

EXECUTIVE SUMMARY

Enbridge Gas Inc. operating at Union Gas (Enbridge) retained ORTECH Consulting Inc. (ORTECH) to update the Emission Summary and Dispersion Modelling (ESDM) Report for the Sandwich Compressor Station, which is located at 5105 Concession Road 8, Sandwich South Township, Ontario (the Facility).

On June 27, 2008, an original ESDM Report was prepared to support a Basic Comprehensive (Air) Certificate of Approval (CofA) application for all facilities in Ontario. The CofA has been updated to the provincial wide environmental compliance approval (PWECA) in 2014. The PWECA was also amended in 2017, 2019 and 2020. Currently, the Facility is operated under the current PWECA # 4459-BJGQQY dated March 25, 2020.

This ESDM is updated to address the proposed modification:

- Replacement of the old exhaust stack with a new exhaust stack for the turbine.

This ESDM Report follows the requirements of O. Reg. 419/05 (the Regulation) and the Ontario Ministry of the Environment, Conservation and Parks (Ministry) “Procedure for Preparing an Emission Summary and Dispersion Modelling Report, March 2018, Version 4.1,” (the Procedure) (PIBs #3614e04.1), and “Air Dispersion Modelling Guideline for Ontario, February 2017, Version 3.0” (the ADMGO) (PIBs #5165e03), and references the Union Gas’s Assessment Protocol for Compressor Stations (the Protocol).

The Facility is intended to compress natural gas for transmission purposes. The NAICS Code applicable to the facility is ‘486210 – Pipeline Transportation of Natural Gas’.

The ESDM report includes the quantification of nitrogen oxides (NO_x) emission rates for all significant sources of contaminants at the Facility and an estimation of the aggregate maximum point-of-impingement (POI) concentrations of NO_x.

The emission rates that have been calculated in this report are for maximum 1-hour and 24-hour operating scenarios as per O.Reg. 419/05 Schedule 3 regulatory requirements. Due to the underlying assumptions used for this scenario, the emission rate cannot be realistically extrapolated to other time periods and should not be used for such purposes.

The Emission Summary Table (Table 1) shows:

- the significant sources and associated air contaminants;
- the maximum total facility emission rates and maximum 1-hour and 24-hour POI concentrations calculated by air dispersion modelling;
- the Ministry “Air Contaminants Benchmarks (ACB) List” Version 2.0 – April 2018 (Ministry POI Limits) used to evaluate all significant contaminant concentrations; and

- the maximum percentages of the Ministry POI Limits, where available, or the applicable alternative.

As shown in Table 1, the predicted maximum POI concentrations of nitrogen oxides resulting from the maximum emission scenario are below the Ministry POI Limits. Under the worst-case operation conditions described in Section 4 and exhaust parameters presented in Table 3, the Facility complies with Ministry POI Limits and no further mitigation measures are required.

Table 1 - Emission Summary Table

Scenario	Contaminant Name	Contaminant CAS #	Total Facility Emission Rate (g/s)	Air Dispersion Model Used (include version code)	Maximum POI Concentration ^[1] (µg/m ³)	Averaging Period (hours)	Ministry POI Limit ^[2] (µg/m ³)	Limiting Effect	Regulation Schedule # ^[3]	Percentage of Ministry POI Limit (%)
Turbine	Nitrogen Oxides	10102-44-0	2.00	AERMOD 19191	59.7	1	400	Health	3	14.9%
					30.3	24	200	Health	3	15.2%

Note:

- [1] Meteorological outliers have been removed from the results in accordance with Section 6.5 of the ADMGO.
- [2] "Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants, April 2018, Version 2.0" (Ministry POI Limits).
- [3] Schedule 3 of O.Reg. 419/05.