

PART 3 – EXPLANATION FOR PROPOSED AMENDMENT

Provide a brief description of the following:

- The reason for the proposed amendment and the impact on the *IESO-administered markets* if the amendment is not made.
 - Alternative solutions considered.
 - The proposed amendment, how the amendment addresses the above reason and impact of the proposed amendment on the *IESO-administered markets*.
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Summary

The market rule changes contained in this proposal are intended to capture a variety of miscellaneous changes needed to support the integration of electricity storage resources into the IESO's markets. The changes in Chapter 3 are intended to extend to storage the dispute resolution rights that apply to disputes related to compensation for outages rejected by the IESO. In other disputes, the dispute resolution regime that is common to all market participants pertains, and as it is structured at the market participant level, no changes are required. The changes in Chapter 6 sets out the basis upon which the IESO will estimate metering data when there is an outage of metering installation equipment. Similar changes are made in Appendix 6.2- Alternative Metering Installation standards, where a methodology for producing estimates is provided along with certain requirements for electricity storage participants choosing alternative metering arrangements. Appendix 6.3- outlines the inspecting and testing requirements and broadens the language of section 1.5 so that it applies to electricity storage facilities. The changes in Chapter 8 expands references to include electricity storage participants so that they may participate in bi-lateral contracts. Similarly, the changes in Chapter 10 expands the references to that electricity storage facilities are included in the resources that are subject to dispatch by the IESO.

Background

The IESO proposes to amend the market rules to address a specific set of barriers to the integration of energy storage resources in the IESO's markets. These barriers within the IESO's purview were identified in the December 2018 IESO [report](#), "Removing Obstacles for Storage Resources in Ontario". Addressing these barriers required changes to both Market Rules and Market Manuals, consistent with one of the report's recommendations that the IESO "should review and amend its market rules, where possible, to clarify the participation of storage resources in IESO-administered markets".

The IESO developed a design to integrate electricity storage resources for an interim and longer term period of time. An interim period was needed to facilitate the near term participation of electricity storage resources until the IESO's scheduling and optimization tool can recognize the unique characteristics of energy storage resources: they participate both as a load and a supply and are limited in each by its state of charge. The suite of changes in MR-00446 are designed to both clarify the participation of storage resources in the interim period and include rules that may not need to change to support the long term design.

Both the interim design for integrating electricity storage resources along with draft market rules were reviewed with stakeholders through the [Energy Storage Advisory Group](#). Feedback has been largely supportive of the proposed amendments. Stakeholders had requested clarifications in a few sections and revisions have been made to reflect this feedback.

Discussion

Chapter 3

- Add electricity storage participant to ~~the following~~ sections 2.2, 2.5, 2.6;

- ~~2.2~~

- ~~2.5~~

- ~~2.6~~

Chapter 6;

- Add a new section 11.1.4A.3 to outline how estimates of meter data would be made for electricity storage in periods where this data is not available. Section is a combination of sections 11.1.4A.1 for generation and 11.1.4A.2 for loads.

Appendix 6.2- Alternative Metering Installation standards;

- In both sections 1.1A.1.5 and 1.5.1.5, add self-scheduling electricity storage facilities below a specified size threshold to a list of non-dispatchable resources who need to have meters capable of collating data into 5 or 15 minute intervals.
- Add electricity storage facility to Section 1.11.1.1.
- Add a new section 1.14.2.3 to outline how estimates of meter data would be made for electricity storage in periods where this data is not available. Section is a combination of sections 1.14.2.1 for generation and 1.14.2. for loads.

Appendix 6.3- Inspection and Testing Requirements;

- Reference load rather than the defined term “load facility” so that the clause will pertain to electricity storage while it is withdrawing energy.

Chapter 8;

- Add *self-scheduling electricity storage facility* and *electricity storage facility* to 2.1.2.2a

Chapter 10;

- Add electricity storage facilities to the list of market participants in 2.3.2.1.

PART 4 – PROPOSED AMENDMENT

Chapter 3

2.2 Application

2.2.1 Subject to sections 2.2.3 and 3.8 and to section 8.8.1 of Chapter 2, the dispute resolution regime provided for in this section 2 shall apply to:

2.2.1.3 an application by a *generator* or *electricity storage participant* for compensation pursuant to section 6.7.5 of Chapter 5 in respect of an *outage* rejected by the *IESO*;

2.5 Notice of Dispute, Negotiation and Response

2.5.1A A *notice of dispute* shall be served:

2.5.1A.1 in the case of an application referred to in section 2.2.1.3, within 20 *business days* of the date of receipt of notice by the *generator* or *electricity storage participant* of rejection by the *IESO* of the *outage* in respect of which compensation is claimed pursuant to section 6.7.5 of Chapter 5;

2.6 Mediation

2.6.1 Subject to sections 2.6.1A and 2.6.1B, no party to a dispute may proceed to arbitration of the dispute until such time as the mediation process described in this section 2.6 has been terminated in accordance with section 2.6.14.

2.6.1A Absent agreement of the parties, section 2.6.1 shall not apply to:

2.6.1A.1 an application by a *generator* or *electricity storage participant* for compensation pursuant to section 6.7.5 of Chapter 5 in respect of an *outage* rejected by the *IESO*;

Chapter 6

11. Performance of Metering Installation

11.1.4A For the purposes of sections 11.1.4.3 and 11.1.4B.2, estimation of *metering data* shall be based on the following:

11.1.4A.1 in the case of a *metering installation* for a *generation facility*, production shall be estimated at zero; ~~or~~

11.1.4A.2 in the case of a *metering installation* for a load, withdrawal for each hour shall be estimated at 1.80 times the self-cooled rating of the power transformer or, if none exists, the highest hourly level of withdrawal of *energy* recorded for that load during the twelve-month period preceding the date of the notice referred to in section 11.1.2 or 11.1.3.1, as the case may be; ~~or-~~

11.1.4A.3 in the case of a *metering installation* for an *electricity storage facility*, the injections shall be estimated at zero and the withdraws for each hour shall be estimated at 1.80 times the self-cooled rating of the power transformer or, if none exists, the highest hourly level of withdrawal of *energy* recorded for that load during the twelve-month period preceding the date of the notice referred to in section 11.1.2 or 11.1.3.1 as the case may be.

Appendix 6.2 – Alternative Metering Installation Standards

1.1A Metering Installation Not Comprised of Two Meters

1.1A.1 Each *metering installation* for which registration is being sought under Chapter 6, section 4.4.2 that does not comply with the dual *meter* requirement referred to in section 4.1.1.2 of Chapter 6 shall meet the following conditions:

1.1A.1.5 the *metering installation* shall, if used in respect of a *non-dispatchable load facility*, a *self-scheduling generation facility* with a name-plate rating of less than 10 MW, a *self-scheduling electricity storage facility* with an *electricity storage facility size* of less than 10 MW, a

transitional scheduling generator or an *intermittent generator*, be capable of collating *metering data* into 5 or 15 minute intervals; and

1.5 Functional Requirements

1.5.1 Each *metering installation* for which registration is being sought under Chapter 6, section 4.4.2 that does not comply with the functional requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

1.5.1.5 the *metering installation* shall, if used in respect of a *non-dispatchable load facility*, a *self-scheduling generation facility* with a name-plate rating of less than 10 MW, [a self-scheduling electricity storage facility with an electricity storage facility size of less than 10 MW](#), a *transitional scheduling generator* or an *intermittent generator*, be capable of collating *metering data* into 5 or 15 minute intervals; and

1.11 Instrument Transformers – Primary Connection Point

1.11.1 Each *metering installation* for which registration is being sought under Chapter 6, section 4.4.2 that does not comply with the primary connection point proximity requirements for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

1.11.1.1 in the case of a *metering installation* relating to a *load facility*, [or an electricity storage facility](#):

1.14 Estimation Pending Rectification

1.14.2 For the purposes of section 1.14.1, estimation of *metering data* shall be based on the following:

1.14.2.1 in the case of a *metering installation* for a *generation facility*, production shall be estimated at zero; ~~or~~

1.14.2.2 in the case of a *metering installation* for a load, withdrawal for each hour shall be estimated at 1.80 times the self-cooled rating of the power transformer or, if none exists, the highest hourly level of withdrawal of *energy* recorded for that load during the twelve-month period preceding the applicable date referred to in section 1.14.1.2 or 1.14.1.3; [or](#)

[1.14.2.3 in the case of a metering installation for an electricity storage unit, the injections shall be estimated at zero and the withdraws for each hour](#)

shall be estimated at 1.80 times the self-cooled rating of the power transformer or, if none exists, the highest hourly level of withdrawal of energy recorded for that load during the twelve-month period preceding the applicable date referred to in section 1.14.1.2 or 1.14.1.3

Appendix 6.3 – Inspecting and Testing Requirements

1.5 Frequency of Routine Testing

1.5.2 Each *metering service provider* shall conduct the routine tests referred to in sections 1.2 to 1.3 of this Appendix in respect of each *metering installation* for which it acts as a *metering service provider*, that is not a *main/alternate metering installation* and that is associated with a *load facility* that has an average annual maximum monthly load of 10 MW or more as follows:

- 1.5.2.1 once every 3 months following the date of registration of the *metering installation*, in the case of the procedure referred to in section 1.2.1; and
- 1.5.2.2 once every six months following the date of registration of the *metering installation*, in the case of each of the procedures referred to in sections 1.3.1.

Chapter 8

2. Physical Bilateral Contract Data and Quantities

2.1 Overview

2.1.2 Any *selling market participant* selling under a *physical bilateral contract* to a *buying market participant* may submit *physical bilateral contract data* to the *IESO* complying with the requirements of this section 2, and the *IESO* shall:

- 2.1.2.2 determine, in respect of each of the *selling market participant* and the *buying market participant*, the value of the *physical bilateral contract quantity* referred to in section 2.1.2.1 for each applicable *metering interval* or *settlement hour*, as the case may be, based:
- a. in the case of the *buying market participant*, on the *hourly Ontario energy price*, when the location specified pursuant to section 2.2.1 relates to a *non-dispatchable load*, a *self-scheduling generation facility*, [a self-scheduling electricity storage facility](#), *-a transitional scheduling generator* or an *intermittent generator*;
 - b. in the case of the *selling market participant*, on the *5-minute energy market price*, when the location specified pursuant to section 2.2.1 relates to a *non-dispatchable load*, a *self-scheduling generation facility*, [a self-scheduling electricity storage facility](#), a *transitional scheduling generator* or an *intermittent generator*;
 - c. in the case of each of the *buying market participant* and the *selling market participant*, on the *5-minute energy market price*, when the location specified pursuant to section 2.2.1 relates to a *generator electricity storage facility*, *-other than one referred to in section 2.1.2.2(a) or a dispatchable load facility*; or

Chapter 10

2.3 Arranging for Transmission Service and Dispatch

2.3.2 *Energy and ancillary service* transactions, including import and export transactions, using the *IESO-controlled grid* shall be subject to *dispatch* by the *IESO*:

- 2.3.2.1 in accordance with the procedures for dispatching *generation facilities*, [electricity storage facilities](#), *dispatchable loads* and *boundary entities*, based on the *offers*, *bids* and *self-schedules* submitted by *market participants* pursuant to Chapter 7 or in accordance with the terms of applicable *contracted ancillary services* contracts; and