EXECUTIVE SUMMARY

Niagara Energy Products (NEP) is located at 4749 Buttrey Street, Niagara Falls, Ontario (Facility). The Facility processes involve batching of high-density concrete, metal working, shot blasting, non-destructive testing and paint application for the manufacturing of transportable Dry Storage Containers (DSCs) for long-term storage of spent nuclear fuel.

The Facility currently operates under the Environmental Compliance Approval (ECA) Number 7746-AGTL6D, dated January 27th, 2017.

As per Sec. 20 of O. Reg 419/05, based on the nature of the operations, NEP is required to have AERMOD dispersion modeling. POI concentrations for each significant contaminant emitted from the Facility were estimated based on the calculated emission rates and the output from the approved AERMOD dispersion model. The results are presented in the following Emission Summary Table in accordance s. 26 of O. Reg. 419/05.

The POI concentrations listed in the Emission Summary Table were compared against the criteria listed in the ministry publication "Air Contaminants Benchmarks List: standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants", January 2017 (List of Ministry POI Limits).

Contaminants released by the Facility that are not listed on the List of MOECC POI Limits were considered to be Contaminants with No Ministry POI Limits. These contaminants were further assessed against Jurisdictional Screening Level (JSL) List and documented in Table 4 – Emission Summary Table. Any contaminant(s), which are not listed in JSL, were documented in accordance with the requirements of the ESDM Procedure Document.

All of the contaminants listed in the Emission Summary Table, which have limits in the List of MOECC POI limits, have predicted POI concentrations below the MOECC criteria.

Emission Summary Table
Niagara Energy Products, Niagara Falls, Ontario

Contaminant Name	CAS Number	Total Facility Emission Rate[g/s]	Air Dispersion Model Used	Max POI [µg/m^3]	Averaging Period (hours)	MOE POI Limit [µg/m^3]	Limiting Effect	Regulation Schedule #	Percentage of MOE POI Limit
1-Methoxy-2-propanol	107-98-2	4.93E-02	AERMOD	9.44E+01	24	121,000 (10-min)	Odour	G	0.08%
Aluminum*	1344-28-1	9.44E-03		1.98E+00		120	Particulate	G	1.65%
Aromatic Naphtha	64742-95-6	2.12E-02		5.99E+00		305	N/A	JSL	1.96%
Benzyl Alcohol	100-51-6	6.93E-04		1.93E-01		880	Health	G	0.02%
Calcium Carbonate	1317-65-3	2.50E-05		7.60E-03		24	N/A	JSL	0.03%
Calcium Fluoride	7789-75-5	2.08E-05		5.39E-03		N/A	N/A	N/A	N/A
Calcium*	1305-78-8	4.51E-04		1.49E-01		10	Health	3	1.49%
Calcium Sulfate	20548-54-3	7.52E-04		2.64E-01		N/A	N/A	N/A	N/A
Carbon	7440-44-0	2.34E-06		4.90E-04		N/A	N/A	N/A	N/A
Chromium*	7440-47-3	1.92E-05		1.00E-02		0.5	Health	3	2.00%
Copper*	7440-50-8	2.34E-06		4.90E-04		50	Health	3	0.00%
Cryolite	15096-52-3	4.17E-06		2.17E-03		N/A	N/A	N/A	N/A
Epoxy Resin	25068-38-6	4.29E-03		3.23E-01		N/A	N/A	N/A	N/A
Ethyl Benzene	100-41-4	1.26E-02		3.54E+00		1,000	Health	3	0.35%
Ferric Oxide*	7439-89-6	7.61E-02		1.60E+01		25	Soiling	3	63.80%
Fiberglass	N/A	1.18E-04		2.75E-02		N/A	N/A	N/A	N/A
Hexavalent chromium	7440-44-0	2.28E-06		6.00E-05		0.00014 (annual)	Health	3	42.86%
				8.60E-04		0.07		DAV	1.23%
				8.60E-04		0.0014		AAV	61.43%
Magnesium*	1309-48-4	1.89E-04		3.97E-02		120	Particulate	3	0.03%
Manganese*	7439-96-5	2.75E-04		5.77E-02		0.4	Health	3	14.43%
Molybdenum*	7439-98-7	4.69E-06		9.80E-04		120	Particulate	G	0.00%
N-Butyl Acetate	123-86-4	4.70E-02		5.60E+01		15000 (1 hour)	Health	G	7.62%
				8.96E+01		1000 (10 min)	Odour	G	8.96%
Nickel*	7440-02-0	1.08E-05		4.30E-04		0.04 (annual)	Health	6	1.08%
				5.85E-03		2		DAV	0.29%
				5.85E-03		0.4		AAV	1.46%
Oxides of Nitrogen	10102-44-0	6.05E-02		4.51E+00		200	Health	3	2.26%
				2.10E+01		400 (1-hr)	Health	3	5.25%
Oxirane,monomethyl derivs.	68609-97-2	8.37E-04		6.47E-02		9,000	Health	G	0.00%
Particulate Matter	N/A	9.31E-02		2.95E+01		120	Visibility	3	24.57%
Phenolic Resin	9003-35-4	3.54E-03		7.36E-01		12	N/A	JSL	6.14%
Polyamide	68082-29-1	1.62E-03		1.24E-01		N/A	N/A	N/A	N/A
Portland Cement	65997-15-1	1.71E-02		4.93E+00		20	N/A	JSL	24.65%
Potassium Titanate	12030-97-6	2.50E-06		1.30E-03		N/A	N/A	N/A	N/A
Proprietary Polyaminoamine	N/A	1.36E-03		1.04E-01		N/A	N/A	N/A	N/A
Quartz	14808-60-7	7.69E-03		6.36E-01		5	Health	G	12.72%
Silicon	7440-21-3	8.44E-06		1.77E-03		20	N/A	JSL	0.01%
Silicon Carbide	409-21-2	8.85E-03		1.85E+00		7.1	N/A	JSL	26.06%
Sodium Silicate	1344-09-8	4.17E-06		2.17E-03		N/A	N/A	N/A	N/A
Talc	14807-96-6	3.06E-03		3.01E-01		2	Health	G	15.03%
Titanium Dioxide	13463-67-7	5.04E-03		3.96E-01		34	Health	G	1.16%
Triethylenetetramine	112-24-3	3.53E-03		9.90E-01		10	N/A	JSL	9.90%
Xylenes	1330-20-7	6.01E-02		1.70E+01		730	Health	3	2.33%
Zirconium*	1314-23-4	1.42E-03		2.98E-01		N/A	N/A	N/A	N/A

* Oxide Forms

Notes on Regulation Schedule #

3 - Standards in Schedule 3 of O.Reg. 419/05

G - Criteria identified as POI Guideline in Ambient Air Quality Criteria (AAQC)/O.Reg 419/05

JSL- Jurisdictional Screening Level List

NA - No criteria is available in AAQC/O.Reg 419/05