

November 2, 2023

The Honourable Steven Guilbeault, MP  
Minister, Department of Environment and Climate Change  
Government of Canada  
200 Sacré-Coeur Blvd  
Gatineau QC K1A 0H3

Via email : [ministre-minister@ec.gc.ca](mailto:ministre-minister@ec.gc.ca)

Re: WaterPower Canada comments regarding Canada's proposed  
*Clean Electricity Regulations*

Dear Minister Guilbeault:

This letter provides WaterPower Canada's comments on the proposed *Clean Electricity Regulations* (the proposed Regulations). We have also submitted these comments to the Canada Gazette website. We have formatted our comments to correspond with the categories outlined on the website, but we felt it was also appropriate to file a complete record of our submission with you.

### **General comments:**

WaterPower Canada members recognize the importance of investing in low-emitting electricity production to address climate change. The establishment of limits on fossil fuel power generation will incent industry to invest in renewable and low-emitting generation and storage alternatives. Canada has substantial untapped hydropower potential – including run-of-river, reservoir hydro, and pumped storage hydropower and a strong regulatory signal will drive the development of these resources. As examples:

- 1) A study commissioned by WaterPower Canada and completed by Hatch<sup>1</sup> found that up to 5,400 MW of incremental generating capacity could be achieved through upgrading existing facilities.
- 2) Another WaterPower Canada study completed by Stantec identified over 8,000 GW of pumped storage hydropower potential at almost 1,200 different site locations.<sup>2</sup>

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<sup>1</sup> <https://waterpowercanada.ca/resources/hydropower-refurbishments-and-redevelopments-in-canada/>

<sup>2</sup> <https://waterpowercanada.ca/resources/pumpedstoragehydropowerincanada/>

Capacity expansion at existing facilities can provide additional firm generating capacity, and often uses existing reservoir storage and civil works. It is therefore attractive from both economic and environmental perspectives. Unfortunately, development of these projects is constrained by current environmental assessment and *Fisheries Act* approval processes. These processes urgently require streamlining to help Canada achieve its net-zero electricity aspirations, and we strongly recommend that these items be addressed on a ‘whole-of-government’ basis considering Canada’s overarching GHG reduction goals.

We are particularly concerned with the stance of Fisheries and Oceans Canada, which has been unable to provide meaningful guidance to the hydropower industry regarding application of the *Fisheries Act* to existing facilities or acceptance of mitigation approaches for projects that may have impacts on fish but no significant effects on the sustainability of fish populations.

While the proposed Regulations seek to limit GHG emissions from fossil fuel-fired generation, other areas, such as promised regulatory reform, the myriad conditions associated with Investment Tax Credits, and the lack of predictability for permitting conditions, are impeding industry from completing the necessary developments in a timely manner to provide reliable and affordable low-emitting electricity to Canadian customers.

In the absence of steps to expedite development of hydroelectric and other firm resources it will be challenging to meet the timeframe of the proposed Regulations while ensuring reliability and affordability for Canadians.

### Issues:

WaterPower Canada notes that Environment and Climate Change Canada indicated that electrification investments to achieve Canada’s climate change goals are likely to be more than \$400 billion. We believe this estimate to be low. In its most recent update, the Trottier Energy Futures Foundation estimated electrification investments of approximately \$1 trillion would be required between now and 2050.<sup>3</sup>

We reiterate our concern that the federal government has not achieved its stated objective to streamline its project approval and permitting processes to enable these investments. Our particular concern is with projects that will be required to provide firm capacity and long-term storage – hydroelectric and pumped-storage hydroelectric development.

In the absence of movement on these streamlining initiatives, the proposed Regulations as drafted introduce a new risk that electricity system operators will not be able to provide reliable service to customers. While we fully endorse ending baseload natural gas-fired generation, we perceive that a limited backup/emergency role for gas-fired generation is required in the short term. This role should be time limited and reviewed as new low-emitting firm resources become available, (such as additional hydropower, pumped storage, hydrogen and renewable natural gas).

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<sup>3</sup> [https://iet.polymtl.ca/wp-content/uploads/delightful-downloads/CEO2021\\_20211112.pdf](https://iet.polymtl.ca/wp-content/uploads/delightful-downloads/CEO2021_20211112.pdf), table 14.3

We are also concerned that the Department's Regulatory Impact Assessment Statement (RIAS) and underlying modelling may be only based on hydro operators' average hydrological conditions without consideration of their firm hydro production<sup>4</sup>. This may provide an unrealistically optimistic view of the energy that can be depended on to meet growing energy requirements in all years.

### **Regulations: Peaking Provision**

WaterPower Canada agrees with the objective of the proposed Regulations. While we fully endorse the prohibition of baseload gas generation and exposing any existing gas generation to the full cost of carbon, we are concerned that the use of unabated natural gas units for standby use and emergencies may be overly constrained in 2035 and that additional flexibility will be required in the short term. This role should be time limited and reviewed as additional hydropower and other low-emitting fuel sources, such as hydrogen or RNG, become increasingly available.

While we recommend more short-term flexibility than currently in the proposed Regulations, we also recommend that this be coupled with clarity that the emissions from these units must be subject to the full carbon price.

Following are specific points in relation to unmitigated gas flexibility within the proposed Regulations.

- **The hourly operating hour limits associated with unmitigated units should be replaced with an annual kilotonne limit proportional to the unit's rating, or alternately a capacity factor limit.** If the federal government's objective is to control emissions, then it should focus on output-weighted emissions rather than run time, as limiting the latter has a direct and significant impact on electrical system reliability during contingencies.
- **Emissions limits should be phased in** and either ramped down over time or reviewed periodically to assess the practicality for further restrictions as additional firm low-emitting options become increasingly available.
- **The limit should be evaluated on a multi-year rolling average.** A limit that is measured over say a five-year period, would provide operators with greater flexibility to address many situations including annual variations in hydraulic, solar, or wind production. Units operating under a multi-year rolling average will have a strong incentive to minimize operating output to save for periods of greater need.
- **Consider the application of emissions limits across an operator's fleet of units subject to the proposed Regulations** so that these units can be managed more efficiently and with fewer fleet-wide emissions.

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<sup>4</sup> This is the dependable generation that can be relied on during severe (drought) conditions.

## Regulations: Emergency Provision

WPC strongly supports investment in a portfolio of diverse low-emitting supply options to mitigate the potential for supply emergencies and to displace current fossil fuel generation. We are concerned that given the role natural gas plays to mitigate drought and other system emergencies, adjustments to the proposed Regulations are needed to ensure electrical system reliability.

The ‘emergency’ exemption provided for in the proposed Regulations lacks clarity and introduces a new decision maker in matters relating to electricity reliability – the Minister of Environment and Climate Change. The definition of emergency in Section 19 (2) (a) of the proposed Regulations is not helpful, as most power system emergencies are neither extraordinary nor unforeseen. Equipment failures, droughts, calm weather (low winds), ice storms, transmission failures, and similar issues that interrupt the supply and delivery of electricity to customers are all events in utilities’ risk analyses and contingency planning. As these items are known to industry and government, it is not clear how the Minister of Environment and Climate Change could reasonably consider these emergencies to be unforeseen.

We appreciate the second criterion for emergency use is if a province declares a power emergency pursuant to its own legislation. We note, however, the Minister of Environment and Climate Change would seek to exercise discretion over whether a declaration of an emergency by a province is an emergency for the purpose of the proposed Regulations. As such, the proposed Regulations introduce too much uncertainty into how utilities, system operators, and provinces deal with power emergencies.

This is concerning, as power generators will be subject to prosecution under the Canadian Environmental Protection Act (CEPA) if the federal minister disagrees with a province’s interpretation of whether a power emergency existed. This is an unacceptable risk for electricity generators.

Drought is a significant issue for hydropower system planners. We recommend that a definition of severe drought be developed with input from the electricity sector to provide clarity about when unabated gas generation might be used while providing assurance this provision will only apply to rare and dramatic situations, such as severe (e.g., 1 in 50-year) droughts.

As a further point, the emergency exemption outlined in Section 19 (1) of the proposed Regulations would preclude actions by an operator to provide mutual aid to a neighbouring province or state. This restriction should be lifted, since it reduces overall grid security, limits inter-regional co-operation in times of greatest need and ultimately increases overall costs for electricity customers.

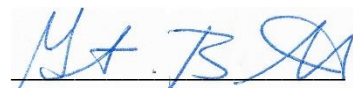
To summarize, our Emergency Related Recommendations are:

- **Provide greater clarity and examples about what constitutes an emergency.** "Extraordinary, unforeseen, and irresistible" does not provide meaningful guidance.
- **Ensure that severe drought is defined and included as an emergency.**
- **Ensure that emergencies in neighbouring provinces and states are included.**
- **Ensure that the full carbon price is applied for all fossil-fueled generation including during emergencies.** These units should be exposed to the full price of carbon, not just the portion of GHG emissions above the OBPS of 370 t/GWh. This will help to ensure that low-emitting alternatives are rigorously evaluated to provide emergency energy.

In conclusion, WaterPower Canada members strongly support Canada's efforts to reduce greenhouse gas emissions. Hydropower's firm capacity and long-term storage are key enablers to integrate variable renewables. Existing regulatory and permitting processes are impairing our ability to develop renewable resources to meet increasing demand for electricity, and we call on the Government of Canada to follow through on its commitment to streamline these processes. Limits on fossil fuel use are critical to reducing greenhouse gas emissions, and we support their prohibition as baseload generation but look for a short-term practical implementation related to peaking and emergency use of natural gas-fired generation.

We are available to discuss these points at your convenience.

Sincerely,



**Gilbert Bennett**

President

cc. The Honourable Jonathan Wilkinson, MP, Minister of Energy and Natural Resources  
The Honourable Diane LeBouthillier, MP, Minister of Fisheries, Oceans and the Canadian Coast Guard