



Barbara Ellard
Director of Markets
Independent Electricity System Operator (IESO)
1600-120 Adelaide Street West
Toronto, Ontario
M5H 1T1

Monday, January 30, 2017

RE: IESO Market Renewal Initiative Submission Regarding the Market Renewal Initiative Preliminary Benefits Case Findings

Dear Ms Ellard,

On behalf of **EDF Energies Nouvelles Canada Development Inc. ("EDF EN")** I am pleased to offer the following comments into the consultation on the Ontario electricity market redesign known as the **Market Renewal Initiative ("MRI")**.

For reference, EDF EN is a developer, owner, and operator of utility scale renewable energy facilities with an installed base of over 1.3 GW of wind and solar assets across Canada, and 306MW under active construction. This portfolio represents over \$3.5 billion invested in Canada since 2008. Outside of Canada, EDF EN is an active participant in all capacity markets across North America, including, to highlight a few, The PJM Interconnection, CAISO, MISO, SPP, ISO-NE and Mexico.

In Ontario EDF EN developed, constructed and operates 72MW of solar under the Renewable Energy Standard Offer Program ("RESOP"), and we are actively preparing another 82MW of wind and solar, contracted under the Independent Electricity System Operator's ("IESO") Large Renewable Procurement ("LRP") for construction. As a committed investor in the province, EDF EN is interested in the process and outcome of the MRI consultations to enabling a market design that continues to facilitate a clean, reliable and, most importantly, affordable electricity system.

EDF EN's comments to the IESO regarding the Preliminary Benefits Case and the MRI consultation/process are captured in the following 5 points.

#1 – EDF EN is generally supportive of the MRI

In the early days of the MRI consultation, the IESO signaled that the current market design may not be optimal to meet future challenges, for the following reasons:

- Uncertainty over future needs;
- Significant advances in technology have opened the door to potential new resource providers; and,
- There are underutilized assets within Ontario, both on the demand and supply sides.

An optimal market design will ensure all resources have the opportunity to compete to meet Ontario's power system needs as they emerge while minimizing operational risks and maximizing opportunities.

The MRI is therefore intended to target the larger structural inefficiencies related to the energy market's two-schedule system, day-ahead commitment and real-time commitment processes and to introduce a capacity auction (i.e., capacity market) at the appropriate time.

As an active participant in many other electricity markets, EDF EN recognizes that there can be benefits to improving market design in order to facilitate more efficient dispatch of resources.

However, EDF EN acknowledges that changes being considered under the MRI will impact all generators in Ontario, and new procurement mechanisms will decrease future revenue certainty.

#2 – More consultation

EDF EN acknowledges that the IESO has recently begun a series of educational sessions regarding fundamentals of electricity market design and specific elements being considered under the MRI. However, in order to fully understand all of the proposed changes, along with the impacts on generation contracts, both the Market Renewal Working Group (MRWG) and the wider stakeholder community will require more time to consult with the IESO via in-person public meetings and potentially via 1:1 meetings.

#3 –MRI must integrate into its design current Ontario government policy (i.e. GHG emissions reduction) or Ontario's unique hybrid market structure (i.e., contracts)

Ontario has introduced a Climate Change Action Plan (CCAP) that takes a detailed look across all sectors on Ontario's emissions profile and outlines specific measures that will be required to reduce emissions by 15% from 1990 emissions levels in 2020; 37% in 2030; and, 80 per cent in 2050. These incremental targets are aggressive. Moreover, a capacity market responsible for new supply favours thermal generation.

Based on preliminary feedback received under the MRI, the IESO has only recently added a fourth

Work Stream, the Contracts Work Stream, to take into consideration issues related to IESO generation contracts and their interactions with the electricity market. Since generation supply in Ontario is primarily contracted by the IESO, this new work stream will have a significant impact on the overall cost-benefit analysis of the MRI.

#4 – Contracting for renewables is still the best way to procure renewable resources and protect ratepayer interests

In addition to lowering GHGs, the Ontario government has set cost containment and affordability as its top priorities. Renewable energy (i.e. wind, solar, run of river hydro) is capital intensive, but has the advantage of a zero fuel cost over the life of the project and predictable pricing provided there is a long term market for the energy produced. Cost of this energy will be most affordable when a market can be secured and guaranteed. Long term Power Purchase Agreements (PPA) for a term of 20-40 years is the best mechanism to acquire this electricity. With the continued declining capital costs, increasing useful operational life (capital costs can be amortized over a longer period) and increasing efficiencies for most renewable energy generating technologies, including wind and solar, significant downward pressure on energy costs are making renewables more affordable for the ratepayer.

We have heard clearly from the Ministry of Energy and IESO that Ontario's electricity sector must balance competing objectives of reliability, low emissions and cost-effectiveness. Moreover, in recent public speeches the Minister of Energy has indicated the governments' intent to move to 'technology agnostic' procurements and to utilize a capacity market in the future in order to bring on new supply 'when-and-where-the-need-arises'.

EDF EN understands that, under certain conditions, a capacity market is able to address the reliability objective and the cost-effectiveness objective, but it is unclear how a 'technology agnostic design' is possible when the government must meet the objectives of the Climate Change Action Plan. Therefore, EDF EN recommends that the capacity market should incorporate specific design elements to enable the success of all resource types.

Based on our experience in other jurisdictions, as well as in the IESO's Capacity Market/Auction consultations over the last few years, careful design and creativity in the implementation of a capacity market in Ontario is required to prevent an increase in the amount of gas-fired generation in the supply mix and enable a role for renewable energy in the system. Without this balance the result is the total GHG emissions in the electricity sector will increase. As the IESO moves forward with the MRI, it must ensure that there are a range of flexible mechanisms embedded in the process so that it is able to capture all of the goals set out in policy and the power system planning objectives of the province – namely cost-effective, non-emitting supply.

In Alberta, the government is taking a page out of Ontario's supply mix transition and phasing out coal by 2030. The capacity of coal will be replaced by natural gas and renewables. At the same time, the Alberta government is also in the early stages of designing a capacity market. Nevertheless, the AESO acknowledges that the long-term PPA mechanism is the most beneficial mechanism for procuring renewable energy, and designed its Renewable Energy Procurement ("REP") program on that foundation in order to meet its cost-effective, low-emission generation goals. Through competitive procurement and long-term contracts the province expects to procure renewable power at some of the lowest costs in the country.

In addition to Alberta, EDF EN has been very active in Mexico. Mexico's newly designed capacity market should be added to the list of jurisdictions to be reviewed by IESO/Brattle Group. In short, Mexico's market offers both short-term and long-term capacity contracts, and non-performance penalties are based on aggregate performance during the 100 hours of the lowest reserve margin over the prior year, and not on an hour-to-hour basis. These market design features are unique and allowed for competition to bring on renewable resources. EDF EN would be happy to discuss our activity and interest in this market and all other markets we are active in across North America to help inform and design a Made in Ontario market.

Summary

EDF EN has been a leader in Canada for the last decade in the renewable energy development community. Our dedicated development team will continue to challenge our business models and seek out dynamic new structures with which to finance and build sustainable energy products that are affordable to the Ontario rate base. Capital costs will continue to decline in wind, solar and storage, and EDF EN Canada, if provided with the opportunity, will help Ontario continue to meet its GHG targets and maintain a safe, reliable and affordable electricity system for many years to come.

We look forward to continue to invest our knowledge, skill and expertise to support Ontario in evolving the electricity market.

Thank you for inviting submissions at this stage of the MRI consultations.

EDF EN is available to meet and discuss our submission at any time.