

Memorandum

To: Technical Panel

From: Darren Byers

Date: October 13, 2020

Re: MR-00446-R00-R05: Implementation of the Interim Storage Design

At the September 15 Technical Panel meeting, Technical Panel voted unanimously to post the proposed market rule amendments for stakeholder review and comments. The amendments were posted on the Proposed Market Rule Amendments [webpage](#) for two weeks. The IESO has made changes in response to stakeholder feedback, which are reviewed below.

Changes from September 15 version

Vlad Urukov noted a number of points in his review that also required adjustments to the proposals. Specific points are as follows;

- **The defined term called *capacity export***; The suggestion was that there might be a need to create a defined term related to injection capacity. To minimize the number of defined terms, we have instead reworded to say the "capacity for injection of an *electricity storage unit*". Some reference to injections is required to delineate from the withdraw side of an electricity storage unit, which is not pertinent for capacity exports.
- **Aggregated electricity storage unit size**; this term was italicized within the defined term *major electricity storage facility*. As aggregated electricity storage unit size is not a defined term, the defined term *major electricity storage facility* was reworded to alleviate the need for such a term. IESO staff noted this same point in the following defined terms; *small electricity storage facility*, *significant electricity storage facility* and *minor electricity storage facility*. A similar edit has been made to all of these instances. This term was also identified by Mr. Urukov in Appendix 2, section 1.1.12 .1 and by IESO staff in section 1.1.13.1, both of which were also reworded to correct.
- **Testing of Operating Reserve**; In Chapter 5, Mr. Urukov noted that the section 4.9.2.1 was inconsistent with the new section 4.5.13B that permits storage resources to provide operating reserve from the curtailment of its withdraws of energy. It was inconsistent in that section 4.9.2.1, that relates to the testing of operating reserve, only permitted testing by the ramping-up of a facility. This was corrected to indicate that operating reserve can also be tested by reducing demand.
- **Storage and the provision of frequency regulation services**; In section 21 of Chapter 7, the section dedicated to the Interim design, Mr. Urukov noted that to provide frequency regulation a storage resource must be registered as a self-scheduler. However, the definition of a self-scheduler indicates that such a resource can operate independently

from dispatch instructions. To correct this inconsistency, an exception has been added to the definition of a *self-scheduling electricity storage facility* to indicate that when providing regulation services, a *self-scheduling electricity storage facility* shall follow dispatch instructions.

Ron Collins communicated typographical errors that he had noted in his review. Specifically, these were located in the defined term constrained-off dispatchable load, chapter 5, section 6.2.4 contained in proposal R02, and chapter 9, section 2.1A.13A.1 contained in proposal R03.

In the September 15 meeting, Sarah Griffiths commented on section 4 in chapter 5 which outlines the objectives of system reliability. In her review of this section, the addition of electricity storage drew attention to the absence of demand side resources. IESO staff have considered this feedback and have removed references to the specific technology types which serves the purpose of outlining the objectives of the section while also pertaining to the various technologies that can provide these services.

IESO staff identified a slightly redundant reference in the defined term electricity storage unit. The previous version defined an electricity storage unit as "the equipment used for the sole purpose of withdrawing electricity from the electricity system, storing that electricity, and re-injecting it, or a portion thereof, **as electricity** into the electricity system". On further review, it was determined that the term "**as electricity**" was not needed and could be removed.

As indicated in the September 15 Technical Panel meeting, when developing these proposals, care was taken by IESO staff to be both consistent in the treatment of storage with respect to other resources, and to refrain from making edits that might impact other market participant types. Many of the new sections created for electricity storage intentionally contain language that parallels that used for other resource types, such as generation or load. Where there were suggestions to revise this language, the IESO's preference has been to retain consistency with the original section. Further, where there was merit in adjusting the wording that relates to another resource type, these will be considered in a future omnibus.

Background

The IESO is proposing to amend the market rules to integrate electricity storage resources for an interim period, until tool changes can be made to more fully integrate storage in the IESO-administered markets (i.e. the long-term period).

These amendments required two types of changes; the first is rule amendments that will likely remain pertinent over the longer term period, such as new defined terms. These changes are proposed throughout the rules, integrated with existing rules for other resource types. Second, a self-contained section of chapter 7 is proposed containing the changes needed to implement the interim measures until a longer term solution is provided. This section 21 can be found in a dedicated proposal R04. The inclusion of a self-contained section is intended to be removed or significantly revised at some future point when an enduring solution is proposed.

These proposals are segmented into themes, beginning with the defined terms (R00). Participation and Connection requirements are found in Proposal R01 and Power System Reliability in Proposal R02. The changes to Chapter 7 outside of the new section 21 are found in

Proposal R03 along with changes to Chapter 9. Finally, Proposal R05 includes Miscellaneous changes needed across a number of chapters.

Recommendation

The IESO recommends that the Technical Panel vote to recommend the proposed market rule amendments MR-00446-R00-R05 to the IESO Board for consideration at its December 9, 2020 meeting.

The IESO is proposing that this market rule amendment have an effective date of January 18, 2021.

Accompanying Materials

- Market Rule Amendment Proposals:
 - MR-00446-R00: Definitions
 - MR-00446-R01: Participation and Connection requirements
 - MR-00446-R02: Power System Reliability
 - MR-00446-R03: System Operations, Physical Markets and Settlements
 - MR-00446-R04: Interim Design
 - MR-00446-R05: Miscellaneous

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