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Impact Assessment Agency of Canada
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BY ONLINE SUBMISSION VIA: <https://iaac-aeic.gc.ca/050/evaluations/identification/logindisclaimer?ReturnUrl=%2F050%2Fevaluations%2Fproj%2F83696%2Fparticipation%2Fcommenting-area-expanded%2Ftrue>

AND BY EMAIL, AS A PDF, TO: hydrogen-hydrogene@iaac-aeic.gc.ca

Dear Sir or Madam,

**Re: Comments on the Initial Project Description for the Gas Plant Project,
IAAC File Number 83696**

I am writing in my personal capacity to provide my comments on the initial project description for the above-captioned Project.

Overall Submissions at the Planning Phase of the Project

First, I would encourage the Environment Minister to exercise his discretion under s. 17 of the *Impact Assessment Act* (the “IAA”) to reject the Project as soon as possible on the basis that it will cause unacceptable environment impacts within federal jurisdiction. Simply put, Ontario already has more gas plant capacity to generate electricity than it needs, at a time when all of Ontario’s new electricity generation must come from non-emitting sources – including the purchase of hydroelectricity from Quebec – if Canada is to have any hope of meeting its Nationally Determined Contribution to the United Nations, committing Canada to cut its GHG emissions to 40-45% below 2005 levels by 2030.

Second, if the Minister is not prepared to reject the project at this stage, I urge the Impact Assessment Agency (the “Agency”) to decide that an impact assessment is required under s. 16 of the IAA. The reasons for this are discussed below.

Third, the Agency cannot rely on a provincial assessment in this case. Shortly after coming into office in 2018, the Ontario Provincial Conservative Government under Doug Ford cancelled Ontario’s cap and trade system by repealing the *Climate Change Mitigation and Low-carbon*

Economy Act, 2016, S.O. 2016, c. 7, on 14 November 2018.¹ It also quickly cancelled over 700 contracts with renewable energy developers.² Furthermore, according to the Ontario Independent Energy System Operator (the “**IESO**”), “there is a need to increase electricity output from other Ontario generating facilities, principally gas generators, to balance supply and demand. As a result, electricity system emissions are forecast to increase this decade from a recent average of 4.4 megatonnes (Mt) to between 10.9 and 12.2 Mt in 2030.”³ Neither the IESO whose chief executive officer and board of directors is appointed by the Ontario Minister of Natural Resources⁴, nor the Ontario Conservative government that appoints its board members, can be relied upon to undertake a balanced assessment of the need for more gas plants in Ontario.

Fourth, if an impact assessment is conducted, the Agency should develop a robust draft of Tailored Impact Statement Guidelines (“TIS Guidelines”). The points that I submit should be covered within the TIS Guidelines are itemized and the reasons for them are discussed below, blended together with my argument for why the Agency should determine that an impact assessment is required under s. 16 of the IAA.

Reasons for Requiring an Impact Assessment and Points to Include in the TIS Guidelines

I have read the “Comments on the Initial Project Description” dated 13 July 2022 and submitted on that date by Environmental Defence. I respectfully agree with all their submissions on why the Environment Minister should reject the project as soon as possible under s. 17 of the IAA, why an impact assessment is required under s. 16 of the IAA if the Environment Minister does not do so, why provincial assessment process is insufficient, and also on the points they suggest should be included in the TIS Guidelines, all for the reasons given by Environmental Defence. I further agree with all their submissions concerning climate change issues at this stage of the assessment process. I would respectfully adopt all of these submissions as part of my own.

Since it would be inefficient to repeat Environmental Defence’s submissions, having stated my full agreement with everything discussed in the paragraph above, I will simply add some points of my own.

This Project Would Create a Significant Increase in GHGs from Ontario Gas Plants

¹ <https://www.ontario.ca/laws/statute/16c07>. Retrieved on 13 July 2022.

² Shawn McCarthy, “Ontario cancels wind, solar contracts as Ford moves on energy overhaul”, *The Globe and Mail*, 13 July 2018. Accessed at <https://www.theglobeandmail.com/business/article-ontario-cancels-wind-solar-contracts-as-ford-moves-on-energy-overhaul/>. Retrieved 13 July 2022.

³ Ontario Independent Energy System Operator, “Decarbonization and Ontario’s Electricity System: Assessing the impacts of phasing out natural gas generation by 2030”. 7 October 2021. p. 4. Accessed at <https://www.ieso.ca/en/Learn/Ontario-Supply-Mix/Natural-Gas-Phase-Out-Study>. Retrieved 13 July 2022.

⁴ <https://www.pas.gov.on.ca/Home/Agency/218>. Retrieved 13 July 2022.

In 2019, emissions from electricity production in Ontario were 3.3 Mt CO₂e.⁵ On p. 23 of the Proponent’s “Summary of Initial Project Description for a Designated Project under the Impact Assessment Act” (the “**Summary**”) the Proponent includes a table showing average direct GHG emissions between 2025 and 2030 of 529,522 tonnes, or 0.526 Mt, of CO₂e per year for the Project. That is an increase of 17% of GHGs from Ontario gas plants from this one projected gas plant alone.

Furthermore, for the Proponent to name the project the “Hydrogen Ready Power Plant Project” is really to create a misnomer, since that table shows that the Project will be operating on an average of 95% natural gas and only 5% hydrogen during this period. Worse still in terms of inaccurate naming, the same table shows that the Project *might* only run on 100% hydrogen after 2050, which is after the end of the Project’s estimated lifetime.

The Project May Run Afoul of the Clean Electricity Standard Coming Under CEPA Regs

On p. 22 of the Proponent’s Summary, the Proponent states: “[A] foreseeable energy supply enabling 20% hydrogen use for the HRPP Project between 2025 and 2031, followed by 65% hydrogen supply by 2040 seems feasible. Later, in the HRPP Project life, 100% hydrogen *could* become available by 2050”. [Emphasis added.]

However, on the next page (p. 23) of the Summary, the Proponent includes a table showing direct GHG emissions between 2025 and 2030 based on 95% natural gas use and 5% hydrogen use, resulting in an average direct emission of 529,522 tonnes, or 0.526 Mt, of CO₂e per year.

Immediately beside that, the table shows direct GHG emissions between 2031 and 2040 based on 80% natural gas and 20% hydrogen, resulting in average direct emissions of 445,913 tonnes, or 0.447 Mt CO₂e per year.

On 8 March 2022, Environment and Climate Change Canada published “A Clean Electricity Standard in support of a net-zero electricity sector: Discussion paper”. On p. 5, it states: “The Government of Canada is taking further action to reduce greenhouse gas (GHG) emissions from the generation of electricity to achieve a net-zero electricity supply by 2035 (NZ2035)”.

On p. 9 of the Clean Electricity Standard [“CES”] discussion paper, Environment Canada states:

“The Government of Canada is planning new regulations under CEPA [the “Canadian Environmental Protection Act”] for all sources of emitting electricity generation that sell to the electricity system (grid). A CES regulation would set emissions performance standards for emitting electricity generators to ensure that the electricity sector transitions to NZ2035.”

According to p. 219 of the “2030 Emissions Reduction Plan”, published by Environment and Climate Change Canada on 29 March 2022, “Draft regulations will be brought forward by the end of 2022.”

⁵ Environment and Climate Change Canada. “National Inventory Report 1990-2019” Greenhouse Gas Sources and Sinks in Canada – Canada’s Submissions to the United Nations Framework Convention on Climate Change”. Part 3. p. A-12. Accessed at <https://publications.gc.ca/site/eng/9.506002/publication.html>. Retrieved 13 July 2022.

The Proponent is proposing a project that, prima facie, will be emitting almost half a megatonne more GHGs per year in 2035 than will be permitted under the upcoming CES Regs under CEPA.

If this project is not rejected under s. 17 of the Impact Assessment Act, a Tailored Impact Statement Guidelines (“TIS Guidelines”) should be prepared.

The TIS Guidelines should require that the Proponent explain how it can – and, if it can, how it will -- comply with the upcoming CES Regs under CEPA.

The Proponent Relies on an Inaccurate Statement from the IESO

Page 23 of the Proponent’s Summary states:

The HRPP Project will use hydrogen-enriched natural gas or natural gas from gas lines currently on the site and ultimately 100% hydrogen as this becomes available over its estimated 25 yr. Project life (estimated end 2050). Various energy producers and local gas suppliers now have programs under way to develop the hydrogen energy platform. The move to the hydrogen energy platform is to achieve lower GHG emissions and is part of the overall commitment to help Ontario and in turn Canada meet our carbon emission reduction targets.

The latter aspect is important as the IESO has recently assessed the impact of phasing out natural gas power generation (IESO NG generation) and has concluded that dependence on natural gas will continue well beyond 2030. The IESO has recently been asked by the Minister of Energy to investigate and propose program options to integrate low-carbon hydrogen technologies into Ontario’s electricity grid for the purposes of balancing and strengthening the reliability of the electricity system and contributing to broader decarbonization (IESO integrates hydrogen). [Emphasis added.]

The statement that “the IESO has recently assessed the impact of phasing out natural gas power generation... and has concluded that dependence on natural gas will continue well beyond 2030” cannot be accepted at face value.

On 15 April 2022, the Globe and Mail reported on the results of a Freedom of Information Act request made by the Ontario Clean Air Alliance:

Earlier drafts of that report, obtained by the Ontario Clean Air Alliance under the province’s Freedom of Information and Protection of Privacy Act and supplied to The Globe and Mail, considered possibilities beyond a rapid phase-out. One envisioned a scenario in which carbon prices would rise from \$50 per tonne this year to \$170 per tonne by 2030, consistent with federal targets. That would cause gas utilization to fall and see Ontario import more electricity from its neighbours. Reliability

would be unaffected, and costs recovered from ratepayers would increase by about \$1-billion (3 per cent) a year.

Another scenario saw Ontario meeting its generation needs with a mix of energy storage, increased energy efficiency and additional wind capacity; *in this scenario, the IESO predicted that costs recovered from ratepayers would actually decrease by about \$2-billion, or 8 per cent.* [Emphasis added.]⁶

The FOI materials are available via the Ontario Clean Air Alliance webpage.⁷ They confirm what was reported by the Globe and Mail. The Proponent should be required to study the two alternative scenarios studied by the IESO, but not included in its 7 October 2021 report, and a point should be included in the TIS Guidelines that the Proponent must respond to these two scenarios.

A better approach to the same issue might well be to note that, on 7 October 2021 (the same day that the IESO issued its report), the Ontario Minister of Energy wrote a letter to the IESO regarding the future of natural gas generation. In the letter, the Energy Minister asked the IESO “to evaluate a moratorium on the procurement of new natural gas generating stations in Ontario”. The Energy Minister also asked the IESO “to develop an achievable pathway to phase-out [sic] natural gas generation and achieve zero emissions in the electricity system for consideration.” In this regard the Energy Minister itemized six points for the IESO to consider. He requested that the IESO “report back on this additional analysis by November 2022.”⁸

Even if the Agency determines that it would be too unwieldy to require the Proponent to review and respond to the two alternative scenarios set out in the FOI documents, surely the TIS Guidelines should require that the Proponent respond to the issues set out in the report that the Energy Minister has requested the IESO to provide by November 2022. Specifically, the Proponent should be required to justify its continued pursuit of the Project in light of that report.

Upstream Emissions Must Be Included

As stated, this portion of my submission blends why an assessment is necessary with what specific points should be in the TIS Guidelines. This is very clearly the case where the upstream emissions, meaning the CO₂e emissions required to produce the natural gas, and eventually and theoretically the hydrogen, must be included in the assessment, and must be included as a point in the TIS Guidelines. The data and graph provided by Environmental Defence submission are

⁶ Matthew McClearn, “Documents raise questions about costs to retire Ontario’s natural gas power plants”. *The Globe and Mail*. 15 April 2022. Accessed at <https://www.theglobeandmail.com/business/article-cost-to-retire-ontario-natural-gas-plants/>. Retrieved 13 July 2022.

⁷ <https://www.cleanairalliance.org/ieso-coverup-of-positive-gas-phase-out-findings-revealed/>. Retrieved 13 July 2022.

⁸ Letter dated 7 October 2021 from The Honourable Todd Smith, Minister of Energy, to Lesley Gallinger, President and CEO of the IESO. Accessed at <https://www.ieso.ca/en/Corporate-IESO/Ministerial-Directives#md-oct-7-2021>. Retrieved 13 July 2022.

very useful in this regard: The actual emissions from converting methane gas (which is almost identical to “natural gas”) to hydrogen to electricity are actually higher than directly burning methane gas to generate electricity, even if a carbon capture system is used. The electricity that this more properly named gas plant will generate for use in Ontario could be produced by alternatives that would not emit GHGs either from the production of the energy that turns the turbine or from combusting fuel to turn the turbine. Therefore, both sources of GHG emissions must be included in the analysis, and must be included as a point in the TIS Guidelines.

Furthermore, the Proponent should be required to specify what portion of hydrogen it proposes to use will come from hydrogen produced from natural gas and what portion of hydrogen will come from “green hydrogen”, meaning hydrogen produced by electrolysis using electricity from non-emitting sources for the electrolysis. The total amount of GHGs emitted by the full process from the production of the hydrogen to the creation of the final electricity is vital to know, as is the technical feasibility of using so-called “green hydrogen”.

The Export of Any Electricity Must be Considered

If any of the electricity that the Proponent’s Project may create will be exported to the United States, this is both a reason for an assessment and a point that should be addressed in the TIS Guidelines. The Proponent, which is a wholly owned subsidiary of Fortis Inc., should be required to account for all GHGs – both from upstream production of the gas required to generate the electricity and the combustion of that gas to generate the electricity, if the Proponent will be exporting any of its electricity to the United States.

The Full Cost of the Proponent’s Electricity Must be Considered When Considering Alternatives

Although, at the date of writing, the federal Output-Based Pricing System (the “OPBS”) does not apply in Ontario, before the end of 2022 the Ontario government will need to make its GHG emissions scheme as or more stringent than the federal backstop, or the federal backstop will apply again in Ontario, and this will include the OBPS and the regulations thereto.

If s. 36.1(2) of the *Output-Based Pricing System Regulations*, SOR/2019-266, applies to the Project, by 2030, the output-based standard that will apply to the Project will be 0 CO₂e tonnes per unit of measurement, for the 2030 compliance period and subsequent compliance periods.⁹ As set out above, in 2030, the Project is projected to emit 529,522 tonnes of CO₂e per year. The federal government has stated that the “carbon tax” will be \$170 per tonne of CO₂e GHG emissions in 2030.¹⁰ By arithmetic, this will mean that the “carbon tax” on the GHGs emitted by the Project in 2030 will be \$90,018,740 per year. It is hard to imagine that the electricity generated by non-emitting sources will be nearly as expensive as the electricity generated by the Project by that time.

⁹ s. 36.1(2)(j) OBPS Regs. Accessed at <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2019-266/page-1.html>. Retrieved 13 July 2022.

¹⁰ <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/carbon-pollution-pricing-federal-benchmark-information/federal-benchmark-2023-2030.html>. Retrieved 13 July 2022.

This is yet another reason for requiring an assessment of the Project, and yet another point that the TIS Guidelines should require the Proponent to address.

Conclusion

I would thank the Environment Minister and the Agency for considering my submissions at this planning phase of the Project. If there are any questions or concerns about my submissions, and if it is appropriate to do so, please do not hesitate to contact me directly by email or phone.

I would also be grateful to be kept updated about the progress of this Project.

Yours Truly,

Kenneth Love