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Executive Summary of the
Emission Summary and Dispersion Modelling Report
for the Waterloo Power Generator
dated December 22, 2011

Union Gas Limited retained ORTECH Environmental, a division of ORTECH Consulting Inc., to prepare an Emission Summary and Dispersion Modelling (ESDM) Report for the Waterloo Power Generator, located at 603 Kumpf Drive, Waterloo, Ontario. This report is part of a Basic Comprehensive (Air) Certificate of Approval (CofA) application for all Union Gas facilities in Ontario.

This ESDM Report follows the requirements of the Ontario Regulation 419/05 Air Pollution – Local Air Quality and the Ontario Ministry of the Environment (MOE) "Procedure for Preparing an Emission Summary and Dispersion Modelling Report Version 3.0" dated March 2009 (the Procedure).

This ESDM report includes the quantification of the nitrogen oxides emission rate for the generator and a calculation of the maximum ½-hour point-of-impingement concentration for nitrogen oxides.

The nitrogen oxides emission rate that has been estimated in this report is for a maximum half-hour operating scenario as per regulatory requirements. Due to the underlying assumptions used for this scenario, the emission rate cannot be realistically extrapolated to annual values and should not be used for such purposes.

The Emission Summary Table (Table 1) shows the maximum emission rate and maximum point-of-impingement (POI) concentration for nitrogen oxides; the POI limit used to evaluate nitrogen oxides and the maximum percent of the POI limit calculated by dispersion modelling. As shown in the Emission Summary Table, the maximum nitrogen oxides POI concentration at the Waterloo facility is less than the MOE POI limit.

Note: This report and associated assessment were based on information contained in the document titled "Streamlined Application for Certificate of Approval (Air & Noise) for A Standby Generator, Union Gas, London Ontario" prepared by Conestoga-Rovers & Associates and dated September 2011. This report was provided to ORTECH by Union Gas. This information was assumed to be complete and factually correct. ORTECH did not visit the site, or independently verify any information provided in the aforementioned document.

Table 1: Emission Summary Table

Contaminant Name	CAS #	Max. Facility-Wide Emission Rate (g/s)	Air Dispersion Model Used	Max. POI Concentration ($\mu g/m^3$)	Averaging Period (hours)	MOE POI Limit ($\mu g/m^3$)	Limiting Effect	Regulation Schedule	Percent of MOE POI Limit
NO_X	10102-44-0	0.09	Reg. 346	242.53	0.5	1880	Health	(1)	13%

Note: (1) From the MOE publication 7976e "Emergency Generator Checklist, Supplement to Application for Approval, EPA s.9", November 2010