

BY EMAIL AND REGULAR MAIL

To: ahammad.ali@ontario.ca

To: enviropermissions@ontario.ca

September 26, 2022

Local Air Quality Permits
Ministry of the Environment, Conservation and Parks
40 St Clair Ave West, 9th Floor
Toronto, ON M4V 1M2

Dear Sir/Madam:

**RE: APPLICATION FOR SITE-SPECIFIC AIR STANDARD APPROVAL – LENNOX
GENERATING STATION (ONTARIO POWER GENERATION INC.)
ENVIRONMENTAL REGISTRY NUMBER 019-5142
ENVIRONMENTAL REGISTRY NUMBER 019-5048**

Canadian Environmental Law Association (“CELA”) opposes Ontario Power Generation’s (“OPG”) applications for a Site-Specific Air Standard (ERO number 019-5142) for its Lennox Generating Station and for an Environmental Compliance Approval (ERO number 019-5048) reflecting the new proposed air emissions standards.

The Director should deny OPG’s application because there are sufficient public interest reasons to deny the request.

Despite there being several other significant industrial emitters in the area and concerning health impacts from sulphur dioxide, nitrogen oxides, and sulphuric acid, there has been no cumulative impacts assessment of the emissions in this area and no human health risk assessment.¹

The application should also be denied because it does not demonstrate that the proposed elevated levels of sulphur dioxide, nitrogen oxides, and sulphuric acid from the Lennox Generation

¹ *Air Pollution - Local Air Quality: O. Reg., 419/05, s. 35(b)(iii), <O Reg 419/05 | Air Pollution - Local Air Quality | CanLII>*.

Station for 2022-2032 are the “minimum difference necessary” as compared to the province-wide standard, pursuant to *O. Reg. 419/05*, s.35(b)(ii).²

A. BACKGROUND ON CANADIAN ENVIRONMENTAL LAW ASSOCIATION

CELA is a public interest law clinic dedicated to environmental equity, justice, and health. Founded in 1970, CELA operates the oldest environmental legal aid clinic in Canada. CELA provides free legal services to qualifying low-income and vulnerable or disadvantaged communities in Ontario. CELA works towards protecting human health and the environment by actively engaging in policy planning and seeking justice for those harmed by pollution or poor environmental decision-making.

B. OVERVIEW OF APPLICATION

Ontario Power Generation – Lennox Generating Station (“Lennox GS”) has requested site-specific air standards for sulphur dioxide, nitrogen oxides, and sulphuric acid for a 10-year period from 2022-2032. The facility is located close to the towns of Bath and Napanee, Ontario at 7263 33 Highway West. The Lennox GS operates using either Residual Fuel Oil (“RFO”) or natural gas.

Sulphur dioxide, nitrogen oxides, and sulphuric acid emissions can cause negative impacts to human health and to the environment, especially in combination with emissions from other industrial facilities in the area.

The application for a site-specific standard is being made for two reasons. The first reason is that the sulphur dioxide emissions standard is being lowered from a 1-hour standard of 690 µg/m³ to 100 µg/m³ in July 2023. OPG has determined that its facility is unable to meet that standard. This is especially concerning because the Ministry standard is being lowered to account for concerning impacts from sulphur dioxide emissions on human health, including respiratory problems.³

The second reason for the application is that the Ministry has ordered OPG to use the CALPUFF air modelling standard to account for lake fumigation effects. Under the new modelling, the facility cannot meet the new sulphur dioxide standards, nor can they meet the nitrogen oxide and sulphuric acid standards.

² *Air Pollution - Local Air Quality: O. Reg., 419/05*, s. 35(b)(ii), <[O Reg 419/05 | Air Pollution - Local Air Quality | CanLII](#)>.

³ Ontario’s Regulatory Registry, “Reducing sulphur dioxide emissions from Ontario's petroleum facilities”, online at <<https://www.ontariocanada.com/registry/view.do?postingId=39727>>; Environmental Registry of Ontario, “Ministry of the Environment and Climate Change ERO number 013-0903”, online at <<https://ero.ontario.ca/notice/013-0903>>.

C. ANALYSIS

The Ministry should deny OPG’s request for a site-specific standard because (1) there are public interest reasons sufficient to deny the request, and (2) the difference between the provincial standard and the requested standard is not the “minimum difference necessary”.

1- There is a “public interest reason” to deny the request

There are several public interest reasons to deny OPG’s request, pursuant to *O. Reg. 419/05*, s.35(1)(b)(iii), namely:

- a. The requested standards are well above provincial standards
- b. Sulphur dioxide emissions are harmful to human health
- c. Cumulative effects have not been studied
- d. Future emissions levels are uncertain
- e. There was insufficient public notice and disclosure of documents
- f. There has been no climate change analysis of greenhouse gas emissions from this facility⁴

a. The Requested Standards are Well Above the Provincial Standards

The provincial air pollution limits are set based on analyses of the impacts of pollutants on human health. OPG’s request for site-specific standards are well above the provincial limits for three contaminants: sulphur dioxide, nitrogen oxides and sulphuric acid:⁵

Contaminant	Averaging Period	Current Air Standard (µg/m³)	Future Air Standard (µg/m³)	Requested Site-Specific Standard (µg/m³)
Sulphur dioxide (SO₂)	1-hour	690	100	2026 (First five years of the approval)
Sulphur dioxide (SO₂)	1-hour	690	100	1430 (Remaining five years of the approval)
Nitrogen oxides (NO_x)	1-hour	400	N/A	839
Sulphuric acid (H₂SO₄)	24-hour	5	N/A	7.6 (First five years of the approval)
Sulphuric acid (H₂SO₄)	24-hour	5	N/A	5.4 (Remaining five years of the approval)

⁴ *Air Pollution - Local Air Quality: O. Reg., 419/05*, s. 35(b)(iii), <[O Reg 419/05 | Air Pollution - Local Air Quality | CanLII](#)>.

⁵ Environmental Registry of Ontario, “Ontario Power Generation Inc. ERO number 019-5142”, online at <<https://ero.ontario.ca/notice/019-5142>>; Environmental Registry of Ontario, “Ontario Power Generation Inc. ERO number 013-0903”, online at <<https://ero.ontario.ca/notice/013-0903>>.

b. Sulphur Dioxide Emissions Are Harmful to Human Health

The Ministry's rationale for strengthening the sulphur dioxide standard from 690 micrograms per cubic metre of air (ug/m³) over a one-hour averaging period to 100 micrograms per cubic metre of air (ug/m³) over a one-hour averaging period was to better protect human health⁶. OPG's Technology Benchmarking Report highlights that the sulphur dioxide standard is being adjusted "based on respiratory morbidity associated with exposure to this substance".⁷ Any site-specific standard for sulphur dioxide for the Lennox facility should therefore be concerned about ensuring that any emissions over the standard do not have an impact on human health. Without a human health impacts study, there is no evidentiary basis for a decision.

Both the governments of Ontario and Canada have published public information outlining the health effects caused by exposure to sulphur dioxide, particularly with respect to its inhalation.⁸ For instance, when inhaled, sulphur dioxide is extremely toxic, can cause severe irritation of the nose and throat, and in high enough concentrations can cause pulmonary edema, a life-threatening condition caused by the accumulation of fluid in the lungs. Elevated concentrations of sulphur dioxide are known to cause respiratory distress, particularly in vulnerable populations including children, seniors and people with asthma. Exposures for as little as ten minutes can cause coughing, wheezing and shortness of breath. These risks become of greater concern as COVID-19 has demonstrated the destructiveness of respiratory illness.⁹

The new standards for sulphur dioxide were announced in 2018. Industrial emitters have had five years to adjust existing processes as well as to plan to comply with the new standard. OPG's proposal only suggests lowering the sulphur content in its RFO to mitigate emissions. There is a real precedential concern with Ministry decisions regarding site-specific standards which would reward industrial emitters who do little or nothing to comply with the new standards.

Furthermore, although OPG states in its application that it will only use RFO when it is necessary and will mostly rely on natural gas, the requested air pollution levels are based on modelling of RFO use at full station capacity. There is nothing in the emission levels being requested which would restrict RFO use, and the resulting high pollution levels. In a ten year period, where OPG has itself stated that it may be called on to use this facility more, this is highly concerning.

⁶ Environmental Registry of Ontario, "Ministry of the Environment and Climate Change ERO number 013-0903", online at <<https://ero.ontario.ca/notice/013-0903>>.

⁷ Ontario Power Generation, "Technology Benchmarking Report in support of a request under Section 32 of Ontario Regulation 419/05 for Site-Specific Air Standards with respect to Sulphur Dioxide, Sulphuric Acid And Nitrogen Oxides", dated February 15 2022, at p 8 (Table 1).

⁸ Government of Canada, "Sulfur Dioxide" (2 February 2021), online: *Canadian Centre for Occupational Health and Safety* <https://www.ccohs.ca/oshanswers/chemicals/chem_profiles/sulfurdi.html>; Ontario's Regulatory Registry, "Reducing sulphur dioxide emissions from Ontario's petroleum facilities", online at <<https://www.ontariocanada.com/registry/view.do?postingId=39727>>.

⁹ Government of Canada, "Sulfur Dioxide" (2 February 2021), online: *Canadian Centre for Occupational Health and Safety* <https://www.ccohs.ca/oshanswers/chemicals/chem_profiles/sulfurdi.html>.

There has been no human health impacts study or indication of how the site-specific standard would protect human health. In particular, while the sulphur dioxide standard is being strengthened to better protect human health, the proposed site-specific standard is 20 times the proposed standard for the first five years, and 14 times the proposed standard for the next five years.

There is no evidentiary basis for OPG's submission, at page 12 of the Public Consultation Study, that there are no anticipated impacts on human and animal health, and the application should be denied on that basis.¹⁰

c. Cumulative Effects Have Not Been Studied

This site is close to residential areas in Bath, Ontario and other polluting facilities. Some other local facilities in the area listed on the National Pollutant Release Inventory ("NPRI")¹¹ include:

- Goodyear Canada Plastic and Rubber facility, 388 Goodyear Road, Napanee
- Maritime House Metals ULC, 248 Kimmetts Side Road, Napanee
- Vi-Lux Building Products Rubber and Plastic facility, 105 Richmond Boulevard, Napanee
- Lafarge Dundas Quarry, 628 No. 5 Highway, Dundas
- Strathcona Pulp and Paper mill, 77 County Road 16, Napanee
- Portlands Energy Centre Generation Station, 7143 Loyalist Parkway, Bath
- Lafarge Cement plant, 6501 Highway 33 West, Bath

It is important to note that these are only some of the facilities located in the area. There has been no study of the cumulative impacts to health from the emissions from these facilities, along with this proposal for a site-specific standard.

Cumulative effects allow the combined emissions from facilities to potentially exceed the standard, even if each facility individually complies — and leave communities with several large sulphur dioxide emitters.

The Ministry should not grant an application for a site-specific standard where the proponent states that "cumulative impacts might be possible" but does not investigate what those impacts are or how they can be mitigated.¹² A human health risk assessment study should examine the additive or interrelated effects of pollution within the local airshed.

¹⁰ Ontario Power Generation, "Pre-Submission Consultation with Local Stakeholders - Summary Report in Support of Site Specific Standard Application Lennox Generating Station", dated July 2021, at p 12.

¹¹ The NPRI is Canada's public inventory of pollutant releases (to air, water and land), disposals and transfers for recycling, and is available online, <<https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/report.html>>.

¹² Ontario Power Generation, "Pre-Submission Consultation with Local Stakeholders - Summary Report in Support of Site Specific Standard Application Lennox Generating Station", dated July 2021, at p 13.

The goal of a cumulative effects analysis is to examine emissions from existing facilities and to determine how the accumulation of all the combined pollutants interact with each other in the area. As aforementioned, this region includes various industrial and commercial undertakings including electricity generation from natural gas (e.g., Napanee Generating Station), cement production (e.g., Bath and Picton facilities), waste disposal sites (e.g., Richmond Landfill Site), small and large manufacturing plants, pits and quarries and transportation corridors that individually and collectively discharge volatile organic compounds, polycyclic aromatic hydrocarbons, metals, particulate matter, nitrogen oxides, sulphur dioxide and other contaminants into the airshed.

d. Future Emissions Levels are Uncertain

OPG stresses throughout its submissions that this facility may be used more in the future, after the Pickering nuclear power plants come offline and the Darlington nuclear power plants are refurbished. In OPG's Action Plan, on page 2, OPG states "with the pending closure of the Pickering Nuclear Generating Station in 2025, and other nuclear generators on refurbishment outage, IESO may have to rely on Lennox GS to operate more frequently in the future".¹³ It is therefore not reliable in this circumstance to depend on past emissions levels to determine what pollution from the facility will be over a ten year period, especially because the proposed standards do nothing to limit RFO use at the facility.

Although OPG suggests that use of RFO is rare, its 2019 data is that it was used 34% of the time.¹⁴ This is a significant portion of its usage of the facility.

Adding to the uncertainty, CELA notes that OPG's calculations and the corresponding air pollution levels being requested in this application have changed over time. The current requests are well above what was first predicted by OPG.

Sulphur Dioxide Request

- At PDF page 114 of OPG's Public Consultation Summary, in a presentation to the Mohawks of the Bay of Quinte on June 4, 2021, OPG stated that it would request an SO₂ standard of **1504 µg/m³**
- At PDF page 143 of OPG's Public Consultation Summary, in a presentation to William Treaty First Nation on July 9, 2022, OPG stated that it would request an SO₂ standard of **1913 µg/m³**
- In the current ERO posting, OPG is making a request for **2026 µg/m³** for the first five years and **1430 µg/m³** for the next five years.

¹³ Ontario Power Generation, "Action Plan for Site-Specific Standard Requests for Ontario Power Generation Lennox Generating Station: Sulphur Dioxide, Sulphuric Acid and Nitrogen Oxides", dated February 2022, at p 2.

¹⁴ Ontario Power Generation, "Action Plan for Site-Specific Standard Requests for Ontario Power Generation Lennox Generating Station: Sulphur Dioxide, Sulphuric Acid and Nitrogen Oxides", dated February 2022, at p 2.
Canadian Environmental Law Association

Updated modelling, which was not disclosed to CELA, was done in February 2022 and may account for some of the discrepancy. CELA notes with concern that the requested site-specific standard has increased significantly over time. The provincial standard is **100 µg/m³**.

Nitrogen Oxides Request

- At PDF p 114 of OPG's Public Consultation Summary, in a presentation to the Mohawks of the Bay of Quinte on June 4, 2021, OPG stated that it would request an NO_x standard of **625 µg/m³**
- At PDF p 143 of OPG's Public Consultation Summary, in a presentation to William Treaty First Nation on July 9, 2022, OPG stated that it would request an NO_x standard of **795 µg/m³**
- In the current ERO posting, OPG is making a request for **839 µg/m³**

CELA again notes with concern that the requested site-specific standard has increased significantly over time. The provincial standard is **400 µg/m³**.

Sulphuric Acid Request

- At PDF p 114 of OPG's Public Consultation Summary, in a presentation to the Mohawks of the Bay of Quinte on June 4, 2021, OPG stated that it would request a sulphuric acid standard of **6.84 µg/m³**
- At PDF p 143 of OPG's Public Consultation Summary, in a presentation to William Treaty First Nation on July 9, 2022, OPG stated that it would request a sulphuric acid standard of **6.8 µg/m³**
- In the current ERO posting, OPG is making a request for a sulphuric acid standard of **7.6 µg/m³** for the first five years, and **5.4 µg/m³** for the next five years.

CELA again notes with concern that the requested site-specific standard for the first five years of this request has increased significantly over time. The provincial standard is **5 µg/m³**.

e. Insufficient Notice and Insufficient Disclosure of Documents

Public Notification of Public Meeting

OPG provided notice to members of the public of its public meeting if they lived within 500 metres of the facility, as per s.34(2)(b)(i)(A) of *O. Reg. 419/05*. However, OPG has also stated at page 10 of the Public Consultation Study that their current modelling suggests an impact to local air quality within a radius of 1-5 km from the facility, which will be confirmed and updated through further modelling. It would have been more appropriate, pursuant to *O. Reg. 419/05*, s. 23(2)(b)(i)(B), to provide broader public notice of the public meeting to people living within the 1-5 km radius area.

Full Application has not been disclosed

OPG's application documents were not included on the Environmental Registry Posting. They were not available on OPG's website either. Some of the documents were provided to CELA

Canadian Environmental Law Association

upon request, however, CELA is not in possession of the full Emissions Summary and Dispersion Modelling Report, despite direct requests to the Ministry and a Freedom of Information request.

CELA requests that if the documents are not made public before the deadline for submissions of public comments is up (September 29, 2022), that the Ministry delay decision making until CELA and the public can review the full set of documentation in accordance with the ERO process and provide further comments, if necessary.

Notification of the Public of Exceedances of the Provincial Standards

In the OPG Public Consultation Study, at page 5, the Mohawks of the Bay of Quinte requested notification of air pollution exceedances. We reiterate this request and would recommend broader public notice of every exceedance of the provincial standard to all residents within the potential contaminated airshed, a radius of anywhere from 500m-5kms of the facility.

f. Climate Change Impacts Analysis is Required

Throughout the Made-in-Ontario environment plan, the Ministry commits to protecting Ontario's air by reducing greenhouse gas emissions in line with Canada's 2030 reduction targets under the Paris Agreement.¹⁵ This facility emits greenhouse gases, including when it is using natural gas. There has been no analysis of how a site-specific standard and continuing operation of this facility fit with climate change goals in the province.

Climate change impacts are also predicted to make extreme weather more frequent, which may also impact how often the Lennox facility is used.

2- The requested standard is not the minimum difference necessary between the provincial standard and the requested standard

O. Reg. 419/05, s.35(1)(b)(ii) requires an applicant to demonstrate that it is requesting the smallest deviation necessary from the provincial standard. OPG's application does not meet this requirement. The Ministry should deny the application on this basis.

Instead, OPG has requested the maximum difference between the provincial standard and the requested site-specific standard. It has modelled emissions for a "worst case" scenario and called those emissions levels "unrealistic".¹⁶ Despite assurances in OPG's application that it expects emissions to remain similar to past levels, the site-specific standard would do nothing to mandate that.

¹⁵ Ministry of the Environment, Conservation and Parks, "A Made-in-Ontario Environmental Plan" (2018), online, <<https://prod-environmental-registry.s3.amazonaws.com/2018-11/EnvironmentPlan.pdf>> at pp 2-3.

¹⁶ Ontario Power Generation, "Ontario Power Generation - Lennox Generating Station (GS) Site-Specific Standard Key Information & Frequently Asked Questions", dated September 2022, at pp 3, 5.

This application relates to a facility which is not predicted to run at, or close to, full capacity, but its usage may increase over the period between 2022-2032. It is therefore inappropriate to set a regulatory site-specific standard which vastly exceeds actual predicted emissions. Whereas the provincial standard would hold this facility to health-based standards, the current requested pollution levels would do nothing to prevent significant increases in harmful emissions. The modelling done as a basis for this application also does not meet the requirement of *O. Reg. 419/05*, s. 35(1)(b)(ii) to set the standard at the minimum difference necessary.

3- In the alternative, a 5-year Approval is preferable

Should the Ministry grant a site-specific approval for this facility, which CELA opposes, the term of the approval should only be 5 years. There is a lot of uncertainty about what emissions levels will be from this facility over the long-term, with OPG specifically pointing to the closure of the Pickering nuclear power plants and other nuclear refurbishments as a reason why it might be used more in the future. In light of that uncertainty and reason for the application, the Ministry should not rely on OPG's contradictory statement that its operations are not expected to significantly change over the next 10 year period.¹⁷

D. CONCLUSION

The Ministry should not approve OPG's request for a site-specific air approval for its Lennox Generating Station because it does not meet the requirements of section 35 of *O. Reg 419/05*. A much more rigorous cumulative impacts analysis, and human health risk assessment, is required to ensure that pollution from this facility will not contribute to any harm to human health for people living near the facility.

If you have any questions or wish to discuss CELA's submission, please contact Jacqueline Wilson at jacqueline@cela.ca or 416-960-2284 ext. 7213.

Yours truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Jacqueline Wilson
Counsel



Zoé St Pierre
Student-at-Law

Cc: Tyler Schulz, Assistant Auditor General, Commissioner of the Environment
(tyler.schulz@auditor.on.ca)

¹⁷ Ontario Power Generation, "Pre-Submission Consultation with Local Stakeholders - Summary Report in Support of Site Specific Standard Application Lennox Generating Station", dated July 2021, at pp 12-13 & pp 22-23.