



## THE CORPORATION OF THE TOWN OF OAKVILLE

### BY-LAW NUMBER 2009-197

A by-law to assess and control the health effects of major emissions of fine particulate matter in the Town of Oakville

WHEREAS s. 11(2) of the *Municipal Act, 2001*, as amended ("the Act"), permits municipalities to pass by-laws respecting the health, safety and well-being of persons;

WHEREAS s. 128 of the Act permits municipalities to prohibit and regulate with respect to public nuisances, including matters that, in the opinion of council, are or could become or cause public nuisances;

WHEREAS the Province of Ontario and the Government of Canada have gathered research and prepared reports on fine particulate matter and its serious harm to human health, but have not passed air regulations that focus on fine particulate matter, evaluate together ambient conditions and new emissions, assess the human and public health impacts of such conditions, or limit cumulative concentrations; and

WHEREAS The Corporation of the Town of Oakville considers it appropriate and in the public interest to prevent or reduce adverse effects to its residents and public health due to fine particulate matter in the Town of Oakville;

COUNCIL ENACTS AS FOLLOWS:

#### DEFINITIONS

1. In this by-law, the following definitions apply:

"affected airshed" means the airshed receiving any increase of more than one microgram per cubic metre in concentrations of fine particulate matter due to a major emission;

"assessment" means a health-risk assessment of the range of public health effects, including mortality and morbidity, using:

- (a) Version 3.0 of the Illness Costs of Air Pollution (“ICAP”) model developed by the Canadian Medical Association; or
- (b) such other health-risk methodology as the Town deems acceptable, following input from a qualified peer reviewer;

“facility” means a site or location that, under common operations, management, and/or control, operates as a single unit, and includes one or more related works or processes;

“fine particulate matter” means both:

- (a) airborne particulate matter that is less than ten microns in size (“PM<sub>10</sub>”); and
- (b) airborne particulate matter that is less than 2.5 microns in size (“PM<sub>2.5</sub>”);

“health-risk air pollutant” means fine particulate matter and/or one or more precursor pollutants;

“major emission” means an emission from a facility into the air of a health-risk air pollutant that exceeds at least one of the following thresholds:

- (a) for directly emitted particulate matter less than ten microns in size, more than 500 kilograms per year;
- (b) for directly emitted particulate matter less than 2.5 microns in size, more than 300 kilograms per year;
- (c) for volatile organic compounds, more than 1,000 kilograms per year;
- (d) for nitrogen oxides (as NO<sub>2</sub> equivalent), more than 2,700 kilograms per year; or
- (e) for sulphur dioxide, more than 2,000 kilograms per year;

“precursor pollutant” means a pollutant which, when emitted into the air, participates in atmospheric mixing or chemical transformation, or both, to produce fine particulate matter, namely:

- (a) nitrogen oxides;
- (b) sulphur dioxide;
- (c) volatile organic compounds; and,
- (d) such other pollutants as are specified by the Town;

“public health effect” means the risk of an adverse impact on public health within the affected airshed, derived from acute (1 to 3 days) or chronic (1 to 7 years) exposure to PM<sub>10</sub> or PM<sub>2.5</sub>;

“significant” means, in relation to a public health effect, the risk of an adverse health outcome expressed, for each outcome, as a 0.2% increase in base incidence rate, as defined in ICAP Version 3.0; for the purposes of this by-law, the outcome of interest shall be total non-traumatic mortality, or such other outcome as from time to time Council may direct;

"Town-approved atmospheric dispersion model" means an air dispersion model that has the capacity to address fine particulate matter and atmospheric chemistry and, in particular, the effects of emissions of precursor pollutants on the production of fine particulate matter in the atmosphere, and which is

- (a) specified by the Town; or
- (b) acceptable to the Town, following input from a qualified peer reviewer;

"volatile organic compounds" means:

- (a) the compounds designated as Item 65 on Schedule 1 to the *Canadian Environmental Protection Act, 1999*; or
- (b) the compounds as determined by the Town.

## **PART I – PURPOSES**

2. The purposes of this by-law are:

- (a) to take measures, including collecting information, implementing regulatory controls and monitoring, to protect human health from airborne fine particulate matter;
- (b) to designate specified sources of major emissions of health-risk air pollutants as public nuisances; and,
- (c) to encourage public participation in Council decision-making on major emissions of health-risk air pollutants.

## **PART II – APPLICATION OF THE BY-LAW**

3. This by-law applies to any person who owns or operates a facility located in the Town that may emit at least one health-risk air pollutant into the air.

## **PART III – REPORTING**

- 4. (1) Where a proposed or existing facility may emit at least one health-risk air pollutant into the air, its owner or operator shall advise the Town forthwith of the emission source or sources, and provide an estimated annual quantity of any emitted health-risk air pollutant.
- (2) Where a person proposes a change to a facility or its operation, and such change may change the estimated annual quantity of any emitted health-risk air pollutant, its owner or operator shall advise the Town of the change forthwith.
- (3) The Town shall post on its web-site a current list of all facilities subject to this by-law, and also identify whether the facility is a source of a major emission.

## PART IV – REQUIREMENTS FOR TOWN APPROVAL

### *Proposed Facilities*

5. (1) Where a person proposes to establish a new facility in Oakville that may cause a major emission to the air, that person shall, prior to finalizing facility design and as early as practicable during the planning for such facility, apply to the Town for a facility-specific approval.
- (2) Prior to receiving an application, the Town encourages a potential applicant to consult with the Town to receive input on whether the facility is likely to be a source of a major emission and, if so, on appropriate methods of addressing application requirements.
- (3) The application shall include payment of the prescribed fee and submission of the following information:
  - (a) facility description: a description of the facility, including all sources of emissions that may contribute to a major emission, the average and worst-case rates of daily and annual emissions during operations, and the operating conditions that give rise to average and worst-case emissions;
  - (b) evaluation: an evaluation, using a Town-approved atmospheric dispersion model, of the combined air concentrations across the affected airshed resulting from average and worst-case emissions of:
    - (i) the predicted levels of fine particulate matter due to direct emissions and secondary formation from facility-emitted precursor pollutants; and,
    - (ii) the existing levels of fine particulate matter in the affected airshed;
  - (c) mapping: three-dimensional mapping that illustrates:
    - (i) the affected airshed, considering average and worst-case daily and annual emissions; and,
    - (ii) within the affected airshed, different anticipated concentrations of fine particulate matter due to the proposed major emission as contour plots, at one microgram per cubic metre intervals, or at such formatting as deemed appropriate by the Town;

- (d) assessment: an assessment of the public health effects associated with predicted ambient air concentrations of fine particulate matter in the affected airshed, based on the combination of:
  - (i) predicted ambient levels of fine particulate matter resulting from the major emission, together with
  - (ii) pre-existing ambient levels of fine particulate matter in the affected airshed; and,
- (e) appraisal: an appraisal of any measures available to the facility that would reduce risks to public health, including the costs and other implications of implementing such measures.

### *Existing Facilities*

- 6. (1) Where a person owns or operates a facility in Oakville that may cause or increase a major emission to the air, that person shall apply to the Town for a facility-specific approval or amendment to an existing approval.
- (2) Prior to receiving an application, the Town encourages a potential applicant to consult with the Town to receive input on whether the facility is likely a source of a major emission and, if applicable, on appropriate methods of addressing application requirements.
- (3) The application shall include payment of the prescribed fee and submission of the following information:
  - (a) facility description: a description of the facility, including all sources of emissions that may contribute to a major emission, the average and worst-case rates of daily and annual emissions during operations, and the operating conditions that give rise to average and worst-case emissions;
  - (b) evaluation: an evaluation, using a Town-approved atmospheric dispersion model, of the air concentrations across the affected airshed resulting from average and worst-case emissions of:
    - (i) the estimated levels of fine particulate matter due to direct emissions and secondary formation from facility-emitted precursor pollutants; and,
    - (ii) the existing levels of fine particulate matter in the affected airshed;

- (c) mapping: three-dimensional mapping that illustrates:
  - (i) the affected airshed, considering average and worst-case daily and annual emissions; and,
  - (ii) within the affected airshed, different estimated concentrations of fine particulate matter due to the existing major emission as contour plots, at one microgram per cubic metre intervals, or at such formatting as deemed appropriate by the Town;
  
- (d) assessment: an assessment of the public health effects associated with:
  - (i) estimated ambient levels of fine particulate matter resulting from the major emission, and
  - (ii) ambient levels of fine particulate matter in the affected airshed; and,
  
- (e) appraisal: an appraisal of any measures available to the facility that would reduce risks to public health, including the costs and other implications of implementing such measures.

## **PART V – TOWN DECISION-MAKING PROCESS**

### *Peer review of the application*

- 7. Upon receipt of an application for approval and the prescribed fees, the Town shall identify a person with appropriate expertise to peer review the submitted application, and, subject to s. 8(2), shall carry out a two-phase peer review process within 90 days.

### *Peer Review Phase (1): Determination whether the application is complete*

- 8. Phase I shall involve the following process:
  - (1) Upon receipt of the documents submitted by the applicant, the peer reviewer shall determine whether the application is complete. Where the peer reviewer determines that the application is complete, the peer reviewer shall proceed forthwith to Phase (2) of the process.
  
  - (2) Where the peer reviewer determines that the application is not complete, the Town shall advise the application of this determination forthwith. Upon such determination, the application is suspended and the calculation of Town time is suspended. The suspension shall last until the applicant submits additional information to the Town, which then restarts the calculation of Town time and requires the peer reviewer to assess again whether the application is complete.

- (3) If the applicant fails to obtain a determination that the application is complete within six months of submitting the application, the Town shall close the application and return all original documents to the applicant.

*Peer Review Phase (2): Review of the complete application*

9. Phase (2) shall involve the following process:

- (1) Following a determination that an application is complete, the peer reviewer shall proceed to review the application and, in particular, its facility description, evaluation, mapping, assessment, and appraisal components.
- (2) The peer reviewer shall, within 30 days of determining an application is complete, produce a peer review report not to exceed 10 pages, excluding appendices, that sets out, in concise, non-technical language, the results of the review on items (a) to (e), of section 5 or 6 of this by-law.
- (3) Following receipt of the peer review report, the Town staff shall forthwith examine the review and, where satisfied that the review is complete, forward the review to the applicant for comment.
- (4) Upon receipt of the peer review report, the applicant shall have 30 days to provide written comment on the review to the Town. If the applicant does not return written comment within 30 days, the application shall be considered incomplete and the Town shall close the application and return all original documents to the applicant.
- (5) Upon the conclusion of the 30-day applicant comment period, the Town staff shall forward any comment to the peer reviewer for any addendum review prepared forthwith, not to exceed 3 pages in length, excluding appendices, which shall be prepared by the peer reviewer within 30 days of receiving the applicant's comments. This step concludes this Phase of the process.

*Council consideration of the application*

10. Following the completion of the peer review process, the Town shall engage in public and agency consultation on the application, using the following process:
  - (1) The Town shall forthwith:
    - (a) post a notice of public consideration of the review by the Town Council, with such notice specifying a Council meeting date no less than 30 days from the posting of notice, and with such notice posted on the Town website and in a newspaper of general circulation in the Town;
    - (b) post on its web-site the complete application, the peer review report(s), and any comments by the applicant; and,
    - (c) circulate a request for comment to the Halton Region Health Department, and such other persons or agencies as the Town may determine are appropriate, and thereafter post received comments on its website.
  - (2) At the scheduled meeting, Council shall hear any delegations and consider and decide upon the application pursuant to the provisions of the Town's procedure by-law.

*Town Decision-making on the application*

11.
  - (1) At the conclusion of the Council meeting hearing the application, or as soon thereafter as Council may determine, Council shall make a decision on the application.
  - (2) In making a decision on the application, Council shall consider whether the major emission has a significant public health effect in the Town.
  - (3) In considering whether the major emission has a significant public health effect, Council shall have before it a complete application, the related peer review, any additional information provided by the applicant, any written input received from the Halton Region Health Department, and any other information received from other persons or agencies as deemed appropriate.
  - (4) Where Council has before it the required information, it shall make one of the following decisions, as applicable:



- (a) Where, following consideration of the application, Council concludes that the major emission does not have a significant public health effect in the Town, Council may approve the application, with such conditions as Council considers necessary to meet this standard; or
- (b) Where, following consideration of the application, Council concludes that the major emission has a significant public health effect in the Town, Council shall:
  - (i) refuse to approve the application and, in such case, also decide that in its opinion the applicant's major emission constitutes a public nuisance; or
  - (ii) approve the application on the basis that the public interest favours allowing the applicant's major emission to occur, with such conditions as Council considers necessary to address the public interest.
- (5) Any failure by the Town to comply with any specified time frames shall not eliminate the need for approval or invalidate any approval given under this by-law.

#### **PART VI – FEES**

- 12. (1) The fee prescribed for applicants for approval under this by-law is \$25,000, paid by certified cheque, and payable to The Corporation of the Town of Oakville.
- (2) Where an applicant pays the prescribed fee, but does not advance to Peer Review Phase (2) of the application process, the Town may return such portion of the prescribed fee as it determines appropriate.

#### **PART VII – EMISSIONS MONITORING**

- 13. Each facility receiving approval under this by-law must prepare and submit to the Town, annually during the first three years following approval, and thereafter for such period as the Town determines appropriate, a report that addresses actual health-risk air pollutant emissions from the facility.

#### **PART VIII – OFFENCES**

- 14. (1) Any person, being the owner or operator of a facility that is subject to this by-law, is guilty of an offence, if that person:

- (a) fails to provide the Town with estimated annual emission information of the facility in accordance with Section 4 of this by-law;
  - (b) fails to submit an application for approval for the facility required under Section 5 or 6 of this by-law;
  - (c) operates or permits the operation of the facility without an approval required under Section 5 or 6 of this by-law;
  - (d) operates or permits the operation of the facility other than in compliance with a condition of approval of a facility imposed under Section 11 of this by-law;
  - (e) fails to provide a report required under Section 13 of this by-law.
- (2) Any person guilty of an offence is liable upon conviction to a fine of up to \$100,000 for a first offence, and \$10,000 a day for each day or part of a day that the offence continues for any subsequent offence.

#### **PART IX - TRANSITIONAL MATTERS**

15. (1) Subject to subsection (2), this by-law shall apply immediately on its passage by Council.
- (2) (a) For any person owning or operating a facility subject to subsections 4(1) or 4(2) of this by-law, the Town will suspend the operation of the obligation to advise the Town forthwith for the first six months following the passage into law of this by-law.
- (b) For any person owning or operating a facility subject to subsection 6(1) of this by-law, this by-law will apply to such a facility that may cause a major emission only after one year has lapsed following its passage, or after such further time as Council determines is required for Council to receive information on existing sources of major emissions in the Town and the most appropriate attributes to consider when applying this by-law to their emissions and their health impacts.

PASSED this 22<sup>nd</sup> day of December, 2009.

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MAYOR

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CLERK