

Best Practices Guide

Members

- ◆ Sean Capstick - Golder Associates
- ◆ Christina Labarge - MOE
- ◆ Monica Greenfield – Vale Inco
- ◆ Justin Lewis - AVAR Environmental
- ◆ Neil Parrish – MOE
- ◆ Derek Sullivan - MOE
- ◆ Harvey Watson - DJA Environmental Consultants

Purpose

- ◆ Initiated by request at O. Reg. 419 Practitioner meeting in 2007
- ◆ To document methods used by practitioners to prepare CofAs in a preferred method which would help the MOE review engineers process the applications
- ◆ To clarify grey areas
- ◆ To react quickly where MOE is slow to respond

Purpose

- ◆ The Best Practises Documentation Group will document practises that relate to the creation and submission of Certificate of Approval (Air & Noise) applications to the Ontario Ministry of the Environment. The documents will address technical guidance and process related issues. The guidance will be reviewed by members of the group and made available to the general public on the AWMA web site.

Methodology

- ◆ Topic is raised for review
- ◆ Draft document prepared
- ◆ Review of draft document by members
- ◆ Draft amended and final draft prepared
- ◆ Final draft reviewed
- ◆ Final Guide prepared

Final Guides

The Following are excerpts from the four guides so to be available on the web site.

- ◆ Standard Descriptions
- ◆ Waste Tank Emissions
- ◆ Electronic Files
- ◆ Priorities

Standard Descriptions

Standard Descriptions

- ◆ Use S.I. units of measure
- ◆ No acronyms
- ◆ Use Canadian English spelling
- ◆ 12 pt. Times New Roman Font

Standard Descriptions

Minimum Information

- ◆ Source description
- ◆ Source identifier
- ◆ Process specific data
- ◆ Flow rate
- ◆ Exit dimensions
- ◆ Stack height above the roof
- ◆ Stack height above grade

Standard Descriptions

- ◆ **Examples Provided in Guide**

- ◆ **Exhaust for a Generic Process**

- ◆ one (1) exhaust system serving a laboratory fume hood, discharging to the atmosphere at a maximum volumetric flow rate of 0.47 cubic metre per second through a roof stack identified as source EX-22, having an exit diameter of 0.15 metre, extending 1.83 metres above the roof and 9.15 metres above grade;

Standard Descriptions

- ◆ one (1) 5-stage wash system equipped with a natural gas-fired burner having a thermal input rating of 4,190,000 kilojoules per hour, discharging to the atmosphere through two (2) roof stacks identified as sources STK-1 and STK-2, each having a maximum volumetric flow rate of 0.67 cubic metre per second, each having an exit diameter of 0.46 metre, each extending 3.05 metres above the roof and 9.15 metres above grade;

Waste Tank Emissions

Waste Tank Emissions

- ◆ The emission from waste tanks can normally be estimated from Raoult's Law which will predict the concentrations of contaminants in the vapour phase based on the contaminant concentration in the liquid phase
- ◆ The guide also assumes that the volume of vapour emitted is the same as the volume of liquid added to the tank

Waste Tank Emissions

$$\begin{aligned} & \text{Moles of Toluene/kg of Solvent} \\ &= \frac{\text{Weight \% Composition}}{\text{Molecular Weight}} \\ &= \frac{0.65\text{kgToluene}}{92.13\text{kgToluene}} \\ & \quad \text{kg - mole} \end{aligned}$$

Waste Tank Emissions

		Saturated Vapour Pressure	Molecular Weight	Weight %	Moles Contam /kg Solvent	Vapour Mole Fraction	½ Hour Average Emission Rate
CAS#	Contaminant	(mm Hg)	(g-mol)	(%)	(g-mol)		(g/s)
108-88-3	Toluene	22.4	92.13	65%	0.007055	0.62	0.21951
1330-20-7	Xylene	6.4	106.16	30%	0.002826	0.25	0.02895
67-56-1	Methanol	94.7	32.04	5%	0.001561	0.14	0.07139
			Total Moles:		0.0114		
	Bulk Filling Rate:	50	USGal/min				
	Bulk Filling Rate:	3.15	L/s				
	Tank Temperature:	293.15	K				

Electronic Files

Electronic Files

- ◆ In order to facilitate the Reviewer's assessment, practitioners will, along with the hard copy, provide electronic copies of those sections of the application that may be required
- ◆ The purpose of the electronic copies is to allow the Reviewer to manipulate the information and improve the efficiency of the review.

Electronic Files

- ◆ The information should be provided in a portable document format (.pdf) with the security options set to allow the copying of information directly from the file. A CD should be attached securely to the application. The CD should contain the following information:

Electronic Files

- ◆ Text of the ESDM Report
- ◆ The required tables in the ESDM Report including the Emission Summary Table and Source Summary Table
- ◆ Explicit descriptions of the equipment to be approved if applying for an equipment or site wide specific application (Standard Descriptions)

Electronic Files

- ◆ General description of the facility to be included on a Comprehensive CofA application including the Facility Production limit
- ◆ Dispersion modelling input and output files for all complex modelling assessments (i.e. AERMOD and multiple source O. Reg. 346 modelling runs) Intermediate files not required.

Priorities

Priorities

- ◆ Applicants may request higher priority in limited cases based on specific government criteria:
- ◆ The project is importance to the provincial energy supply,
- ◆ Provides Provincially significant new waste management capacity,
- ◆ Improves the provincial economic development, or
- ◆ Addresses Equipment/processes that would significantly reduce the environmental footprint of a facility or are part of an abatement plan

Where to Find Guides

◆ www.awma.on.ca

Subject Topics

- ◆ The current list of topics proposed for review will be found on the web site
- ◆ If anyone has any ideas for subjects then please submit them through the website

Recruiting

- ◆ Anyone who is interested in assisting with this project please contact:
scapstick@golder.com
- ◆ All of the existing guides were written by someone who wanted the topic standardized. If you want something standardized, contact us.