

700 Lawrence Ave. W., Suite 310  
Toronto, Ontario M6A 3B4

Tel: (416) 367-3313  
1-800-267-6817 (Ont)  
Fax: (416) 367-2844  
E-mail: [info@opha.on.ca](mailto:info@opha.on.ca)  
[www.opha.on.ca](http://www.opha.on.ca)

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The Hon. David C. Onley  
Lieutenant Governor of Ontario

**President**

Carol Timmings  
E-mail: [ctimmings@opha.on.ca](mailto:ctimmings@opha.on.ca)

**Executive Director**

Connie Uetrecht  
E-mail: [cuetrecht@opha.on.ca](mailto:cuetrecht@opha.on.ca)

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Number 11924 8771 RR0001

October 18, 2004

Cathy Grant

Standards Development Branch  
Ontario Ministry of the Environment  
135 St. Clair Avenue, 4th Floor  
Toronto ON M4V 1P5

Dear Ms. Grant:

I am writing to you on behalf of the Ontario Public Health Association (OPHA). Founded in 1949, the OPHA is a volunteer, non-profit, charitable organization established to provide leadership on issues affecting the public's health and to strengthen the impact of people who are active in public and community health throughout Ontario. The OPHA represents over 3000 individuals and constituent societies from various sectors and disciplines working in public and community health throughout Ontario. Public health includes health promotion, disease prevention, health protection and population health strategies aimed at improving the determinants of health for individuals and communities.

We are pleased to respond to the three position papers released by the Ministry of the Environment on the regulation of Local Air Quality:

- Updating Ontario's Regulatory Framework for Local Air Quality – A Position Paper;
- Proposed Guideline for the Implementation of Air Standards in Ontario – A Risk-Based Decision Making Process; and
- Updating Ontario's Air Dispersion Models – A Discussion Paper.

The framework used in Ontario to protect human health from the local impacts associated with air emissions from point sources is badly in need of repair. We are pleased that the Ministry of the Environment is proposing a framework that would: allow the use of effects-based air standards and up-to-date air dispersion models; and encourage continuous improvements and transparent decision-making process for extensions based on technical and economic feasibility considerations. Our comments are provided below under the following headings:

1. [Overall Impressions of Framework Proposed](#)
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1. [Air Dispersion Models](#)
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## 1. Impressions of Framework Proposed

Overall, we believe that the changes proposed by the Ministry of the Environment represent a significant **improvement** in the regulation of point sources of air pollution in this province because they:

- Separate the health assessment process from risk management considerations;
- Would allow air standards to reflect health and environmental effects rather than technical and economic feasibility;
- Would allow the Ministry to adopt new dispersion models that are more accurate and capable of estimating concentrations over various averaging time periods;
- Encourage continuous improvements driven by health-based air standards; and
- Encourage consideration of clean production and pollution prevention strategies as well as end-of-pipe control technologies through a technology benchmarking process.

With this said however, we recognize that the Ministry's proposal for local air quality does not address the following issues of concern to the public health community:

- It does not address the concerns associated with persistent toxics. The Point of Impingement (POI) approach may be an appropriate tool for regulating localized health impacts associated with criteria air pollutants and toxic air pollutants that are not persistent, but it does not address concerns associated with persistent toxics such as lead and mercury that can accumulate in the environment and in the human body; and
- It does not adequately address the cumulative exposures that local communities can experience from multiple air pollution sources. In this proposal, ground-level concentrations are being assessed for each facility in isolation from others in the same vicinity. Cumulative exposures have been a long-time concern for public health and community groups.

## 2. Effects-Based Air Standards

We strongly support the use of health- and environment-based air standards. As we understand it, under the current local air quality framework in Ontario, the facility with the greatest compliance challenges can drive an air standard up to a numerical value that is deemed "economically and technically feasible" for that facility. This scenario has resulted in situations where facilities that might be able to achieve a health- or environment-based air standard are under no pressure to do so because of the financial and/or technical challenges presented by another facility

3. With the Ministry's current proposal for local air quality, this situation would be reversed. All facilities in the province would be expected to achieve a health- or environment-based air standard unless they can effectively demonstrate why, for technical or economic reasons, they cannot. With this reversal in responsibility, we believe that health- and environment-based air standards can drive improvements in performance in facilities, and thereby provide greater protection to people in communities across the province.

#### 4. **Air Dispersion Models**

We strongly support the Ministry's proposal to update the air dispersion models currently used with newer air dispersion models being used by the U.S. Environmental Protection Agency (EPA). We understand that the models currently being used, which are 30 years old, are limited in their accuracy and in their flexibility. The new U.S. EPA models are expected to provide more accurate estimates of ground-level concentrations surrounding facilities. They can also be used with varying averaging times which means that they can be used with the averaging time that is most appropriate to the effect upon which the air standard is based.

#### 5. **Emission Summary & Dispersion Modeling (ESDM) Reports**

The discussion papers refer to two different timelines (e.g. 1 year and 3 years) for the preparation of Emission Summary and Dispersion Modeling (ESDM) reports that are required whenever a new air standard or new air dispersion model is released. While we believe that 3 years may be required for the preparation of ESDM reports when the new regulatory package for local air quality is first released, we believe that 1 year should be a sufficient period for new air standards and/or revisions to air dispersion models introduced in the future.

#### 6. **Concentrations Triggering "Immediate Action"**

We do support the concept of identifying an upper level of risk that signals the need for immediate action, and agree that action should be taken without regard for economic hardship, and should, in some cases, include a reduction or halt in production. Given that facilities will be given up to 3 to 5 years to comply with new air standards and/or air dispersion models, we believe that "immediate action" must be tightly defined to ensure that it does result in immediate reductions.

We understand that the Guideline is currently proposing that facilities would have to take "immediate action" without any consideration for economic hardship whenever worst case modeling indicates that ground-level concentrations could: 1) exceed the standard by 10 times for non-carcinogens or by 100 times for carcinogens one or more times (i.e. risk-based cut-offs); and 2) exceed the standard 16% of the time (i.e. frequency-based cut-off). We have difficulty agreeing with the idea that both of these exposure situations must exist before "immediate action" is required because we are concerned with both, the very high exposures that could occur on a very infrequent basis, and the relatively high exposure situations that could occur on a fairly regular basis.

We have a certain level of comfort with the numerical values proposed for the risk-based cut-offs (i.e. 10 times the standard for non-carcinogens and 100 times the standard for carcinogens) because these numerical values are used by other jurisdictions to identify "high

risk" exposure scenarios.

However, we have some concern with the frequency-based cut-off proposed to distinguish between those situations requiring immediate action and those allowing a 3 to 5 year phase-in period. Allowing ground-level concentrations to exceed the air standard up to 16% of the time before requiring immediate action does not feel adequately protective to us, particularly when this cut-off can apply to exceedances that are up to 10 times the standard for non-carcinogens and up to 100 times the standard for carcinogens.

Given that the potential for harm to human health is dependent upon both the duration of exposure (i.e. frequency of exceedances) and the intensity of exposure (i.e. the concentration relative to the standard) we feel that it is important to add a second frequency-based cut-off to the proposal that would be applied to a second set of risk-based cut-offs. Guided by Figure 4 on page 24 of the Ministry's Proposed Guideline, we are proposing that the second frequency-based cut-off be set at 8% and that it be applied to a second set of risk-based cut-offs set at 5 times the standard for non-carcinogens and 10 times the standard for carcinogens.

To summarize, we would propose that "immediate action" be required under one of the following three different exposure scenarios. When it appears that worst case ground-level concentrations could exceed:

- The standard by 10 times for non-carcinogens or 100 times for carcinogens for any period of time; or
- The standard by 5 times for non-carcinogens or 10 times for carcinogens for 8% of the time or more; or
- The standard for 16% of the time or more.

## **6. Risk Management**

The Ministry is proposing that facilities which believe they cannot meet the air standards within the 3 to 5 year phase-in period provided, should be able to apply for extensions or interim limits for technical or economic reasons. These extensions would, under no circumstances, apply to any facility that exceeds the risk-based or frequency-based cut-offs discussed in point #5.

We understand that, if technical and economic feasibility considerations are removed from the standard-setting process, there must be some other mechanism for addressing them within the regulatory framework. We believe that the application process for extensions or interim limits should be transparent, sufficiently onerous to discourage frivolous applications, and guided by tightly defined criteria that ensure consistency and discourage abuse.

## **7. Technology Benchmarking**

We support the concept of technology benchmarking as proposed by the Ministry in the Guideline paper. We are particularly supportive of the proposal to include clean production and pollution prevention strategies as well as end-of-pipe controls in the benchmarking process. We feel strongly that the technology benchmarking reports should be reviewed by a third party selected by the Ministry. We also believe that the reviews should be paid for by the facilities to ensure that the MOE resources are not overwhelmed.

Within the public health community, we believe that consideration of technical feasibility should be guided by the principle that if a technology exists that could bring a facility into compliance, the facility should be required to adopt it. We do not believe that the community should be exposed to potentially harmful levels of air pollutants when there are steps that could be taken to reduce or avoid those exposures.

We can appreciate that extensions or interim limits may be required for those facilities where no technology currently exists that could bring them into compliance, but we feel that these facilities should have to re-examine the available technologies every 5 years, and re-apply for extensions if need be.

In these cases, we believe that there should be an onus on the industrial sector in question to demonstrate that it is aggressively researching changes in production that would eliminate the excessive air pollution associated with its product/service. To encourage this end, we believe that there should be some cap on the number of times (e.g. twice) that any facility can apply for an extension on the basis that there is "no available technology".

## **8. Economic Feasibility**

We recognize two different types of arguments that can be applied under economic feasibility. The first type applies to those situations where a technology does exist that could bring a facility into compliance, but the technology is considered exorbitantly expensive. The second type applies to those situations where technologies that are deemed affordable on an industry-wide basis could bring a facility into compliance, but the investment would put severe financial duress on the particular facility.

In the first case, we believe that economic feasibility must be measured on an industry-wide basis, not on a facility-wide basis. For this type of economic feasibility argument, we agree that cost estimates should be produced for all of the technologies identified in the benchmarking process as proposed by the Ministry Guideline. However, we believe that technologies should be deemed "economically achievable" if they are being applied by a number of facilities (e.g. 10%) within that sector on a world-wide basis. We could not accept a cost criteria based on an arbitrary cost per tonne of pollutant reduced, nor on an arbitrary cost per risk quotient reduced.

When extensions are requested on the grounds that the technologies available are not "economically achievable", we believe that: the economic analyses should be reviewed by a third party selected by the Ministry; the cost of those reviews should be born by the facility; and the facility must be willing to make confidential information available for review.

We believe that there should also be some cap on the number of times (e.g. twice for a total of 10 years) that any facility can apply for an extension on the basis that there is "no economically achievable technology".

In the second case, where financial duress is specific to a particular facility, we believe that: facilities must be willing to share confidential financial information with the Ministry, and to some extent, with the community; financial reports must be reviewed by a third party selected by the Ministry; the cost of third party reviews should be born by the applying facility; and financial duress must be tightly defined to apply only to those situations where the facility's financial survival would be in jeopardy.

We feel very strongly that community health should not be put at continued risk because of

## **9. Continuous Improvement & Enforcement**

We believe that all facilities that apply for extensions for any reason should have to demonstrate how they will continue to improve their performance with respect to emissions during the extended period. In other words, with each application for extension, facilities must demonstrate that they will continually reduce their emissions even if they cannot achieve the air standard.

We also feel strongly that the action plans submitted along with applications for extensions must be tied to a regulatory tool that is easy to enforce. The Ministry is proposing that details in the action plans will be captured in Certificates of Approval. We can support this proposal if the Ministry can assure us that this regulatory tool is one that can and will be enforced.

## **10. Cumulative Exposures & Background Air Levels**

Within the public health sector, there is a concern about the cumulative exposures that can be experienced by some communities where background air levels are high. These situations can occur in communities that: are adjacent to highways that experience a high volume of traffic; house a large number of industrial facilities; and are impacted by transboundary air pollution.

The Ministry's Modeling paper does suggest that there may be times when background air levels should be considered but it provides no direction about when and how background air levels should be considered. While we can appreciate that it can be complicated to deal with the problems presented by high background air levels, we believe that it is an issue that warrants further consideration. For example, it may be necessary to suggest that in communities where ambient air levels exceed air standards, facilities must aim to reduce their ground level concentrations to some fraction of the air standard.

## **11. Public Consultation**

The Ministry's proposed Guideline identifies the need for facilities to consult with local public health units and the communities surrounding their facilities within a timely fashion. We would like to see the public consultation section of the Guideline expanded to provide greater direction and clarity about when and how to consult with public health units and the community.

We believe that the Medical Officers of Health in a community should be informed by facilities as soon as possible when a facility determines that: "immediate action" is required to reduce air emissions; and/or "extensions" are being requested. We also think that facilities should consult with their local public health units when deciding when and how to inform and/or consult with the community. However, we would like to be very clear that the regulation and Guidelines should in no way imply that Medical Officers of Health have responsibility for deciding when extensions will be allowed or what actions should be taken by facilities within their communities. The responsibility and authority for approving and enforcing the air standards, extensions, and action plans must remain clearly with the Ministry.

## 12. Resources Needed

The regulatory framework proposed could present resource challenges for both the Ministry of the Environment and public health units. We believe that the Ministry's resource issues can be addressed, in part, with administrative fees charged for each step in the application and review process. However, to be effective, the overall framework must be supported by audits, monitoring and enforcement. We feel strongly that the provincial government must recognize and address these resource needs to ensure the health of the public.

We also believe that the local air quality framework proposed will increase demands for environmental expertise within public health units across the province. At present, very few public health units have the expertise or resources needed to deal with environmental issues related to air quality. This capacity problem can be traced back to the Mandatory Health Programs and Services Guidelines, established by the Ministry of Health and Long-Term Care (MOHLTC), which are used to prioritize the programs and services to be funded within the public health sector. Currently, these Guidelines do not include an "Environmental Health Program", and while they do address water quality and food safety to some extent, they make no mention of air quality except as it relates to tobacco smoke. If public health units are expected to play a greater role in the consultation process related to point sources, which we do believe is appropriate, they must be provided with both, the mandate and the resources to do so effectively.

In closing, we would like to thank you for providing the OPHA with the opportunity to comment on the Ministry's proposals for local air quality. We are very pleased that the Ministry is taking steps to improve local air quality in Ontario by regulating point sources of smog precursors and air toxics, and we look forward to further discussions on this important endeavour. If you have any questions respecting our views, I would invite you to call Kim Perrotta, the OPHA Environmental Health Manager at 905-628-9437.

Yours truly,

Elizabeth Leach  
Executive Director, Ontario Public Health Association

cc.cc. Leona Dombrowsky, Minister of the Environment  
George Smitherman, Minister of Health and Long-Term Care  
Sheela Basrur, Chief Medical Officer of Health  
Kim Perrotta, OPHA Environmental Health Manager