



Updates on Proposed Guidance/Technical Bulletins and
Technical Standards

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Presentation for AWMA Breakfast Series

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Purpose of Presentation

- Background – Ontario Regulation 419/05: Air Pollution – Local Air Quality
 - Compliance Approaches
- To provide an overview of proposed updates to:
 - Guidance Documents (Part 1)
 - New and Updated Technical Bulletins (Part II)
- Guidance on Assessment Values [linked to annual standards] (Part III)

Local Air Quality Regulation Compliance Approaches

There are **three** compliance approaches for industrial facilities:

1 Demonstrate compliance with the air standards by the phase-in period.

Assessed using approved air dispersion models or through modelling and monitoring.

OR

2 Request and meet a site-specific standard.

Available to eligible facilities affected by new or existing requirements. Assessed using approved air dispersion models or through modelling and monitoring.

OR

3 Register and meet the requirements under a technical standard for specified contaminants.

Available if the Ministry of the Environment has developed a technical standard that applies to the sector and those contaminants.

Part I: Guidance

- Primary Guidance Documents for O. Reg. 419/05:
 - Procedure for Preparing an Emission Summary and Dispersion Modelling Report [ESDM Procedure];
 - Air Dispersion Modelling Guideline for Ontario [ADMGO]; and
 - Guideline for the Implementation of Air Standards in Ontario [GIASO].

Proposed Updates to Guidance Documents

- Guidance documents updated by the Ministry of Environment and Climate Change (MOECC) internal working group (which includes SDB, EAB, EMRB, Operations Division (WCR), and Legal Services).
- Updates to the existing Guidance material to include:
 - new guidance resulting from changes brought in by the 2011 amendments (i.e. annual standards, etc).
 - updates to include changes from earlier regulatory amendments (2009) (e.g. renumbering of sections, technical standards, EASRs, etc); and
 - other suggestions to improve clarity.
- Incorporate messaging from communication products (July 2013 Fact Sheets on AWMA website <http://awma.on.ca/moecc-fact-sheets/>).

ESDM Procedure Document

- Compliance assessments start with Emission Summary and Dispersion Modelling (ESDM) reports.
- ESDMs most commonly submitted for Environmental Compliance Approvals (ECAs) but can also be required outside the approvals process.
- Examples of other ESDM reports:
 - Annual ESDM reports for facilities listed in Schedule 4 (by 2010) and 5 (by 2013) (site-wide ESDMs kept on site) **(s.23)**
 - ESDM reports required as per a notice issued by the Director **(s.24)**
 - To assess exceedences of the Upper Risk Thresholds (URTs) **(s.30)**
 - As part of a request for a Site-Specific Standard **(s.32)**
- ESDM reports can include all contaminants (site-wide) or a selection of one or more contaminants.

ESDM Procedure Document

- Highlights of Proposed Updates include:
 - Facilities with some contaminants registered to a Technical Standard
 - Reference for those with Environmental Activity and Sector Registry (EASRs)
 - Annual Updates of ESDMs
 - Emission estimates for new annual standards that come into effect July 2016
 - Operating Conditions (e.g. Variable Emission Rate Scenarios, Multiple Averaging Periods/Multiple Operating Conditions, etc.) (reorganized Chapters 8 and 9 and Appendices)
 - Emission and Source Summary Tables
 - Modelling for Annual Values (see new Technical Bulletin and Part III)

Technical Standards

- In 2009, the regulation was amended to allow the Minister the authority to establish Technical Standards to address issues that may have impacts on an entire sector, or for facilities that use a specific type of equipment.
- A sector may request a Technical Standard if two or more facilities in a sector exceed one or more air standards.
- There are currently three Technical Standards that have been published:
 - Forest Products (acrolein) (2009 – administrative update in 2015)
 - Foundries (several contaminants and proposal to add more) (2009 – proposed updates 2015)
 - Pulp and Paper (total reduced sulphur compounds and other contaminants) (finalized in 2014)
- Over 30 facilities are registered under one of these technical standards (see <https://www.ontario.ca/document/technical-standards-registry-air-pollution>).
- Other sectors, who feel they will be affected by one or more air standards, have also requested to work with the ministry to develop additional proposed Technical Standards for their sectors.

Proposed Technical Standards

- Industry Sectors that have approached the ministry with a formal request to develop a Technical Standard for one or more contaminants:
 - Metal Finishers – proposal posted May 2015 (EBR #012-3610) (chromium and nickel)
 - Foundries Sector – proposed amendments May 2015 (see EBR #012-3538) (several contaminants)
 - Petroleum Refining Sector (benzene and benzo-a-pyrene)
 - Petrochemical Sector (benzene and 1,3-butadiene)
 - Mining Sites (nickel and other metals)
 - Iron and steel mini-mills (manganese and a few other contaminants)
 - Asphalt Plants (benzo-a-pyrene)
- For details on technical standards, please refer to the Technical Standards publication document [“Technical Standards to Manage Air Pollution”](#) dated March 5, 2015, as amended from time to time.

Reference to Technical Standards in ESDM Procedure Document

- In general, a person is exempt from Part II of the Regulation for a contaminant if the person is registered with respect to a sufficient number of industry standards, equipment standards or a combination of industry standard and equipment standards to address all sources of that contaminant at their facility.
- If all sources of the contaminants at the facility are not addressed by these technical standard(s) (i.e. there are sources of contaminant at the facility that are part of other NAICS codes), the person may only exclude the sources of contaminant(s) that are associated with the NAICS code addressed in the technical standard(s).
- An ESDM report would be required for the remaining contaminants that were not registered and/or sources that emitted these contaminants that are associated with a different NAICS code.

Links to EASRs

- Sources that are exempt from requiring an ECA under an exempting regulation or an Environmental Activity and Sector Registry (EASR) are still required to be included in the ESDM report for that facility.
- The EASR sources should be listed in the *Sources and Contaminants Identification Table*.
- For further information, see the Guide to Applying for an Environmental Compliance Approval as amended, at: <http://www.ontario.ca/environment-and-energy/guide-applying-environmental-compliance-approval>.

Annual Updates of ESDMs

- If nothing has changed at the facility, the existing ESDM report could simply be copied and re-dated to indicate that the required annual update was considered and that the ESDM report is up-to-date. A letter could be appended to the previous year's report indicating that it is up-to-date.
- Things to look for could include:
 - a clear indication that the update is for the applicable reporting year
 - date of update must be before March 31st of the year following the reporting year in order for facility to be compliant with section 25 of the Regulation
 - an indication that the production was not increased
 - indication that emissions have not changed and the POI concentrations set out in referenced report reflect the emissions and concentrations resulting from the facility for the year in question

Current ESDM Procedure	Revised ESDM Procedure
<p>8.0 OPERATING CONDITIONS, EMISSION RATE ESTIMATING AND DATA QUALITY</p>	<p>8.0 OPERATING CONDITIONS <u>(REVISED)</u> 8.1 Operating Conditions 8.2 Multiple Operating Conditions 8.3 Transitional Operating Conditions <u>(under review)</u> 8.4 Estimating Emissions for Different Averaging Periods</p> <p>9.0 EMISSION RATE ESTIMATING AND DATA QUALITY</p>
<p>9.0 SOURCE SUMMARY TABLE AND SITE PLAN</p>	<p>10.0 SOURCE SUMMARY TABLE AND SITE PLAN</p>
<p>10.0 DISPERSION MODELLING</p>	<p>11.0 DISPERSION MODELLING 11.1.5 Dispersion Modelling for Standards with Annual Averages <u>(NEW)</u></p>
<p>11.0 EMISSION SUMMARY TABLE AND INTERPRETATION OF RESULTS</p>	<p>12.0 EMISSIONS SUMMARY TABLE AND INTERPRETATION OF RESULTS</p>
	<p>13.0 OTHER CONSIDERATIONS THAT REQUIRE FOLLOW UP ACTIONS <u>(REVISED)</u> 13.4 Technical Standards Compliance Approach <u>(NEW)</u></p>
<p>Appendices: Appendix E: Review of Approaches for the Combined Analysis of Modelled and Monitored Results <u>(Revised and Separated)</u> Appendix F: Review of Approaches to Manage Industrial Fugitive Dust Sources <u>(Revised and Separated)</u> Appendix G: Simplified Assessments for Specific Types of Applications for CofAs (section 22(3)) - <u>Removed</u></p>	<p>Appendices: Appendix B (Significant Sources): <u>Updates to Table B-2B List of Contaminants Excluded from de minimus level (see Table B-2A)</u> Appendix D (ESDM Checklist): <u>Updates</u> Appendix E: Guidance for Annual Standards: ESTIMATION OF PARTICULATE EMISSIONS FROM PAVED AND UNPAVED ROADS (based on US EPA guidance for Ontario context) <u>(NEW)</u></p>

Emission and Source Summary Tables

- In addition to the Emission Summary Table, a Sources and Contaminants Identification Table that is organized by contaminant is to be included in the ESDM report (as well as by source).
- Need to be more clear on Source ID [can be difficult to co-relate source IDs used in model runs and source summary tables with the more detailed descriptions of sources used elsewhere in the report].
- Include sources that are addressed under the Technical Standard Registry or have been registered in the EASR (if a facility is required to do an ESDM report) with an explanation of why emissions or sources were not modelled.
- An applicant for an ECA is required to include a source of contaminant in the ESDM report, unless the source of contaminant is exempt from all or portions of Part II of the Regulation. The only sources exempt from the requirement to do modelling are those addressed under at technical standard compliance approach.

Modelling for Annual Standards

- Until recently, AERMOD did not output the maximum POI for each meteorological year unless each year was modelled separately. It averaged all the meteorological conditions per grid point to produce one maximum POI concentration based on the annual emission rate (typically 5 years of met data is used).
- In order to avoid complex post-processing steps, it may also be acceptable to do one model run, using the appropriate five-year regional meteorological data set or a site-specific meteorological data set approved for that site under s.13 of the Regulation, if applicable.
- The maximum annual POI could then be multiplied by 140 % and this number would be compared to the annual value (e.g. AAV). This is intended to act as a conservative screening check.
- If 140% of the averaged model results is more than that the annual value, then individual model runs must be conducted for each of the five years of meteorological data or the site-specific meteorological data.

Part II - Proposed Technical Bulletins

- Proposed New/Updated Technical Bulletins that are proposed to be published as stand alone documents:
 - COMBINED ASSESSMENT OF MODELLED AND MONITORED RESULTS (CAMM) AS AN EMISSION RATE REFINEMENT TOOL (from February 2009 – new title – Oct 2014 version circulated)
 - Update of REVIEW OF APPROACHES FOR THE COMBINED ANALYSIS OF MODELLED AND MONITORED RESULTS (currently Appendix E of ESDM Procedure Document)
 - METHODOLOGY FOR USING “ASSESSMENT VALUES” FOR CONTAMINANTS WITH ANNUAL AIR STANDARDS under O. Reg. 419/05 (new – see Part III)
 - Approaches To Manage Open Industrial Fugitive Dust Sources (revised from 2004 – new title – not yet circulated)
 - Update of REVIEW OF APPROACHES TO MANAGE INDUSTRIAL FUGITIVE DUST SOURCES (currently Appendix F of ESDM Procedure Document)

Proposed Technical Bulletins

- Other Technical Bulletins may have minor updates (if needed):
 - METHODOLOGY FOR MODELLING ASSESSMENTS OF CONTAMINANTS WITH 10-MINUTE AVERAGE STANDARDS AND GUIDELINES under O. Reg. 419/05
 - TECHNICAL METHODS FOR OPACITY under O. Reg. 419
- Note: Technical bulletins are based on specific technical information and hence are not typically posted on the environmental registry for comment. However, because some of these technical bulletins are currently part of Guideline A-10, they will be mentioned in the postings. The proposal is that the technical bulletins be removed from guidance document so that they are easier to update (if needed) in the future.

ADMGO

- Remove references to all ISC models
- Include reference to AERSCREEN as an alternative model
- Guidance on modelling for annual standards
- Supporting information to be provided when using ASHRAE
- Additional guidance on modelling specific source types (roadways, pits and quarries, etc)
- Changes from earlier regulatory amendments (2009 and 2011)

Model Updates

- On April 23rd, 2015 the MOECC pre-notified stakeholders by email and web postings, of its intent to move forward with formally adopting updated regulatory air dispersion model versions
 - The pre-notification can be found at: <http://www.ontario.ca/document/pre-notification-updates-ontarios-air-dispersion-models>
 - Adoption is targeted for October 2015 and will be formalized once an EBR Information Notice is posted
- The following updated regulatory model versions will be adopted:
 - AERMOD version 14134 (version date May 14, 2014);
 - AERMET meteorological preprocessor version 14134 (version date May 14, 2014); and
 - Chapter 45 (Building Air Intake and Exhaust Design) of the 2011 ASHRAE Handbook – HVAC Applications
- The regulatory dispersion models will be accessible through the Ontario government website (<https://www.ontario.ca/environment-and-energy/rules-air-quality-and-pollution>)

Model Updates

- Ontario Regional Meteorological data sets have been reprocessed with AERMET 14134
 - Were made available through EMRB and through (AWMA) Ontario Section website (<http://awma.on.ca/practitioners-group-presentations/>) for comment
 - Will be available at the above Ontario government website once the EBR Information Notice is posted on the Environmental Registry
- MOECC developed an implementation plan for updating the models, with input from stakeholders, which provides clarity. Key elements of this annual process includes:
 - Notifying stakeholders, every year, 6 months in advance of formally adopting updated versions
 - Posting an Information Notice on the EBR 6 months following pre-notification to formally adopt the updated model versions.
 - Updating regulatory data files/instruments, and guidance materials to reflect the adoption of updated model versions

GIASO

- Change terminology to site-specific standards (formerly alternative standards)
- Draft guidance on “greenfield” facilities and expansions
 - CAMM
 - Technology Benchmarking
- Reference to method to assess cost-effectiveness
- Added reference to Technical Standards compliance approach
- Re-organization of risk scoring methodology (mainly used in cost-effectiveness assessments)
- Re-messaging for Framework to Manage Risk

Framework for Managing Risk

Facility's contribution to air:

...is greater than the upper risk threshold

...exceeds the air standard but is no greater than the upper risk threshold

...is no greater than the air standard

Upper Risk Threshold (URT) Level

**ALARA Level
(*As low as reasonably achievable)**

Air Standard Level

Facility's action:

More timely action may be required to get below the URT level

Facility must do an assessment and action may be required to reduce exposures. May request site-specific or technical standard compliance approach.

No action required

Site-specific & technical standards

Risk

Next Steps

- Proposal to post draft updated guidance on the Environmental Registry for public consultation.
- Timing to be confirmed.
- Update of some technical bulletins.

Other Documents

- “Guide to Requesting an Alternative Standard” (GRAS) PIBs # 6322e02 dated December 2007 will be renamed to be the “Guide to Requesting Site-Specific Standards” (GRSSS).
- “Guide To Applying For Registration To The Technical Standards Registry – Air Pollution” PIBs # 7804e dated September 2010. Highlights of the updates include:
 - New application forms for new or updated sectors with technical standards
 - The ministry does not normally seek public comments on “guides” to applying or application forms: the existing guides/forms were not posted on the environmental registry for public comments.

Appendix

Highlights of 2009 and 2011
amendments to O. Reg. 419/05

2009: Highlights of Amendments

- Introduction of Technical Standards authority and two Industry Standards (Foundries and Forest Products)
- Administrative updates (i.e. removal of reference to s. 18 and schedule 1).
- Clarification the O. Reg. 419/05 does not address noise issues
- Phase out of ISC Prime (by February 1, 2012)
- New notice for determining the value of dispersion model parameters
- Renumbering sections for site-specific standards sections (no longer all under section 32 – now sections 32 to 37.1). Allowance for the Director to consider frequency of exceedence of URTs (not just air standards) for site-specific standards.
- Update of NAICS code in Schedule 5: 332 removed from Schedule 5 and replaced with NAICS codes: 332810 – Coating, Engraving, Heat Treating and Allied Activities and 332999 – All Other Miscellaneous Fabricated Metal Product Manufacturing
- ESDM report submitted under section 22 (ECA) prepared by a facility that is affected by a new or updated air standard or a new model completed one year before a new requirement is phased in, must prepare that ESDM report as if the new requirements were in place.
- Other relevant amendments (see source law amendment O. Reg. 507/09).

2011: Highlights of Amendments

- 9 new or updated air standards including introduction of annual standards which take effect July 1, 2016.
- Terminology: Replace the term “altered standard” with “site-specific standard”
- Minimum Duration of a Site-specific Standard:
 - Facilities now have a minimum of 5 years and a maximum of 10 years for approval of a site-specific standard
- Renewal without a public meeting:
 - Facilities that have already received an approval for a site-specific standard and are making a subsequent request may waive the requirement for hosting a public meeting if there are no significant changes to their original request.
 - However, public notification and comments will still be required through the Environmental Registry posting
 - Ministry will consider, on a case-by-case basis, whether to host a public information session if concerns exist regarding the renewal
- Other relevant amendments (see source law amendment O. Reg. 282/11).



Guidance on Assessment Values
[linked to annual standards] – Part III

September 2015

Presentation for AWMA Breakfast Series

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Purpose

- Reminder of new/updated Annual Standards that come into effect July 1, 2016
- Background on “Assessment Values”
- Overview of Proposed new guidance in new “Technical Bulletin”
 - Methodology for Using “ASSESSMENT VALUES” for contaminants with annual air standards

New/Updated Air Standards with Annual Averaging Times

Air Standards - effective July 1, 2016

Substance	Schedule 3		Schedule 2	
	$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	
Benzene	0.45	annual	7	1/2 hr
1, 3-Butadiene	2	annual	30	1/2 hr
Chromium (VI)	0.00014	annual	0.0021	1/2 hr
Nickel and Nickel Compounds	0.04	annual	0.6	1/2 hr
Benzo-a-pyrene (as a surrogate for PAHs)	0.00001	annual	0.00015	1/2 hr
Uranium and Uranium Compounds (PM10 fraction)	0.03	annual	0.45	1/2 hr

NEW Compliance Assessment for Annual Standards

- New guidance for assessing compliance with a standard with an annual average. This would include evaluating two operating scenarios in an ESDM Report:
 - A) maximum annual emission rate; B) maximum 24 hr emission rate

(A) Maximum Annual Emissions: Evaluates the maximum predicted annual POI using emissions averaged over the year to compare against an annual standard:

- New guidance for assessment of compliance against the annual average standard under development for consultation

(B) Maximum 24 hr Emissions: Continue to evaluate the maximum predicted 24 hr POI using peak or maximum 24 hr emissions in order to check against periods of elevated exposure:

- Already used to assess Upper Risk Thresholds (URTs)
- Develop new Assessment Values to evaluate maximum emissions that can occur but do not occur every day
- Will likely address batch or intermittent operations
- New guidance for assessment values (proposed technical bulletin) developed for consultation

* Both operating scenarios are still for operating conditions that result in the maximum POI.

Background

- During stakeholder engagement on air standards development, the consensus was that air standards for carcinogens could be set directly from the toxicology studies, based on an annual averaging period.
- Stakeholders* also agreed that some oversight of day to day variation was warranted to control periods of elevated exposure (which is normally achieved by converting the annual average).
- In response, the Ministry has worked to develop an approach for annual air standards and supporting short-term values that meets operational needs while considering potential adverse effects.

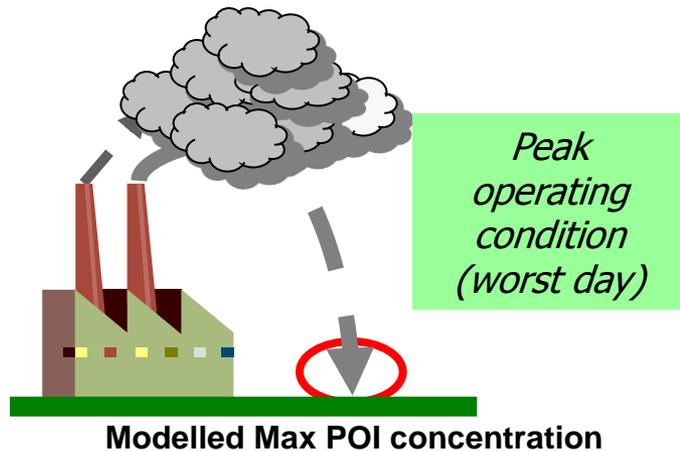
New Assessment Values

- Ministry investigated alternative approaches for non-regulatory values that would be consistent with the EWG's consensus points in March 2010 and with Ministry operational needs.
- A new approach for modelling was conceived based on the risk-based approach that underpins the annual standard:

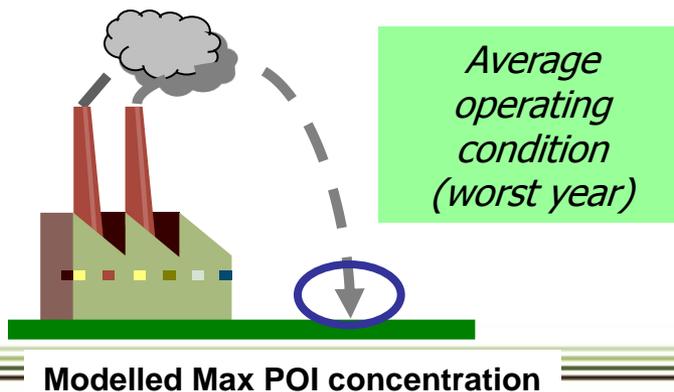
Annual standard (annual POI) = 10^{-6} risk benchmark

- Risk-based Daily Assessment Value (DAV) equivalent to Upper Risk Threshold (24-hr POI) = 10^{-4} (annual) x 5 (conversion factor) (*modelled using worst day operations*)
- Risk-based Annual Assessment Value (AAV) (annual POI) = 10^{-5} risk benchmark (*modelled using worst day operations*)
- *Exceeding either URT, DAV or AAV triggers further assessment*

Overview of Assessment Values (used with Annual Standards) - Modelling

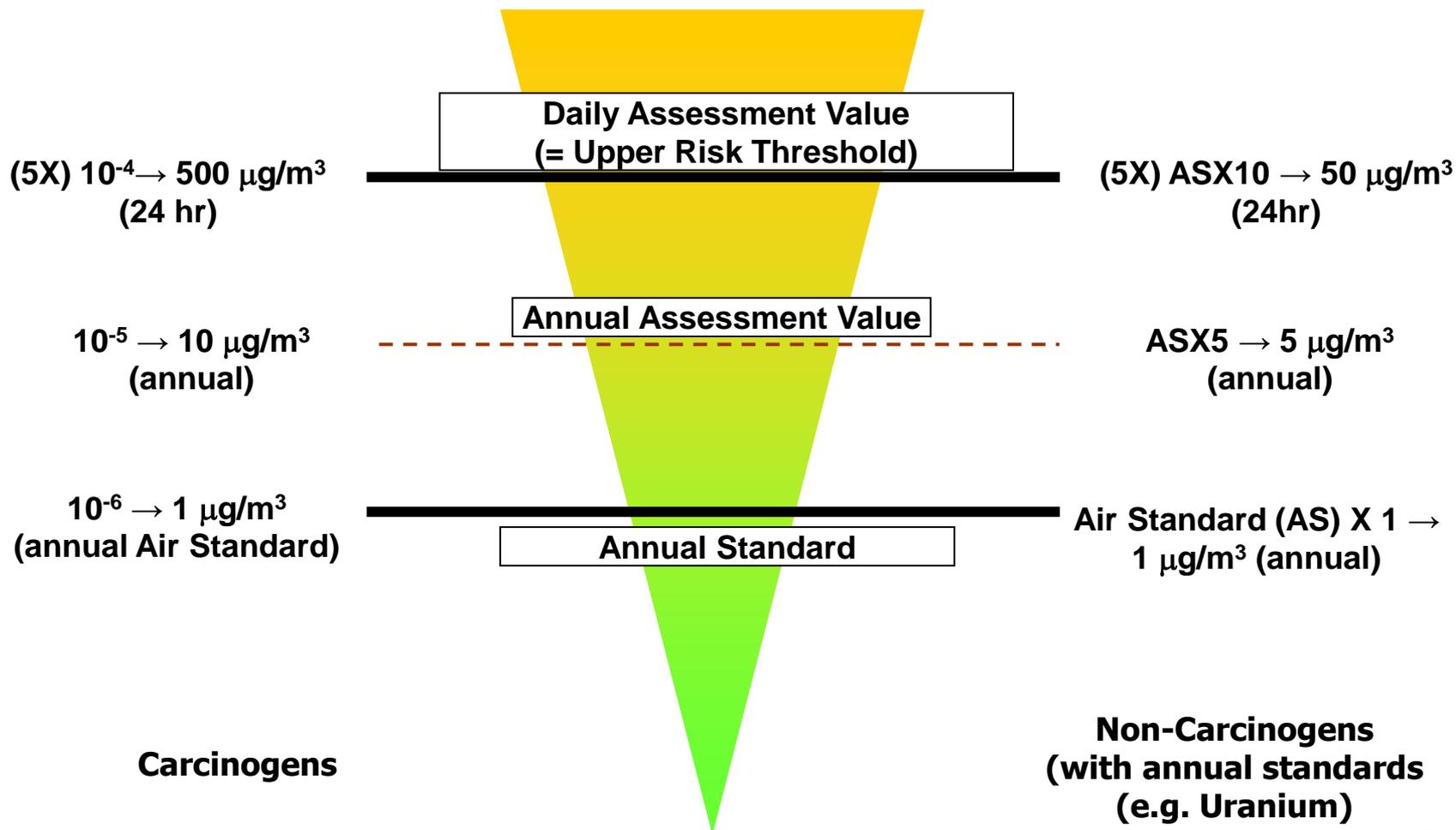


- Assessment values are used to evaluate exposures expected based on a worst case operating condition, based on worst day's emissions
 - DAV (= URT) used to assess maximum 24-hr exposure
 - AAV used to assess average exposure over the year if peak operations were maintained



- Annual standards are used to evaluate the annual average exposure modelled using the worst year of emissions (operating conditions averaged over the year)

Example of Assessment Values (e.g. Annual Standard is 1ug/m³)



Assessment Values – for Modelling

Substance	Annual Standard	Annual Assessment Value (AAV)	URT / Daily Assessment Value (DAV)
Cr(VI)	0.00014	0.0014	0.07
1,3-butadiene	2	20	300
Benzene	0.45	4.5	100
Nickel	0.04	0.4	2
Uranium**	0.03	0.15	1.5
BaP	0.00001	0.0001	0.005

Modelling for Annual Values

- Until recently, AERMOD did not output the maximum POI for each meteorological year unless each year is modelled separately. It will average all the meteorological conditions per grid point to produce one maximum POI concentration based on the annual emission rate (typically 5 years is used).
- In order to avoid complex post-processing steps, it may also be acceptable to do one model run, using the appropriate five-year regional meteorological data set or a site-specific meteorological data set approved for that site under s.13 of the Regulation, if applicable.
- The maximum annual POI could then be multiplied by 140 % and this number would be compared to the annual value (e.g. AAV). This is intended to act as a conservative screening check.
- If 140% of the averaged model results is more than that the annual value, then individual model runs must be conducted for each of the five years of meteorological data or the site-specific meteorological data.

Assessment Values - Monitoring

- Based on conversion factors (s. 17 of the Regulation):
 - Conversion factor is tied to the original effect-based standard through a meteorological adjustment of averaging times – modelling of a short-term value (e.g., 24-hr or $\frac{1}{2}$ hr) can indicate potential that annual average may not be met
 - Conversion factor is a useful tool in the absence of monitoring against the annual standard

Assessment Values – for Monitoring

Contaminant	Examples of Conversion-Factor-based Assessment Values*		
	24-hour (5X annual)	1-hr (12.5X annual)	1/2-hour (15X annual)
Chromium Compounds (Hexavalent)	0.0007	0.00175	0.0021
Butadiene, 1,3-	10	25	30
Benzene	2.25	5.6	6.75
Nickel and Nickel Compounds	0.2	0.5	0.6
Benzo(a)pyrene	0.00005	0.000125	0.00015
Uranium and Uranium Compounds [PM 10]	0.15	0.375	0.45

*assessment value for monitoring could be any averaging time

Exceedence of “Assessment Values”

- If the DAV is equal to the URT, then there is already a requirement to notify the ministry immediately in writing, as per section 30 of the Regulation.
 - “Guideline for the Implementation of Air Standards in Ontario” (GIASO) explains that exceedences of the URT require a fully “refined” ESDM report to be submitted within three months which includes an assessment of the frequency of exceedences at the human receptors set out in subsection 30(8) of the Regulation.
- The ministry will most likely become aware of exceedences of an AAV or a other DAV (when $DAV \neq URT$) as follows:
 - included in an ESDM report submitted in the Approvals Process;
 - found in an ESDM report that is required to be prepared, updated and kept available on site in accordance with the Regulation or as part of an ECA condition;
 - recorded in the data collected and/or submitted as part of a monitoring program.
- If a facility assesses an exceedence of an assessment value as part of an ESDM report or in reviewing monitoring results, they should conduct a further assessment.

Exceedence of “Assessment Values”

- ESDMs submitted as part of an ECA:
 - Evaluation of exceedences of an “Assessment Value” would be part of ECA technical review (see next slide).
- Annually Updated ESDMs kept on site:
 - Exceedences of Assessment Values would be addressed at the time of an inspection or reactive (abatement) response; OR
 - During the next ECA review.
- **Note: Notification requirements set out in this draft technical bulletin must not be confused with other regulatory requirements to assess compliance with the annual standard and/or the associated notification requirements for standards under section 28 of the Regulation or notification requirements for URTs under section 30 of the Regulation.**

Exceedence of “Assessment Values”

Step 1: Information to consider when conducting further assessment

- Check the quality of the information used for the assessment.
- “Refine” ESDMs as needed.

Step 2: Consideration of Toxicological Information

- The information collected and assessed in Step 1 should then be used along with the substance-specific toxicology to determine the need for further action.

Step 3: Follow-up Actions

- Decisions on what action may or may not be necessary will be determined on a case-by-case basis.
- Depending on the assessment, there are a range of possible actions that may result.

Refer to draft Technical Bulletin for more details.

Examples of Possible Actions

- Depending on the assessment, there are a range of possible actions that may result. These will be assessed on a case-by-case basis:
 - If the assessment shows there are no concerns and compliance with annual standard is certain, then no further action is necessary.
 - If the ESDM report is part of an annual update (and maintained on site), and the assessment indicates an exceedence of the annual assessment value, then the information in the analysis under Step 1 should be documented in the ESDM report and kept on site.
 - The ministry may require a toxicological assessment as set out in step 2: step 2 can be performed at the next available opportunity for ministry review. If the assessment shows levels that approach a potential for adverse effects, this may lead to further refinement of emissions or a possible mitigation plan.

Examples of Possible Actions

- Depending on the assessment, there are a range of possible actions that may result. These will be assessed on a case-by-case basis:
 - Continued
 - If the exceedence of the assessment value is as a result of a monitored value, there is a need to assess for potential adverse effects (may include a “refined” ESDM report).
 - If the assessment is part of an application for an ECA or amendment and the assessment indicates that air concentrations may approach levels with potential for adverse effects, this may lead to further refinement of emissions or a possible mitigation plan submitted to support the issuance of the ECA.
- The ministry would use the most appropriate abatement and enforcement tools set out in the ministry’s Compliance Policy, as needed.