ONTARIO ENERGY ASSOCIATION

FEDERAL CLEAN ELECTRICITY REGULATIONS

OEA Response to Canada's Gazette, Part I, Vol.157, Number 33

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To shape our energy future for a stronger Ontario.

Ontario Energy Association

ABOUT

The Ontario Energy Association (OEA) is the credible and trusted voice of the energy sector. We earn our reputation by being an integral and influential part of energy policy development and decision making in Ontario. We represent Ontario's energy leaders that span the full diversity of the energy industry.

OEA takes a grassroots approach to policy development by combining thorough evidence based research with executive interviews and member polling. This unique approach ensures our policies are not only grounded in rigorous research, but represent the views of the majority of our members. This sound policy foundation allows us to advocate directly with government decision makers to tackle issues of strategic importance to our members.

Together, we are working to build a stronger energy future for Ontario.

The recommendations and positions contained in OEA papers represent the advice of the OEA as an organization. They are not meant to represent the positions or opinions of individual OEA members, OEA Board members, or their organizations. The OEA has a broad range of members, and there may not always be a 100 percent consensus on all positions and recommendations. Accordingly, the positions and opinions of individual members and their organizations may not be reflected in this document.

The Ontario Energy Association (OEA) is pleased to have this opportunity to provide our comments to the federal Departments of Environment and Health on their draft Clean Electricity Regulations published August 19, 2023 in Canada's Gazette, Part I, Volume 157, Number 33: Clean Electricity Regulations under the *Canadian Environmental Protection Act, 1999*.

The OEA is aligned with the Government of Canada's goals for a net zero economy and pleased to support its members as they engage to develop workable solutions. We urge the Government of Canada to consider the uniqueness of each province's energy systems, and in particular Ontario, within the context of the draft Clean Electricity Regulations (CER).

The OEA has focused its concerns on four major issues with the draft CER, including:

1. The prescribed life (EoPL) definition of 20-year post-commissioning does not provide adequate timeframes for the development of grid-scale replacement of natural gas fueled generation in Ontario by other low or zero-emitting technologies.

2. The proposal of a 450 hours and 150 kilotonnes (kt) threshold is putting Ontario's electricity system reliability at risk.

3. The proposed energy emergency circumstances exemption is putting Ontario's electricity system reliability at risk, and

4. Any prescriptive federal regulation that restricts the Independent Electricity System Operator (IESO), Ontario Ministry of Energy, and Ontario customers from finding the optimal pathway to decarbonization of our economy is premature.

1) The EoPL 20-years post-commissioning

The OEA believes that flexibility or optionality to help achieve policy objectives of emissions reduction, reliability, affordability, and economic development, is in the best interest of the public and our members' commitment to meeting those customer needs. The OEA does not believe that the proposed EoPL timeframe to effectively shut down natural gas-fueled electricity generation after 20 years of operation allows sufficient time to transition to new, non—emitting, forms of supply.

The OEA proposes extending this to 30 years to provide the flexibility needed to continue reducing emissions while building out the new clean generation Ontario customers need. Ontario is in a position of strength, with a largely clean electricity mix that we are working hard to improve, but to achieve our common goals we must take a measured approach. New non-emitting generation resources are planned or in development across Ontario: nuclear, hydro, energy storage, geothermal, wind, and solar as well as hydrogen, renewable natural gas (RNG) and the potential for carbon capture and storage (CCS). The OEA and its members recognize the need for extensive incremental

generation, and these sources will be critical to meet customers' growing needs for safe, reliable, clean energy.

The OEA would like to see clarity from the Government of Canada in providing direction on the role of gaseous energy systems in the energy transition. This will enable our members to accurately forecast the implications of the CER (and other complimentary public policy) on natural gas distribution and transmission networks and for power producers many whom (particularly in emergency situations) use natural gas when Canadians need it the most, such as during extreme weather events, to generate electricity and maintain overall system reliability. As our systems become more constrained in summer and eventually winter peaking, conservation and demand management, energy efficiency, is a critical resource.

Reliability and affordability of energy systems are key considerations that are recognized in the Regulatory Impact Analysis Statement (RIAS); however, they are not adequately addressed in the implementation of the CER. The OEA recommends that the Government of Canada provide additional discourse on potential mitigative measures to be employed within the CER to avoid unintended consequences to grid reliability, public safety, consumer affordability, and economic development. The availability of affordable and reliable electricity is critical to both retaining, and attracting, commercial and industrial investments in Canada. This is particularly important as Canada's economy transitions towards a lower-emissions integrated energy mix and consideration of embedded carbon emissions becomes more prominent in the procurement of commodities by certain jurisdictions.

The CER provides clear opportunity for investments in renewable electricity generation that will support the reliability of the grid., However, there is an overarching concern about potential increases in delays to project approvals, as well as challenges to interconnection, with the existing grid. The OEA recommends the Government of Canada expand the mandate/capacity of the Canada Energy Regulator to include new renewable energy projects.

The OEA strongly supports the Government of Canada's efforts to meet its international GHG emissions reductions targets. Our association is committed to working collaboratively with federal, provincial, regional and municipal governments to find the optimal pathways to meet or exceed our emissions reductions targets while still maintaining energy affordability and reliability for our customers. Demonstrating that together, government and the energy sector have done everything they can to optimize energy affordability and reliability in the energy transition will ensure public support is sustained throughout the transition, and ensure that Ontario businesses are not competitively disadvantaged, leading to counter-productive emissions leakage to other countries.

2) The 450 hours and 150 kt threshold

The OEA acknowledges that the Government of Canada has provided an exception to the proposed CER if the unit operates for 450 hours or less and emits a total of 150 kt of CO2 during a calendar year. For large generating units, the inclusion of the 150 kt of CO2 emission cap will mean that these facilities will be unable to operate for the full 450

hours. In Ontario, the natural gas-fueled peaking plants alone operate for 50 per cent of the year, while baseload natural gas-fueled plants run even more frequently. Given the forecasted continued reliance on natural gas-fueled generation in Ontario for both baseload and peaking, we recommend that the Government of Canada consider increasing the exception limit primarily to support affordability of the decarbonization of the grid. Absent the CER, the province of Ontario has forecast an increase in capacity provided by natural gas-fueled generation to support the energy transition as the province's refurbishes its nuclear generating facilities.

3) The Energy Emergency Circumstances Exemption

In September 2023, the IESO issued a Long-Term Request for Proposal (LT1-RFP) to acquire capacity services to meet system reliability driven by emerging electricity needs.[1] Capacity may include natural gas-fueled electricity but will require suppliers to provide IESO with an abatement plan to meet new regulations, which may include the CER. Given this increased reliance on natural gas-fueled generation to support the transition to clean electricity, the placement of operational constraints on these units is likely to significantly impact the reliability of the grid, as operators seek to avoid criminal prosecution under CEPA. The OEA recommends that CER adopt a clear definition of an energy emergency without any retroactive approvals (for exemptions) in place.

Further to this, the OEA acknowledges that the proposed CER is being made under CEPA. However, considering the pace and scale of investment required to comply and the potential impacts to affordability and grid reliability, we recommend the Government of Canada consider alternative approaches to incenting compliance. This is particularly important during the initial years post-implementation to avoid criminal charges being laid against public utilities and electricity generators. The OEA recommends that the Government of Canada consider the inclusion of alternative pathways to compliance including offsets, fleet averaging, and compliance payments as discussed earlier in our submission to maintain grid reliability, customer affordability, and incent economic development.

Additionally, one of the modeled outcomes from the implementation of the CER is that Canada would go from being a net exporter of electricity to a net importer from the United States. While the RIAS has assumed that the emission intensity of imported US electricity will align with the CER, it illustrates how electricity system operators who are responsible for electricity imports bear no similar performance standard or compliance obligations as facilities subject to the CER. The OEA recommends that imports of electricity into Ontario require the same performance regulations and compliance mechanisms as domestic generation. Without similar restrictions in place amongst trading partners it sends the wrong market signals, reduces Canadian and more specifically Ontario competitiveness, and does not reduce overall emissions which should be our common goal.

[1] https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/LT1-RFP-Revised-Draft-Sept-8-2023.ashx

4) Restriction of IESO, Ontario Ministry of Energy, and Ontario customers

The OEA has actively participated in the Government of Canada's engagement process on the draft electricity regulations beginning in 2022 with our submission dated April 15, 2022 on the Federal Clean Electricity Standard – Discussion Paper.

In this submission, the OEA noted that each jurisdiction in Canada is unique, so flexibility will help each jurisdiction make decisions within their electricity system that best help Canada reach its decarbonization goals, while simultaneously retaining system resilience and affordability. The OEA also noted it believes that the IESO's work should inform any federal strategy and regulation. The OEA believes that any prescriptive federal regulation that restricts the IESO, Ontario Ministry of Energy, and Ontario customers from finding the optimal pathway to decarbonization of our economy may be premature. This speaks to the development of a Clean Energy Standard (CES) that is developed in partnership with the province of Ontario and is sufficiently flexible to allow Ontario to find the optimal pathway to decarbonizing the provincial economy, under the expert guidance, in the Ontario specific context, of our provincial energy regulator. By taking a pragmatic, perhaps more jurisdictional approach to the imposition of the CER, optimal reductions in global GHG emissions can be achieved and risks of negative impacts to Canada's economic development mitigated.

The OEA is concerned with the potential consequences to affordability and grid reliability that will arise from the 'coming into force' of the CER on January 1, 2035. Although the OEA supports the Government of Canada's goal to reduce economy-wide GHG emissions, the pace and scale of investment required to achieve a net-zero grid by 2035 is likely to have a significant impact on affordability and grid reliability. The OEA recommends safety, affordability, and pricing impacts should be metrics and factors that are used to adjust the implementation timelines to control pricing increases.

5) Other Comments

The OEA supports the Government of Canada's goal to achieve a net-zero emissions economy and the establishment of clear regulations and market signals now, given the long timelines for infrastructure development in the electricity sector. However, the pace and scale of investment required to achieve a net-zero electricity grid by 2035 is expected to result in unintended consequences impacting affordability, grid reliability, and economic development. Inflation and affordability are the most pressing day-to-day issues for people in Ontario today, not only for energy, but the costs of housing, food, and transportation. These inflationary pressures may be exacerbated if the approach to achieve a net-zero electricity grid is not reconsidered.

The OEA recommends the Government of Canada conduct a comprehensive assessment of its policy priorities as it continues to drive towards meeting its emissions targets. It is apparent the Government of Canada is focused on reducing economy wide GHG emissions and addressing affordability. The OEA agrees with a diversified and integrated approach to the energy mix, which includes an 'all of the above' (e.g., nuclear, wind, solar, storage, low-carbon fuels, natural gas and CCS) and enables the achievement of Canada's climate objectives with a lower cost per tCO2 reduced while keeping affordability, grid reliability, and economic development at the forefront of its policy

goals. Ontario has had great success leveraging a diverse fuel mix in its electricity system to provide one of the cleanest electricity systems in the world, despite not having access to massive hydro resources like some other parts of Canada. We should continue to build on Ontario's historic success.

A summary of total incremental benefits of the CER is provided in Table 23. The benefits are understood as being quantified from the social cost of carbon which reflects the benefits of avoided climate change damages on a global basis. However, the costs of implementing the CER are borne solely by Canadians. The OEA recommends that the portion of avoided climate change damages realized in Canada be clearly identified to enable a fair comparison of costs and benefits to Canadians. For example, in Table 23, the total monetized costs are estimated to be $102.5B with $87.5B identified as avoided global damages, whereas the total costs to Canadians is shown in Table 24 at $73.6B. It is unclear how much of the $87.5B in benefits are specific to Canadians. The Government of Canada has projected that between 2024 and 2035, 55 kt of air pollution reductions will occur and give rise to $6.3B in total monetized benefits, due to the CER being implemented. How are these benefits realized when the CER provides no recognition or incentive for entities to undertake early action before 2035?

Although the Government of Canada has signaled its intent to introduce discretionary financial incentives to support investment in GHG emissions avoidance and abatement, the details and funding remain outstanding. The Government of Canada should not underestimate the criticality of providing financial incentives to support the transition to a lower-emissions economy, particularly for clean technologies, including CCS and production of low-carbon hydrogen, both of which are pathways to compliance under the proposed CER. Achieving a net-zero grid by 2035 will require adoption of these technologies at a magnitude large enough to reduce GHG emissions at a cost per tCO2 which does not significantly impact power costs. The OEA recommends that the Government of Canada consider refundable tax credits for electricity transmission and interconnections, for hydrogen distribution, and for RNG to help advance much needed projects in support of net-zero objectives. These tax credits and other programs will provide critical financial support for emerging technologies that will play a major role in Canada's net-zero grid future.

The OEA believes the Government of Canada should accelerate the timelines for the deployment of the refundable Investment Tax Credits (ITCs) and other funding mechanisms (e.g., Canada Growth Fund), including Carbon Contracts for Difference. These measures will be critical to enabling the production of clean hydrogen and deployment of CCS to ameliorate the GHG emissions generated by the combustion of natural gas to produce electricity. Once the emerging technologies mature, less financial support will be required to incentivize start-up or initial investments.

The IESO undertook a study which considered two scenarios describing the potential impact of a 2027 moratorium on natural gas-fueled generation, and the incumbent resources and timelines required to decarbonize the electricity system. The study concluded that for Ontario to reach a zero-emissions grid reliably, and cost-effectively, would require an estimated investment of $375B to $425B to effectively double the size of the system which includes an additional 69,000 MW of non-emitting supply and 5,000 MW in demand reductions from conservation. Notably, the IESO found that 'decarbonizing

the electricity system is a complex task that must be carefully managed so as not to disrupt daily lives and the province's economy.'[2]

According to the IESO the 'phasing gas generation out of the system will require ingenuity and the implementation of new technologies to reorient our current system, which is grounded in the flexibility that natural gas generators provide'. Furthermore, natural gas-fueled generation provides 'continuous, flexible energy year-round and under all weather conditions, and there is currently no like-for-like replacement'. In 2021, natural gas-fueled generation provided approximately 9 percent of annual electricity demand in Ontario.[3] Note that during the same year, natural gas-fueled generation supplied up to 31 percent of peak electricity demand underscoring the criticality of flexibility and integration of multiple sources of electricity generation to ensure a reliable grid, especially considering the increased frequency of extreme weather events (e.g., polar vortex, heat dome).

Compliance mechanisms are notably missing in the draft CER, particular monetary penalties, fleet averaging, carbon offsets, and/or excess performance credits. Both monetary penalties and carbon offsets mobilize much-needed capital into investments in lower carbon technology and innovation to bring them to scale more rapidly than in their absence. In addition, in the absence of market-based mechanisms there is no opportunity to 'net'-out residual emissions, thus nullifying the notion of 'net-zero by 2035'; It is more simply a goal to significantly reduce emissions intensity. Therefore, the OEA believes the Government of Canada should strongly reconsider the inclusion of market-mechanisms as a pathway to compliance under the CER to address affordability and reliability, as they would reduce the costs of investing in new technology and provide multiple pathways to compliance.

The existing underground natural gas pipeline networks provide immediate demand response, are protected from extreme weather events, and are not easily replaced with above ground wires. OEA recommends enabling more provisions for these networks to continue to support the electricity system, as a cost-effective measure that helps ensures further reliability Canadians in our severe climate. Costs associated with maintaining these systems should be considered a form of insurance to avoid blackouts and ensure continued grid reliability.

The OEA recommends that the Government of Canada modify the definition of biomass to recognize the delivery of gaseous biofuels (e.g., renewable natural gas) through a chain of custody approach when delivered via a common carrier pipeline, such as, '…where they may be delivered as neat fuels or through common carriers with proof of environmental attribute ownership.' Proof of ownership enables the generator of the biogas and/or RNG to transfer the associated environmental attributes to the fuel buyer for both monetization and to facilitate the GHG emissions accounting required to recognize its climate benefit and support compliance towards the 30 tCO2/GWh emissions intensity performance standard for unabated natural gas-fueled generation.

The OEA would like to reiterate that certain unabated emitting generation technologies are able to reach lower-emitting profiles by burning clean fuels, such as RNG or hydrogen. The OEA supports the co-firing of conventional natural gas with RNG and/or

[2] https://www.ieso.ca/en/Learn/The-Evolving-Grid/Pathways-to-Decarbonization
[3] https://www.ieso.ca/en/Learn/Ontario-Electricity-Grid/Supply-Mix-and-Generation

hydrogen as a pathway to displacing fossil fuel usage and avoiding GHG emissions. However, to enable this, the Government of Canada must provide clear guidance related to the reporting of biomass as RNG, and hydrogen delivered through a common carrier pipeline and the use of chain-of-custody and book-and-claim system approaches. The current lack of clarity surrounding the use of these existing industry practices for the transportation of gaseous fuels creates administrative confusion and limits the development of RNG to support decarbonization of hard to abate power generation.

The Government of Canada has proposed to establish the performance standard for unabated fossil fuel generated electricity to be 30 tonnes of carbon dioxide per gigawatt hour (tCO2/GWh). However, the 'good-as-best-gas' benchmark or High-Performance Benchmark under the federal Output-Based Pricing System (OBPS) was initially set at 370 tonnes of carbon dioxide equivalent per gigawatt hour (tCO2e/GWh). The federal benchmark will decrease at different trajectories with the federal benchmark reaching zero in 2030. The proposed performance standard (30 tCO2/GWh) is only a tenth of the initial 'good-as-best-gas' benchmark of 370 tCO2/GWh making it extremely difficult for any current operator to meet using today's technology. The OEA recommends that the Government of Canada reconsider the stringency of the proposed performance standard to allow compliance options, such as the co-firing of hydrogen and/or RNG to enable a meaningful reduction in the emissions footprint.

The OEA recommends the Government of Canada apply a percentage-based removal target for facilities as opposed to a one size fits all performance standard. For example, under the *Regulations Limiting Carbon Dioxide Emissions from Natural Gas-fueled Generation of Electricity*, the emission intensity limit for combustion units with a capacity greater than 150 MW is 420 tCO2/GWh and the emission intensity limit for units with a capacity less than 150 MW is 550 tCO2/GWh. A percent reduction target creates a more realistic and level playing field for facilities.

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Let's unravel complex energy challenges, together.