	24	12.1	5.8	8.9	
8	9.3	6.0	6.3	6.9	7.0	7.2	6.5	7.8	7.4	6.6	6.7	6.5	6.3	6.8	8.2	8.7	9.3	11.3	13.4	16.5	34.3	20.2	20.3	25.5	24	34.3	6.0	11.0	
9	24.3	24.0	26.8	28.4	30.0	31.9	34.0	32.4	31.5	40.7	21.7	25.4	16.5	40.6	7.8	7.7	8.6	10.2	10.9	13.5	20.5	24.5	22.7	21.1	24	40.7	7.7	23.1	
10	18.3	20.9	21.5	23.0	20.4	21.3	21.5	25.1	25.4	28.5	30.5	A	A	13.3	14.2	15.3	15.6	16.2	19.0	21.0	21.0	22.8	21.9	19.0	22	30.5	13.3	20.7	
11	14.3	15.3	17.0	19.6	20.8	18.9	16.0	12.7	11.3	10.8	5.1	3.8	3.3	2.1	2.2	1.9	0.6	1.4	2.0	3.0	3.8	2.6	0.8	0.5	24	20.8	0.5	7.9	
12	0.6	0.9	1.6	2.5	2.7	2.2	3.2	4.3	5.2	5.2	4.8	4.6	6.1	7.5	7.9	10.6	10.3	11.3	13.0	17.1	19.1	20.4	17.5	17.0	24	20.4	0.6	8.1	
13	19.3	15.2	14.9	14.1	14.9	16.8	18.6	18.9	20.0	23.3	17.3	5.4	4.7	4.2	2.8	2.0	16.7	2.2	2.3	2.3	2.6	3.2	3.7	5.2	24	23.3	2.0	10.4	
14	6.2	7.1	9.0	12.6	18.1	25.7	30.0	31.7	25.5	6.6	3.1	2.2	2.3	1.9	1.7	1.6	2.1	34.8	5.9	14.2	11.3	18.9	16.6	23.8	24	34.8	1.6	13.0	
15	18.8	16.2	15.9	22.7	21.1	12.6	9.9	6.6	32.0	24.5	3.6	72.9	40.8	7.3	3.8	3.6	2.9	3.7	3.3	3.0	2.1	3.9	2.0	2.1	24	72.9	2.0	14.0	
16	2.6	2.9	3.2	2.8	3.4	4.5	6.1	7.2	6.7	8.4	7.3	3.9	4.7	5.6	4.4	5.2	5.6	6.0	5.2	5.5	5.2	4.0	7.8	7.7	24	8.4	2.6	5.2	
17	5.8	5.3	6.3	6.1	M	M	M	M	M	M	M	8.2	10.7	R	10.5	6.9	5.4	4.9	5.0	8.3	9.7	12.7	20.5	23.3	16	23.3	4.9	16.1	
18	22.3	23.4	19.9	15.6	15.2	15.4	16.6	16.3	16.4	16.5	12.7	7.0	7.2	9.9	9.3	9.1	8.8	19.8	16.0	18.5	20.4	24.2	24.2	22.6	24	24.2	7.0	16.1	
19	17.7	9.6	13.6	12.2	11.4	12.7	12.5	12.1	10.4	8.9	6.5	4.7	4.0	4.5	4.8	7.4	11.4	14.7	15.7	15.5	16.2	16.1	14.4	14.9	24	17.7	4.0	11.3	
20	18.3	20.1	22.5	11.7	0.9	1.0	0.9	1.0	0.9	0.5	0.6	0.8	1.1	1.0	0.8	0.6	3.4	7.5	2.3	8.5	1.5	2.3	2.1	3.7	24	22.5	0.5	4.7	
21	2.3	2.4	2.5	2.6	3.2	4.0	4.5	4.9	5.8	C	5.0	3.8	4.2	4.3	2.7	2.4	2.6	4.0	6.1	8.4	8.2	8.5	6.8	7.5	23	8.5	2.3	4.6	
22	9.1	10.6	8.7	5.2	4.1	6.5	8.2	8.9	7.3	4.6	2.7	2.5	1.3	1.4	1.7	1.8	2.9	4.3	8.8	10.9	9.4	8.4	7.8	7.1	24	10.9	1.3	6.0	
23	7.3	4.1	1.9	2.3	2.8	2.4	2.4	2.3	2.5	2.4	2.8	2.0	1.5	1.4	1.6	2.0	2.8	3.8	4.0	15.6	3.4	4.3	6.5	4.3	24	15.6	1.4	3.6	
24	6.0	5.7	5.7	5.8	4.6	5.7	9.6	16.5	9.9	14.0	3.7	14.1	18.6	3.5	5.1	6.5	2.2	2.1	2.3	2.3	2.4	2.5	2.8	3.0	24	18.6	2.1	6.4	
25	4.9	3.8	3.9	4.2	4.2	4.3	4.4	4.1	3.6	3.5	3.2	3.0	3.6	4.8	0.7	0.3	0.2	6.1	1.3	3.5	5.9	10.3	2.2	3.7	24	10.3	0.2	3.7	
26	9.7	11.1	12.0	13.4	15.3	15.2	15.5	18.8	15.6	R	2.4	1.5	2.3	1.0	0.5	0.7	0.8	2.3	2.0	1.5	1.4	2.1	2.8	4.1	23	18.8	0.5	6.6	
27	4.3	5.5	5.8	8.3	6.5	3.5	3.2	2.4	4.4	6.2	3.4	6.9	2.1	1.9	4.4	2.6	6.6	3.1	14.0	5.6	2.6	3.4	2.6	3.6	24	14.0	1.9	4.7	
28	5.0	1.2	1.8	2.9	3.1	3.6	4.4	5.4	7.5	7.3	6.7	6.3	6.1	4.6	4.3	3.9	3.8	3.5	6.1	6.5	9.4	7.7	7.3	6.4	24	9.4	1.2	5.2	
29	10.8	14.2	14.0	13.2	13.0	12.6	12.4	10.8	11.6	10.7	9.7	10.1	9.5	8.8	7.3	6.8	7.6	9.1	11.4	12.7	17.3	18.3	14.7	11.2	24	18.3	6.8	11.6	
30	12.6	13.0	13.7	9.8	10.8	11.4	11.6	11.8	10.8	8.9	7.1	7.1	6.8	6.9	7.0	5.8	5.5	5.7	4.9	4.6	4.4	3.5	3.7	4.6	24	13.7	3.5	8.0	
31	8.2	8.2	10.5	12.0	16.5	18.6	19.9	22.4	23.3	24.4	26.3	17.8	7.2	8.1	4.9	8.2	8.7	17.1	11.2	12.8	14.0	18.4	15.4	17.5	24	26.3	4.9	14.7	
Count	31	31	31	31	30	30	30	30	30	28	30	30	30	30	31	31	31	31	31	31	31	31	31	31	732	31	28	30.5	
Maximum	24.3	24.0	26.8	28.4	30.0	31.9	34.0	32.4	32.0	40.7	30.5	72.9	40.8	40.6	15.5	15.3	16.7	34.8	19.0	21.0	34.3	24.5	24.2	25.5	24	72.9	15.3	30.0	
Minimum	0.6	0.9	1.6	2.0	0.9	1.0	0.9	1.0	0.9	0.5	0.6	0.8	1.1	1.0	0.5	0.3	0.2	1.4	1.3	1.5	1.4	2.1	0.8	0.5	16	5.01	0.2	1.0	
Average	9.8	9.4	9.8	9.7	9.9	10.3	10.9	11.5	12.0	11.6	8.3	9.2	7.4	6.4	5.0	5.2	5.9	9.0	7.6	9.2	10.0	10.7	9.6	9.9	24	21	3	9	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		2.2		3.1		4.2		5.2		6.5		8.3		10.9		14.8		19.9		24.1		33.5		72.9					72.9
Notes	C - Calibration / Span Cycle		NA - No Data Available		T - Test		A- MOE Audit		M - Equipment Malfunction / Down		R - Rate of Change																		



December 16, 2014

Ms. Nisha Shirali, Environmental Planner & EA Coordinator

Page 6 of 6

Reference: Durham York Energy Centre, MOECC Data Validation Review of Q1 and Q2 2014 Quarterly Reports (January 2014 to June 2014)

ATTACHMENT B – UPDATED TABLE 4-3 SUMMARY OF MEASURED AMBIENT TSP/METALS CONCENTRATIONS, QUARTER 1, 2014

Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre – January to March 2014

Table 4-3 Summary of Measured Ambient TSP/Metals Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Particulate	µg/m ³	120	120	48	4.5	0	37	8	0
Total Mercury (Hg)	µg/m ³	2	2	1.82E-05	4.56E-06	0	2.94E-05	4.03E-06	0
Aluminum (Al)	µg/m ³	4.8	-	2.74E-01	1.57E-02	0	1.45E-01	1.39E-02	0
Antimony (Sb)	µg/m ³	25	25	6.29E-03	2.12E-03	0	3.25E-03	1.96E-03	0
Arsenic (As)	µg/m ³	0.3	0.3	3.77E-03	1.27E-03	0	1.95E-03	1.18E-03	0
Barium (Ba)	µg/m ³	10	10	8.78E-03	1.36E-03	0	7.09E-03	1.57E-03	0
Beryllium (Be)	µg/m ³	0.01	0.01	6.29E-04	2.12E-04	0	3.25E-04	1.96E-04	0
Bismuth (Bi)	µg/m ³	-	-	3.77E-03	1.27E-03	-	1.95E-03	1.18E-03	-
Boron (B)	µg/m ³	120	-	5.61E-03	1.27E-03	0	4.23E-03	1.18E-03	0
Cadmium (Cd)	µg/m ³	0.025	0.025	1.26E-03	4.25E-04	0	6.49E-04	3.92E-04	0
Chromium (Cr)	µg/m ³	0.5	-	3.44E-03	1.06E-03	0	3.23E-03	9.80E-04	0
Cobalt (Co)	µg/m ³	0.1	0.1	1.26E-03	4.25E-04	0	6.49E-04	3.92E-04	0
Copper (Cu)	µg/m ³	50	-	5.95E-02	9.36E-03	0	1.93E-01	2.60E-02	0
Iron (Fe)	µg/m ³	4	-	8.49E-01	5.54E-02	0	6.21E-01	6.77E-02	0
Lead (Pb)	µg/m ³	0.5	0.5	5.50E-03	6.37E-04	0	7.34E-03	6.63E-04	0
Magnesium (Mg)	µg/m ³	-	-	3.87E-01	1.57E-02	-	2.83E-01	1.39E-02	-
Manganese (Mn)	µg/m ³	0.4	-	2.79E-02	1.60E-03	0	2.60E-02	1.79E-03	0
Molybdenum (Mo)	µg/m ³	120	-	2.36E-03	6.37E-04	0	2.76E-03	5.88E-04	0
Nickel (Ni)	µg/m ³	0.2	-	1.89E-03	6.37E-04	0	2.33E-03	5.88E-04	0
Phosphorus (P)	µg/m ³	-	-	1.05E-01	5.31E-03	-	3.37E-02	5.04E-03	-

Table 4-3 Summary of Measured Ambient TSP/Metals Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Selenium (Se)	µg/m ³	10	10	6.29E-03	2.12E-03	0	3.25E-03	1.96E-03	0
Silver (Ag)	µg/m ³	1	1	3.15E-03	1.06E-03	0	1.62E-03	9.80E-04	0
Strontium (Sr)	µg/m ³	120	-	1.23E-02	7.51E-04	0	6.81E-03	7.91E-04	0
Thallium (Tl)	µg/m ³	-	-	6.29E-03	2.12E-03	-	3.25E-03	1.96E-03	-
Tin (Sn)	µg/m ³	10	10	6.29E-03	2.12E-03	0	3.25E-03	1.96E-03	0
Titanium (Ti)	µg/m ³	120	-	1.60E-02	2.12E-03	0	7.71E-03	2.02E-03	0
Vanadium (V)	µg/m ³	2	1	3.15E-03	1.06E-03	0	1.62E-03	9.80E-04	0
Zinc (Zn)	µg/m ³	120	-	1.14E-01	8.78E-03	0	1.24E-01	6.24E-03	0
Zirconium (Zr)	µg/m ³	20	-	3.15E-03	1.06E-03	0	1.62E-03	9.80E-04	0
Total Uranium (U)	µg/m ³	1.5	-	2.83E-04	9.56E-05	0	1.46E-04	8.82E-05	0