June 7, 2024

VIA ELECTRONIC SUBMISSION TO THE ENVIRONMENTAL REGISTRY OF ONTARIO

Ministry of Energy and Electrification
77 Grenville Street, 7th floor
Toronto, Ontario
M7A 2C1

Re: **ERO Number 019-8666: 429/04 Amendments Related to the Treatment of Corporate Power Purchase Agreements**

To Whom It May Concern,

Northland Power Inc. ("Northland Power") is pleased to have the opportunity to comment on the Ministry of Energy and Electrification's (the "Ministry") proposal to amend Ontario Regulation 429/04 relating to the treatment of Corporate Power Purchase Agreements (CPPAs).

As electricity consumers around the world look to decarbonize their energy supply, CPPAs have become an important tool for procuring new clean electricity, particularly from wind and solar resources. In 2022, there were over 36 GW of CPPAs executed worldwide, a figure expected to rise significantly in coming years.[1] In Canada, Alberta has positioned itself as an industry leader, making the necessary regulatory and market changes to facilitate the execution of over 3 GW of CPPAs to date.[2] This proliferation of CPPAs has served to advance decarbonization goals, shift risk from ratepayers to individual large buyers, and spur economic growth through direct job creation in the sector, as well as by attracting new large loads. Alberta alone is estimated to have added 5,000 jobs as a result of CPPA activity.[3]

CPPAs represent a massive opportunity for Ontario, but the above benefits will only be realised to the extent the CPPA framework results in the procurement of new clean electricity resources. A CPPA framework that does not allow for, or does not incent, the growth of new clean resources will fail to meet the needs of large loads, many of whom have decarbonization goals that require **"additionality"** (i.e. the CPPAs they execute must result in net new build). As proposed, the Ministry's regulation will not help achieve this goal, primarily due to the ineligibility of hybrid resources.

To date, the Global Adjustment (GA) has accounted for over half of the cost of consuming electricity in Ontario and served as the biggest impediment to CPPAs. Under current regulations, entering into a CPPA does not help loads manage their GA costs, and therefore there is little incentive to do so. To lower this barrier to CPPAs, the Ministry has proposed amendments that would, "allow qualifying Industrial Conservation Initiative (ICI) participants to reduce their peak demand factors by offsetting their demand in the five highest demand

[1] According to BloombergNEF.
[2] According to According to Business Renewables Centre Canada.
[3] *Ibid.*

hours of a base period with certain eligible renewable generation contracted under a PPA." As identified by the Ministry, the CPPA framework must provide eligible loads with the ability to manage their GA costs in order to be viable.

Currently, an eligible load may manage its GA costs by reducing its consumption during the five highest demand hours of the year. Often, these high five hours are difficult to predict and thus necessitate reducing consumption during far greater than five hours on five days a year. These business interruptions are costly to both the underlying business of the load and the broader economy. Alternatively, an eligible load may install behind-the-meter (BTM) generation to offset its consumption during high five hours. These relatively smaller BTM solutions are typically more expensive relative to scalable transmission-connected generation, and often include polluting diesel generators. Furthermore, loads often lack the expertise or space to own and operate BTM generation. Theoretically, the Ministry's proposed amendments open up a viable third option for loads to manage GA costs.

However, managing GA cost via BTM or offsite generation requires the generation resource be controllable, ready to produce electricity during the high five hours. On their own, wind and solar lack this feature, such that any generation from those resources during high five hours is purely coincidental.[4] As such, the seller in a CPPA transaction can make no guarantees to the buyer that the generation will be available to offset consumption during those critical high five hours.[5] As a result, the buyer's GA cost avoidance is highly uncertain for the term of the contract. Consequently, buyers cannot offer sellers a fixed revenue stream tied to avoided GA costs that is locked-in at the time of contract execution. Revenue streams that are locked-in at the time of contract execution are crucial when seeking financing to build new clean resources. In order for sellers to credibly promise GA avoidance benefits such that buyers can compensate them for that value in a predictable and financeable way, the generation resource must be controllable.

Wind and solar generation are effectively rendered controllable when paired with storage; This configuration is known as a hybrid resource. Hybrid resources are controllable insofar as the storage charges from the variable resource in advance of potential high five hours, discharging that electricity to the grid when they occur. As outlined above, controllability is fundamental to unlocking the value of a CPPA, and thus the **CPPA framework must allow for participation of hybrid resources**. The Ministry has acknowledged that it has received significant interest in including hybrid resources as an eligible technology, but notes that the complexity to implement the regulation for additional technologies is a barrier. Northland Power believes any implementation complexity will be easily justified by the benefits new hybrid resources would bring to the grid and the broader economy, including as a means for shifting build costs from Ontario ratepayers to large loads. Integrating hybrids into future iterations of the regulation should be a top priority.

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[4] Looking back at historical renewable production during high five hours, the fleet-wide output from wind resources during a high five hour has been as low as 4% of installed capacity, and 16% for solar. In future, as the load profile flattens and high five hours begin to shift around, coincident renewable production (especially from solar) may be even lower.

[5] When not operating to meet high five obligations, the storage component can provide additional operational flexibility to the grid.

The combustion of biofuels, including Renewable Natural Gas (RNG), also provide controllability, and thus potential value to CPPA buyers looking to manage GA costs. Northland Power supports the Ministry's proposal to **include biofuels as an eligible resource** under the CPPA framework. To facilitate the adoption of biofuels and RNG in particular, the CPPA framework should allow for 'book and claim' arrangements. Under such arrangements, the CPPA seller consumes natural gas on site for the purposes of meeting its CPPA generation obligations; However, it also buys the environmental attributes from a third party that is producing and injecting RNG into the gas grid at another location in Ontario.[6] With the natural gas consumption offset by the RNG injection, the resulting generation under the CPPA can be considered clean. Such book and claim arrangements are currently utilized in many jurisdictions, including British Columbia, Quebec, and California.

The cost to build new transmission-connected clean energy projects is lowest when built at scale, a scale not often matched by any single load customer. In order for a CPPA to be a viable economic alternative to grid power, **a single seller must be permitted to contract with multiple buyers**, allowing for larger projects to benefit from economies of scale.

Northland Power views section 2(d), which requires an eligible CPPA agreement to transact a minimum of one mega-watt hour during each hour of the agreement period, as an overly restrictive requirement. For intermittent resources like wind and solar, limited fuel availability precludes production during all hours of the day, everyday. For a program that looks to provide loads with an opportunity to defray some GA costs, as calculated during the five highest demand hours of the 12-month ICI period, it's unclear why the regulation would require energy be transacted in every hour, especially considering load may not be consuming in a meaningful way in every hour.

In summary, Northland views the following items as critical to the success of a CPPA framework:

- Allows and incents the growth of new clean resources (i.e. the framework leads to additionality),
- Allows for the participation of hybrid resources,
- Allows a single seller to contract with multiple buyers, and
- Includes biofuels (such as RNG) as an eligible resource and facilitates 'book and claim' arrangements.
- Does not require energy be transacted in every hour.

Northland Power appreciates the opportunity to comment on the Ministry's proposal to amend Ontario Regulation 429/04 relating to the treatment of CPPAs.

[6] The seller would also be responsible for securing notional gas transportation between the RNG injection site and its generator where it consumes natural gas.

Regards,

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About Northland Power Inc.

Established in 1987 as one of Canada's first independent power producers – and headquarter in Toronto, Ontario – Northland Power is dedicated to developing, building, owning, and operating clean and green global power infrastructure assets in North America, Asia, Europe, and Latin America.

Northland Power has over 35 years of experience developing, owning, and operating generation assets in Ontario, including clean-burning natural gas, storage, and renewable resources such as wind and solar.