

Updates to the "Procedure For Preparing an Emission Summary and Dispersion Modelling Report" (ESDM Procedure Document)

<http://www.ene.gov.on.ca/en/air/ministry/index.php>

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Purpose of Presentation

The purpose of this presentation is to:

- Provide overview of recent updates to Guideline A-10: "Procedure For Preparing an Emission Summary and Dispersion Modelling Report" (ESDM Procedure Document) (PIBs# 3614e03)

IMPORTANT NOTE: These slides are intended to be a brief summary of some of the amendments to Ontario Regulation 419/05. Information contained in this presentation is only for information purposes. Interested parties must refer to Regulation 419/05 for a comprehensive understanding of the legal requirements of facilities. Ontario Regulation 419/05 as amended will take precedence in the event of a conflict between the Regulation and this document. The Regulation 419/05 web-site contains comprehensive information and a link to the Regulation.
<http://www.ene.gov.on.ca/en/air/ministry/index.php>.

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Rationale for Updating Guidance Document

- On August 31, 2007, the Ministry of the Environment (MOE) announced decisions on amendments to Ontario Regulation 419/05: Air Pollution – Local Air Quality.
- These regulatory amendments triggered the need to update the 2005 version of the ESDM Procedure Document.
- Many of the excerpts from the regulation itself, which can be found throughout the ESDM Procedure Document, had to be updated to reflect the regulatory amendments.

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Key Revisions by Sections

Chapter 1.0 – Introduction

- New definition of “approved dispersion model” was discussed (inclusion of ASHRAE and removal of ISCST3)
- References to the newly developed Jurisdictional Screening Level (JSL) list were incorporated
- Clarified that the regulation places limits on the concentration of contaminants in the natural environment that are caused by emissions from a facility
- Clarified that the regulation does not apply to discharges of contaminants from motor vehicles
- Foundry Sector (NAICS 3315) was removed from Schedule 4 in Appendix A (but remains in Schedule 5)

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Key Revisions by Sections

Chapter 2.0 – Overview of ESDM Reports

- Clarified when annual updated ESDM reports are required
- Clarified that the frequency relates to the averaging period of the standard which is not always over a 24 hour period (fixes reference to the number of days)
- Clarified that only models that allow for meteorological data input can be used to assess frequency of exceedences
- Clarified when ESDM reports should be site-wide (ie. include all contaminants) or contaminant specific
- Emphasized that any new requirement that would apply to a facility (eg. standards or approved models) should be included in the ESDM report one year sooner for the purposes of submitting CofA application

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Key Revisions by Sections

Chapter 5.0 – Facility Description

- The Industry Canada web-site (http://www.ic.gc.ca/epic/site/cis-sic.nsf/en/h_00004e.html) was included as an alternate source of descriptions for the various NAICS code sectors and sub-sectors

Chapter 6.0 – Initial Identification of Sources and Contaminants

- Emphasized that all sources on the property are to be listed in the Sources and Contaminants Identification Table including a brief description of the source or source title, a general location and optionally a source identifier
- Emphasized that all contaminants that may be discharged to the air from the facility must be identified and included in the ESDM Report even if there is no MOE POI Limit
- Clarified that it is optional to assess the significance of sources and contaminants, but if an assessment of significance is made, it must be documented

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Key Revisions by Sections

Chapter 7.0 – Assessment of the Significance of Contaminants and Sources

- Clarified that another method of identifying significant contaminants is to use the MOE's list of de minimus concentrations for contaminants that do not have MOE POI Limits (see Table B-2B)
- Emphasized that the averaging period for the Emission Threshold calculation must be consistent. The averaging period for the MOE POI Limit and the dispersion factor must be the same.
- Emphasized that where a contaminant has more than one MOE POI Limit, multiple emission thresholds must be calculated to show they are negligible
- Incorporated the JSL list into the assessment of significance process
- Table B-2B which lists contaminants excluded from de minimus level was updated (added CAS numbers, removed contaminants which are on MOE POI Limit or JSL lists)

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Key Revisions by Sections

Chapter 7.0 – Assessment of the Significance of Contaminants and Sources (continued)

- Table B-3 which lists examples of sources that typically emit contaminants in negligible amounts was updated (some new additions, removal of duplicates)
- Clarified that a source would be required to be included in an ESDM report where it emits a relatively small amount of a contaminant, but is the main contributor to the POI concentration due to the close proximity of the source to the POI or poor atmospheric dispersion. Similarly, an otherwise negligible source may be required to be included in the ESDM report where there is concern about the nature of the contaminant.
- Clarified that the sectors listed in Table 7-2 must consider metal content in the fugitive particulate from on-site roadways and storage piles
- Emphasized that proponents may be asked to include sources of fugitive dust in the ESDM Report if the best management practices plan is not acceptable to the MOE

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Key Revisions by Sections

Chapter 8.0 – Operating Conditions, Emission Rate Estimating and Data Quality

- Clarifies that the operating conditions and assessment of emission rates must correspond to the averaging period of each of the standards (some substances have more than one standard with different averaging periods)
- ESDM Reports prepared for URT exceedences (s.30) and Altered Standards Process (s.32) are now required to assess both of the operating scenarios described in subsection 10(1) of the Operating Conditions section, namely:
 - The conservative maximum operating scenario
 - The scenario based on actual operating data from the previous year
- Includes reference to MOE's new Technical Bulletin "*Methodology for Modelling Assessments of Contaminants with 10-Minute Average Standards and Guidelines under O.Reg.419/05*"

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Key Revisions by Sections

Chapter 8.0 – Operating Conditions, Emission Rate Estimating and Data Quality (Continued)

- Included two examples to emphasize the use of data quality
- In the first example, there are two different emission rate estimates (one higher than the other) where both emission rate estimates have the same data quality. Only the higher of the two emission rate estimates in this example can satisfy the requirements of paragraph 1 of subsection 11(1) of the Regulation.
- In the second example, there are two different emission rate estimates where the lower emission rate estimate has a higher data quality than the greater emission rate estimate. In this case, the lower emission rate estimate would satisfy paragraph 1 of subsection 11(1) of the Regulation since it has higher data quality.

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Key Revisions by Sections

Chapter 8.0 – Operating Conditions, Emission Rate Estimating and Data Quality (Continued)

- Table C-1 in Appendix C “Reference Material for Emission Rate Estimating” was updated
- Appendix E Technical Bulletin on “*The Use of Combined Modelling and Monitoring Assessments as an Emission Refinement Tool*” was updated for clarification purposes
- Clarified that the end point of refinement for an assessment of emissions is combined modelling/monitoring (s.11(1) para 3), unless the Director is satisfied that the emission rate derived from a range of site-specific source testing (s.11(1) para 2)) is sufficiently accurate (s.12 and s.32)
- Included description of error analysis to address the variability in the data gathered from the combined modelling/monitoring analysis

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Key Revisions by Sections

Chapter 11.0 – Emission Summary Table and Interpretation of Results

- Updated reference to MOE publication “*Summary of Standards and Guidelines to Support Ontario Regulation 419: Air Pollution – Local Air Quality (including Schedule 6 of O.Reg. 419 on Upper Risk Thresholds)*” dated February 2008
- References to the newly developed Jurisdictional Screening Level (JSL) were incorporated
- Added a new chapter on assessing concentrations and frequency at specified receptors
- Clarified that the final abatement plan submitted to the MOE must demonstrate that the proposed mitigation is certain to result in compliance with the MOE POI Limits. If compliance is not certain, a facility may be able to consider a request for an alteration of the standard under section 32 of the Regulation.
- Included reference to the “*Guide to Requesting an Alternative Air Standard*”

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Questions?

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