

January 7<sup>th</sup>, 2022



Ms. Christine E. Long  
Registrar  
Ontario Energy Board  
2300 Yonge St., Suite 2700  
Toronto, ON M4P 1E4

**Re: Reliability and Power Quality Review (“RPQR”) (EB-2021-0307)**

I am writing on behalf NRStor Inc. (**NRStor**), a Toronto-based leader in energy storage, to support the OEB’s Reliability and Power Quality Review (**RPQR**).

NRStor develops cost-effective, high-quality energy storage projects that deliver cost savings and reduce environmental impact. We are at the forefront of energy innovation across Canada, working with progressive utilities and stakeholders to enable grid-modernization. Our electricity system is undergoing a significant transformation and we believe distributed energy resources (**DERs**), such as batteries, solar, and electric vehicles can deliver customers with lower-cost, more sustainable and more reliable energy alternatives.

We look forward to contributing to this process including addressing the important questions/issues outlined for stakeholders’ consideration related to the following themes: Utility Accountability; Monitor Utility Performance; Customer Specific Reliability; Utility Planning.

We believe it is important for the OEB’s RPQR to also consider precedent-setting reliability pilots as well as key commercial and regulatory barriers that face DERs in Ontario. NRStor wishes to highlight the following active non-wires alternatives (**NWA**) projects as examples that feature both customer-sited or “behind the meter” (**BTM**) and “front of the meter” (**FTM**) distribution connected DERs – deployed for reliability improvement purposes. We believe the real-world learnings and data from these pilots can benefit the RPQR process:

1. Together with Enbridge, Toronto Hydro, Tesla and MPOWER Energy Solutions, NRStor launched the **Local Distributed Energy Resources Integration and BTM Battery Rental Program Pilot**, which is supported by the IESO’s Grid Innovation Fund. This pilot demonstrated a rental model for deploying BTM energy storage (using Tesla Powerwalls) in an electrically constrained urban neighbourhood in downtown Toronto. The pilot explored how this model can make energy storage affordable for homeowners while providing valuable services to the local and provincial bulk electricity system – enabling lower-cost, more reliable and more sustainable energy for ratepayers. This project has yielded various commercial and regulatory learnings, with a major emphasis on utility and customer reliability. Together with University of Waterloo, NRStor concluded that a 5kW/13.5kWh home battery can significantly reduce the outage duration and frequency found in rural customers. Average duration of outage reduces by 71.2% for outlying customers (customers with 50+ hours of outage): (i) In rural areas with regular load the improvement is 81%; (ii) For each 10% of market penetration, system reliability improves

10%; (iii) 100% of the outage impact is covered if the customers reduce their load to 0.5 kWh. NRStor is actively developing larger-scale residential DER projects that feature reliability elements including both utility-ownership and joint-ownership models.

2. NRStor recently launched the **10MWh Clear Creek Non-Wires Alternative FTM Battery Project**, one of the first fully-merchant grid-scale energy storage facilities in Canada, which is supported by the IESO's Grid Innovation Fund. The project is located on a rural feeder that experiences power quality, reliability and congestion challenges. This pilot will address fundamental issues facing energy storage market participation including co-ownership and optimal capitalization for energy storage resources (between regulated, unregulated and private sector partners), technology and interconnection barriers, and operational learnings related to dispatch strategies and value stacking (ie. a joint-use asset that can deliver much-needed reliability improvements as well as participation in Ontario's wholesale market).

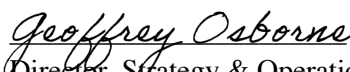
NRStor welcomes the opportunity to provide more information on these pilot projects for the purposes of this review. Furthermore, we believe it is important that the OEB take advantage of submissions from other related stakeholder engagements that include NWA and reliability elements including but not limited to:

- OEB: Framework for Energy Innovation (FEI) working group and DER Connections Review
- IESO: Storage Design Project (SDP), various white paper consultations and working groups
- Energy Storage Canada: Relevant energy storage industry stakeholder submissions

Other broad themes that NRStor believes are important for the OEB to potentially consider through the RPQR process include the impacts of the following on reliability:

- Joint-Ownership Models: Ownership models that continue to enable regulated utility ratebasing (eg. 2020 OEB Staff Bulletin RE: Ownership and operation of behind-the-meter energy storage assets for remediating reliability of service) as well as 3<sup>rd</sup>-Party co-ownership models
- Value-Stacking Models: Joint-use assets that provide reliability improvements as well as wholesale market participation
- Outage Information Sharing: Enabling increased access to information for non-utility market participants related to SAIDI scores and power quality
- Emissions Impacts: Considering a more comprehensive approach to studying emissions reduction potential when comparing NWA and reliability-based projects to traditional alternatives

NRStor sees an exciting opportunity for the growth and proliferation of DERs to improve customer reliability across Ontario – and Canada. We look forward to participating in the OEB's RPQR process.

  
Director, Strategy & Operations  
NRStor Inc.