WATERPOWER CANADA
HYDROÉLECTRICITÉ CANADA

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March 15, 2024

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
ecd-dec@ec.gc.ca

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

Dear Minister Guilbeault:

WaterPower Canada is pleased to provide its comments regarding the Clean Electricity Regulations update issued on February 16, 2024. The changes outlined in the discussion paper are improvements over the original proposed regulations. Our response to the individual changes outlined in the discussion paper is provided below.

While WPC supports the additional flexibility associated with the proposed changes, we continue to advocate that all grid-connected emitting units should be subject to the full carbon price by 2030[1]. This should be the case for all grid-connected generating units regardless of their size, location, age, or primary use (power generation or co-generation units).

Emissions Limit Approach

The proposed Emissions Limit Approach is an improvement over the previous approach. We believe it is essential that all the elements outlined in the discussion paper be implemented in the final regulations.

a) **Unit Based Annual Emissions Limit.** WPC supports the unit-based annual limit approach. It represents an improvement on the previous framework and provides enhanced flexibility, efficiency and enables emission pooling.

[1] or more specifically the Output-Based Pricing System Regulations' Part 38 should be set to 0 tonnes of CO2e per GWh from 2030 and thereafter.

b) **Performance Standard.** The level of the performance standard is critical, and the context has changed with the proposed new framework. It is imperative that industry be consulted on performance standard level. We repeat our previous point that the performance standard should become more stringent over time, rather than be fixed at the implementation of the regulations. This would provide a signal for continuous improvement over time.

c) **Emissions Pooling.** WPC strongly supports emission pooling of both existing and new units as they are installed since it further enhances flexibility, reliability, and efficiency. This should be enhanced by providing multi-year flexibility for emissions pooling to manage production variability due to drought within hydropower systems[2]. Further consideration should also be given to regions with a system operator. In these instances, emissions should be pooled by a system operator since dispatch decisions are made on a system-wide basis in organized markets rather than by individual utilities.

d) **Offsets.** WPC supports the additional flexibility associated with offsets. This will help manage compliance risks and the associated trading will provide an opportunity to manage compliance more flexibly and economically among generators. However, we note that there is considerable uncertainty related to the availability of offset credits, what will be eligible and the available supply. There is an added level of uncertainty for provinces that are not subject to the Greenhouse Gas Pollution Pricing Act.

e) **Compliance Risk.** WPC recommends that contraventions of the Emissions Limit Approach be subject to a penalty scheme that is strictly monetary in nature, rather than designating them as 'offences' under the Canadian Environmental Protection Act, 1999.

Minimum Size Threshold

WPC supports the changes to prevent multiple smaller units from being implemented at a single facility. WPC recommends that when any facility exceeds 25 MW in size, all units (both existing and new) be subject to the Emissions Limit Approach. As noted above, we continue to advocate that all grid-connected emitting units should be subject to the full price of carbon by 2030, including those rated at less than 25 MW.

Emergencies

WPC supports the proposed changes to the Emergency Circumstances provisions in the CERs as they will improve both the reliability and affordability of Canadian electricity. Providing certainty and empowering system operators to declare emergencies addresses many of our concerns. However, WPC recommends that the CERs be revised to ensure that covered units can support Emergency Circumstances that occur in neighbouring jurisdictions.

[2] Given that all renewables, including hydro, wind, and solar have varying output levels on an annual basis, flexibility in the regulatory regime is required to address this variability.

This cross-jurisdictional emergency support should apply to emergencies both within Canada and the U.S.; reciprocal support between Canada and the U.S. during emergencies is essential for grid reliability.

We remain concerned with the approval role of the federal minister during emergencies as we outlined in previous comments, as well as the definition of an emergency that ECCC that will be used in the final regulation.

Regulatory Reform and Firm Capacity

The need for firm and dispatchable generation to ensure customer reliability is a fundamental aspect of power system engineering and operations, and we believe this element of power system planning continues to be underappreciated by the Government of Canada. The need for firm capacity to address periods of peak demand or resource unavailability due to severe and widespread events is not an 'emergency' but rather a normal part of a system planning process that needs to address reasonably foreseeable extreme conditions.

While variable renewable resources can provide some level of capacity for system operations, they are subject to extreme conditions where they are not available on a widespread basis. Utilities and system operators will require firm generation to address these events.

This matter is discussed in some detail in the North American Electricity Reliability Corporation's (NERC's) most recent reliability assessment[3] issued December 2023. Refer to the Executive Summary and the discussion related to Elevated Risk Areas:

> *Extreme temperatures and prolonged severe weather conditions are increasingly impacting the BPS [Bulk Power System]. Extreme heat and subfreezing temperatures can impact the BPS by increasing electricity demand and threatening electricity supplies by forcing vulnerable generation offline and simultaneously disrupting the flow of the natural gas fuel supply to generators. While a given area may have sufficient capacity to meet resource adequacy requirements, it may not have sufficient availability and energy from resources during extreme and prolonged weather events and abnormal atmospheric conditions (i.e., smoke, smog, and wind extremes that affect output from solar and wind resources). Therefore, long-duration extreme weather events increase the risk of electricity supply shortfalls. See Elevated Risk Area Details for additional information.*
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> *As forecasted peak electricity demand rises across the BPS, many areas are also experiencing increasing complexity in load models that adds to operating risk. Extreme heat and cold temperatures and irregular weather patterns can cause demand for electricity to deviate significantly from historical forecasts. Electrification of the heating sector is increasing temperature-sensitive load components while increasing levels of variable-output solar photovoltaic (PV) distributed energy resources (DER) add to the load forecast uncertainty. Underestimating electricity demand prior to the arrival of extreme temperatures can lead to ineffective operations planning and insufficient resources being scheduled. Generator performance and fuel issues are more likely to occur when generators are called upon with short notice; this can expose Balancing Authorities (BA) to potential resource shortfalls. Electrification and DER trends can be expected to further contribute to demand growth and sensitivity to weather patterns.*

[3] https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2023.pdf

While the proposed changes to the CER will improve the availability of natural gas capacity, ideally dispatchable capacity should come from lower emission dispatchable resources such as hydropower. As we have previously noted, the expansion of existing hydro 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, various departments within the Government of Canada are constraining the development of lower emission dispatchable resources which will be essential to displacing natural gas fired generation. We reiterate our concern with the lack of progress on the reform for environmental assessment and permitting, difficulties with the Fisheries Act, and the myriad of conditions with the proposed Investment Tax Credits.

All these constraints continue to delay opportunities to use proven low-risk technology that would reduce the requirement for gas-fired generation.

Given the uncertainty of applying carbon capture, utilisation, and storage (CCUS) to power generation, we reiterate the importance of reducing barriers to expanding Canada's hydroelectric capacity to help achieve Canada's net zero aspirations.

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 we 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