

## *Cumulative Effects Assessment: Ontario forges new policy to protect local air quality*

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On February 7, 2018, the comment period closed for the Ministry of the Environment and Climate Change's (MOECC's) proposed policy for cumulative effects assessments (CEA) in air approvals. The long anticipated policy addresses excessive levels of two carcinogenic air contaminants, benzene and benzo[a]pyrene, in select areas of Sarnia and Hamilton. The policy describes how to consider multiple sources of industrial and non-industrial air pollution in issuing air approvals under the *Environmental Protection Act* (EPA), s. 9.<sup>1</sup>

The policy is accompanied by a discussion paper that sets out the rationale and mechanisms for including additional communities and/or contaminants in the future.<sup>2</sup>

### **1 HOW WILL THE POLICY WORK?**

Monitored levels of benzene and benzo[a]pyrene in the Hamilton/Burlington area and benzene in the Sarnia/Corunna area exceed the Ministry's ambient air quality standards (AAQCs) on an annual average basis.<sup>3</sup>

To better delineate problem areas, the MOECC conducted multisource modelling using AERMOD.<sup>4</sup> The MOECC applied its risk-based "Action Level" hierarchy to the modelling results. The outcome of the analysis was to identify geographic areas that may require enhanced air pollution controls or best management practices to address the cumulative effects of benzene and benzo[a]pyrene.<sup>5</sup>

Action Levels are based on lifetime incremental cancer risks set out in the MOECC's framework for managing risk.<sup>6</sup> Action Level 1, Level 2 and Level 3 areas were identified in

<sup>1</sup> Proposal for Cumulative Effects Assessment (CEA) in Air Approvals, Standards Development Branch, Ministry of the Environment and Climate Change, November 9, 2017, online at: [http://www.downloads.ene.gov.on.ca/envision/env\\_reg/er/documents/2017/013-1680\\_CEA.pdf](http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2017/013-1680_CEA.pdf) [Proposal].

<sup>2</sup> Discussion Paper: Cumulative Effects Assessment in Air Approvals, Standards Development Branch Ministry of the Environment and Climate Change, November 2017, online at: [http://www.downloads.ene.gov.on.ca/envision/env\\_reg/er/documents/2017/013-1680\\_Discussion.pdf](http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2017/013-1680_Discussion.pdf) [Discussion Paper].

<sup>3</sup> Proposal, section 1.1, "Introduction".

<sup>4</sup> Proposal, section 2.2, "Assessment (methodology to define sources)".

<sup>5</sup> Proposal, section 2.3, "Management (action levels and associated requirements for approval)".

<sup>6</sup> Guideline A-12: Guideline for the Implementation of Air Standards in Ontario, Version 3.0, February 2017; Guidance to Support the Ministry of the Environment and Climate Change's Risk Framework for Air Standards, Site-Specific and Technical Standards and Upper Risk Thresholds under O. Reg. 419/05 (as amended) made under the Environmental Protection Act, online at: <https://www.ontario.ca/page/guideline-12-guideline-implementation-air-standards-ontario>.

Hamilton/Burlington. Action Level 1 areas were identified in Sarnia/Corunna. These Levels and the associated management actions they trigger are summarized below.<sup>7</sup>

<b>Action Level</b> (Based on concentration in air of CEA contaminants)	<b>Health Risk</b> (Based on incremental cancer risk)	<b>Management Actions</b>
Up to ambient air quality criteria (AAQC)	Concentration reflects risk no greater than 1 in a million	<ul style="list-style-type: none"> <li>Does not trigger further action</li> </ul>
<b>Action Level 1</b> AAQC to 10X AAQC	Concentration within negligible risk range (no greater than 1 in 100,000)	<ul style="list-style-type: none"> <li>No further action for industry</li> <li>Triggers periodic evaluation (by MOECC)</li> </ul>
<b>Action Level 2</b> 10X AAQC to 100X AAQC	Within range considered for risk management (between 1 in 100,000 and 1 in 10,000)	ECA applications for new or expanding facilities: <ul style="list-style-type: none"> <li>must include a technology benchmarking report (with some exceptions)</li> <li>may be required to include best available pollution control methods</li> </ul>
<b>Action Level 3</b> Greater than 100X AAQC	Above target risk management range (greater than 1 in 10,000)	ECA applications for new or expanding facilities: <ul style="list-style-type: none"> <li>must include a technology benchmarking report (with some exceptions)</li> <li>must include pollution control methods to achieve the lowest possible emission rates as compared to an existing pollution source of the same kind in North America</li> </ul>

New or expanding facilities that could increase loadings of benzene and/or benzo[a]pyrene and are located in an Action Level 2 or Action Level 3 area will be subject to the new CEA policy. Such facilities may be required to:

- ◆ Conduct a technology benchmarking report (TBR)<sup>8</sup> when applying for a new or amended Environmental Compliance Approval (ECA),<sup>9</sup> and

<sup>7</sup> Table created from Proposal, Table 2.1, Action levels and management actions and Discussion Paper, Table 5.3, Interpretation of health risk information.

<sup>8</sup> Conducted in accordance with the MOECC's Guide to Requesting a Site-Specific Standard, Appendix A: Technology Benchmarking Reports, dated February 2017 [Proposal, p. 4 and 8].

<sup>9</sup> Proposal, section 2.4, "Process for Applying for an Environmental Compliance Approval (ECA)."

- ◆ Install enhanced pollution control equipment, even if the facilities meet local air standards under O. Reg. 419/05 (Air Pollution – Local Air Quality).<sup>10</sup>

Under the CEA policy, “new facilities” are those for which the MOECC did not receive an ECA application prior to November 9, 2017. “Expanding facilities” are those for which the MOECC did not receive an application for an amended ECA to address facility modifications that could increase emissions of benzene or benzo[a]pyrene prior to November 9, 2017.<sup>11</sup>

Facilities to which the CEA policy applies should request pre-submission consultation with the MOECC at least nine months in advance of submitting an ECA application.<sup>12</sup> The MOECC will determine whether a technology benchmarking assessment is required to supplement facilities’ applications.<sup>13</sup> In some cases, facilities that reduce contaminant loads may not be required to complete a technology benchmarking assessment.<sup>14</sup> The CEA policy sets out information that should accompany ECA applications.<sup>15</sup>

## 2 NEXT STEPS

The comment period for the proposed policy and discussion paper closed on February 7, 2018. The MOECC sought feedback during the comment period on the following questions:<sup>16</sup>

- ◆ What other information should be considered in defining the areas where the CEA policy applies?
- ◆ Are there other requirements that should be considered for each Action Level?
- ◆ What future steps should the MOECC prioritize?

The MOECC will consider whether the CEA policy should be reflected in amendments to the technology requirements for new and expanding sources and in reviewing requests for new site-specific standards.<sup>17</sup> We anticipate that discussions about the proposal will continue in spring 2018 within the MOECC’s External Working Group, comprised of industry representatives,

<sup>10</sup> Proposal, section 2.4.

<sup>11</sup> The CEA policy will apply to facilities requiring an ECA amendment in respect of a facility modification that will result in: (1) an increase production rate which may increase point-of-impingement (POI) concentrations for benzo[a]pyrene and/or benzene; (2) a net increase in POI concentrations for benzene or benzo[a]pyrene compared to concentrations listed in the Procedure for Preparing an Emissions Summary and Dispersion Modelling Report; (3) an increase in emissions of benzene or benzo[a]pyrene, but a net reduction in POI concentrations of benzene or benzo[a]pyrene through pollution controls, or management practices on some sources; or (4) a restart of idled parts of a facility that emit benzene or benzo[a]pyrene. The policy proposal is not triggered with respect to the modification of a negligible source of emissions of benzene and benzo[a]pyrene [Proposal, pg. 7-8].

<sup>12</sup> Proposal, section 2.4.

<sup>13</sup> Proposal, section 2.4.

<sup>14</sup> Proposal, section 2.4.

<sup>15</sup> See Proposal, section 2.4.

<sup>16</sup> Reproduced from Discussion Paper, section 6.3.

<sup>17</sup> Discussion Paper, pg. 15.

First Nations, environmental groups, public health units, and various branches and regions of the MOECC.<sup>18</sup>

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<sup>18</sup> Discussion Paper, pg. 16.