

Market Rule Amendment Proposal Form

Part 1 - Market Rule Information

Identification No.:	MR-00481-R02
Subject:	Market Renewal Program - Final Alignment
Title:	Chapter 0.2 and Appendices – Participation
Nature of Proposal:	<input type="checkbox"/> Alteration <input type="checkbox"/> Deletion <input checked="" type="checkbox"/> Addition
Chapter:	0.2
Appendix:	Appendix 0.2.2 – Technical Requirements: Voice Communication, Monitoring and Control, Workstations and Re-Classification of Facilities; Appendix 0.2.3 – Prudential Support
Sections:	All
Sub-sections proposed for amending:	Various
Current Market Rules Baseline:	

Part 2 - Proposal History

Version	Reason for Issuing	Version Date
1.0	Draft for Stakeholder Review	June 7, 2024
2.0	Draft for Technical Panel Review	July 2, 2024
3.0	Publish for Stakeholder Review and Comment	July 17, 2024
4.0	Submitted for Technical Panel Vote	September 3, 2024

Version	Reason for Issuing	Version Date
5.0	Recommended by the Technical Panel; submitted for IESO Board review	September 10, 2024
6.0	Approved by the IESO Board	October 18, 2024

Approved Amendment Publication Date: October 18, 2024

Approved Amendment Effective Date: November 11, 2024

Part 3 - Explanation for Proposed Amendment

Provide a brief description that includes some or all of the following points:

- 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*.

Summary

The IESO proposes to amend the market rules to support the implementation of the Market Renewal Program (MRP), via the Final Alignment (FA) Batch.

The FA Batch consolidates all Technical Panel provisionally recommended/IESO Board provisionally approved market rule amendments, with three types of further modifications:

1. Updates or corrections to earlier batches resulting from the ongoing implementation and engagement processes;
2. Transitional market rules required to facilitate the mechanics of transitioning from the old market to the renewed market; and
3. Administrative “conforming change” – to reflect any updates or corrections, e.g. update to references and defined terms.

This proposal is based on input from various stakeholder engagement initiatives for the Market Renewal Program.

Further information on MRP can be found on the IESO’s [Market Renewal webpage](#).

Background

Previous drafts of MRP market rule amendments have been provisionally approved by the IESO Board. The Final Alignment batch consolidates these provisionally approved amendments, with amendments where required, into a single batch that will follow the formal process for market rule amendments, including a formal vote by Technical Panel to recommend the market rules for IESO Board consideration, and formal approval by the IESO Board.

Given the scope of changes being proposed by MRP, each market rule chapter is impacted. The Final Alignment batch is structured such that there is a proposal for each chapter, with separate proposals for appendices 7 and 9.

The implementation of MRP will require two parallel sets of market rules to exist concurrently; the legacy market rules and the renewed market rules. The renewed market rules, which these proposals will create, will be labelled with unique chapter numbers to delineate them from the legacy market rules. A new section A, and in some chapters a section B, details the transitional nature of the two sets of market rules. As the renewed market rules are new chapters, there are no changes tracked. For a tracked changes view compared against the current market rules baseline, please refer to the MRP [Final Alignment](#) page.

Discussion

The accompanying "[Summary of Changes - Final Alignment \(Readers Guide\)](#)" provides a summary of the market rule amendments to the market rules.

Part 4 - Proposed Amendment

Introduction

A.1 Chapter Scope and Operation

- A.1.1 This Chapter is part of the *renewed market rules*, which pertain to:
- A.1.1.1 the period prior to a *market transition* insofar as the provisions are relevant and applicable to the rights and obligations of the *IESO* and *market participants* relating to preparation for operation in the *IESO administered markets* following commencement of *market transition*; and
 - A.1.1.2 the period following commencement of *market transition* in respect of all the rights and obligations of the *IESO* and *market participants*.
- A.1.2 All references herein to chapters or provisions of the *market rules* will be interpreted as, and deemed to be references to chapters and provisions of the *renewed market rules*.
- A.1.3 Upon commencement of the *market transition*, the *legacy market rules* will be immediately revoked and only the *renewed market rules* will remain in force.
- A.1.4 For certainty, the revocation of the *legacy market rules* upon commencement of *market transition* does not:
- A.1.4.1 affect the previous operation of any *market rule* or *market manual* in effect prior to the *market transition*;
 - A.1.4.2 affect any right, privilege, obligation or liability that came into existence under the *market rules* or *market manuals* in effect prior to the *market transition*;
 - A.1.4.3 affect any breach, non-compliance, offense or violation committed under or relating to the *market rules* or *market manuals* in effect prior to the *market transition*, or any sanction or penalty incurred in connection with such breach, non-compliance, offense or violation; or
 - A.1.4.4 affect an investigation, proceeding or remedy in respect of:
 - (a) a right, privilege, obligation or liability described in subsection A.1.4.2; or
 - (b) a sanction or penalty described in subsection A.1.4.3.

- A.1.5. An investigation, proceeding or remedy pertaining to any matter described in subsection A.1.4.3 may be commenced, continued or enforced, and any sanction or penalty may be imposed, as if the *legacy market rules* had not been revoked.

B.1 Exceptions

- B.1.1 Notwithstanding section 5.5.1, for the purposes of facilitating the *market transition*, and for such time as may be required for the *IESO* to accumulate sufficient data to comply with section 5.5.1, the *IESO* may for the calculation of *actual exposure*, calculate a *market participant's actual exposure* for *physical transactions* using an average of the actual net *settlement amounts* for the three most recent *energy market billing periods*, in which that *market participant* has conducted *physical transactions* for *energy*.

1. Introduction

1.1 Introduction

1.1.1 This Chapter sets forth:

- 1.1.1.1 the procedures pursuant to which persons may apply to the *IESO* for authorization to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*;
- 1.1.1.2 the prudential, technical and other requirements which must be met by prospective *market participants* and by *market participants*;
- 1.1.1.3 the fees payable by prospective *market participants* and by *market participants*; and
- 1.1.1.4 the terms and conditions upon which a *market participant* may cease to be a *market participant*.

1.2 Participation

1.2.0 A person who has been issued a *licence* by the *OEB* pursuant to Part V of the *Ontario Energy Board Act, 1998*, is subject to all *market rules* relating to the activities authorized by such *licence* and all other applicable *market rules*.

1.2.1 No person shall participate in the *IESO-administered markets* or cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* unless that person has been authorized by the *IESO* to do so pursuant to this Chapter, provided however that this section 1.2.1 shall not apply to require any authorization in respect of physical loop flows inadvertently arising as a result of transactions between entities located outside the *IESO control area*.

1.2.2 No person shall be authorized by the *IESO* to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* unless the *IESO* is satisfied:

- 1.2.2.1 on the basis of the certification, tests, and inspections referred to in section 6.2, that the person satisfies the technical requirements referred to in that section applicable to all *market participants*;

- 1.2.2.2 that the person, if it applies to participate in the *IESO-administered markets*, will satisfy the applicable *prudential support* requirements and any other financial requirements set forth in the *market rules*;
- 1.2.2.3 that the person has executed a *participation agreement* and filed same with the *IESO*;
- 1.2.2.4 that the person holds a *licence* permitting the person to engage in one or more of the activities described in section 57 of the *Ontario Energy Board Act, 1998*, unless:
 - a. the person is exempt by regulation enacted pursuant to the *Ontario Energy Board Act, 1998* from the obligation to hold such a *licence*; or
 - b. the person is not engaging in an activity for which the person requires a *licence* pursuant to section 57 of the *Ontario Energy Board Act, 1998*; and
- 1.2.2.5 [Intentionally left blank – section deleted]
- 1.2.2.6 on the basis of the documentation referred to in section 3.1.2.2, that the person, if it applies for authorization as a *market participant* other than for authorization to participate solely as one or a combination of (i) a *virtual trader*, (ii) a *TR participant*; or (iii) a *capacity auction participant*:
 - a. is registered for the federal harmonized value-added tax system under Part IX of the *Excise Tax Act* (Canada); or
 - b. is resident in Canada and is, by virtue of *applicable law*, not liable to pay the federal harmonized value-added tax imposed under Part IX of the *Excise Tax Act* (Canada).
- 1.2.2.7 that the person has disclosed to the *IESO* all its *market control entities* pursuant to MR Ch.7 s.22.9.2.
- 1.2.3 A person who has been authorized by the *IESO* to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* may participate in the market or trading activities to which the authorization to participate relates.
- 1.2.4 A person who is authorized prior to a *market transition* by the *IESO* to conduct *physical transactions* under this section 1.2, shall be authorized to participate in the *real-time market* and the *day-ahead market*. For greater certainty, nothing in this provision shall be construed to permit a *market participant* to change its

facility or resource registration, except as otherwise permitted by the market rules.

2. Classes of Market Participants

2.1.1 A person may apply for authorization to participate as one or more of the following classes of *market participants* in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*:

- 2.1.1.1 *generators;*
- 2.1.1.2 *distributors;*
- 2.1.1.3 *wholesale sellers;*
- 2.1.1.4 *wholesale consumers;*
- 2.1.1.5 *retailers;*
- 2.1.1.6 *transmitters;*
- 2.1.1.7 *capacity market participants;*
- 2.1.1.8 *capacity auction participants;*
- 2.1.1.9 *electricity storage participants;*
- 2.1.1.10 *virtual traders;* and
- 2.1.1.11 *TR participants.*

3. Authorization

3.1 Application for Authorization

3.1.1 A person who wishes to be authorized by the *IESO* to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* must file a completed *application for authorization to participate* in accordance with the applicable *market manual*.

3.1.2 The *application for authorization to participate* shall be accompanied by:

- 3.1.2.1 the non-refundable application fee established from time to time by the *IESO* to defray the costs of processing the *application for authorization to participate*; and

- 3.1.2.2 unless the *application for authorization to participate* is submitted in respect of an applicant that is applying for authorization to participate in the *IESO-administered markets* solely as one or a combination of (i) a *virtual trader*; (ii) a *TR participant*; or (iii) a *capacity auction participant*, either:
- a. the federal harmonized value-added tax system registration number issued to the applicant by the Canada Customs and Revenue Agency; or
 - b. where the applicant is resident in Canada and is, by virtue of *applicable law*, not liable to pay the federal harmonized value-added tax under Part IX of the *Excise Tax Act* (Canada), such documentation as may be prescribed in the *Excise Tax Act* (Canada) or described in the policies of the Canada Customs and Revenue Agency to support the exemption from such liability to pay.
- 3.1.3 The *IESO* shall, within ten *business days* of receiving an *application for authorization to participate* or within such longer period of time as may be agreed between the *IESO* and the applicant, advise the applicant of any further information or clarification which is required in support of its application if, in the *IESO's* opinion, the *application for authorization to participate* is:
- 3.1.3.1 incomplete; or
 - 3.1.3.2 contains information with respect to which the *IESO* requires clarification.
- 3.1.4 If the further information or clarification which is requested by the *IESO* pursuant to section 3.1.3 is not provided to the *IESO's* satisfaction within fifteen *business days* of the request or within such longer period of time as may be agreed between the *IESO* and the applicant, the applicant will be deemed to have withdrawn the *application for authorization to participate*.
- 3.1.5 An applicant or *market participant* shall forthwith advise the *IESO* of any circumstances which result or are likely to result in a change in the information provided in the *application for authorization to participate* or in any updates thereto.
- 3.1.6 The *IESO* shall establish, maintain, update and *publish*:
- 3.1.6.1 a list of all *market participants* and a list of all *applications for authorization to participate* filed with the *IESO*;

- 3.1.6.2 a list of all *market participants* that will cease to be *market participants* and the time that each listed *market participant* will cease to be a *market participant*;
- 3.1.6.3 a list of all *market participants* that are the subject of a *suspension order* or a *termination order* and the time at which the rights of each listed *market participant* was suspended or terminated; and
- 3.1.6.4 a list of all *market participants* that are the subject of an order referred to in MR Ch.3 s.6.5.1, and the time at which such order became effective in respect of each listed *market participant*.

4. Orders Authorizing Participation

4.1. Authorization Orders

- 4.1.1 The *IESO* shall by order authorize or may by order conditionally authorize an applicant to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*, on such terms and conditions as the *IESO* considers appropriate, if:
 - 4.1.1.1 for a conditional order, the *IESO* is satisfied that the applicant meets the requirements set out in section 1.2.2.2; or
 - 4.1.1.2 for an order other than a conditional order, the *IESO* is satisfied that the applicant meets the requirements set out in section 1.2.2 applicable to the applicant.
- 4.1.2 The *IESO* shall issue an order made pursuant to section 4.1.1 in accordance with the following timelines:
 - 4.1.2.1 within twenty *business days* of receipt of the applicant's *application for authorization to participate* or of the further information or clarification requested under section 3.1.3, whichever is the later; or
 - 4.1.2.2 within such longer period of time as may be agreed between the *IESO* and the applicant.
- 4.1.3 A conditional order issued pursuant to section 4.1.1, shall:
 - 4.1.3.1 stipulate the date by which the applicant must satisfy the conditions; and

- 4.1.3.2 lapse on the date referred to in section 4.1.3.1 if the applicant has not, prior to that date, received from the *IESO* notification that the applicant has fulfilled all conditions set out in the order. A lapsed order shall be deemed to constitute an order denying the applicant authorization to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* as of the date it lapses.
- 4.1.4 The *IESO* may, at any time and in its sole discretion, amend a conditional order issued pursuant to section 4.1.1 to include an additional condition, to remove a condition, or to extend the date stipulated pursuant to section 4.1.3.1.
- 4.1.5 A person to whom a conditional order relates may request, in accordance with the applicable *market manual*, that the *IESO* extend the date stipulated pursuant to section 4.1.3.1 if a condition of the order cannot be met due to circumstances beyond the person's control or influence.
- 4.1.6 The *IESO* may terminate or suspend a conditional order issued pursuant to section 4.1.1 at any time if the *IESO* determines that:
- 4.1.6.1 there are material reliability or operational risks in maintaining the order;
 - 4.1.6.2 the person to whom the order relates failed to address or complete a condition of the order; or
 - 4.1.6.3 the person to whom the order relates fails to comply with the applicable *market rules*.
- 4.1.7 If an order issued pursuant to section 4.1.1 is terminated or suspended or lapses, the person to whom the order relates may submit a request to the *IESO* in accordance with the applicable *market manual* to extend or renew the order.
- 4.1.8 If the *IESO* is not satisfied that an applicant meets the requirements set out in section 1.2.2, the *IESO* shall, within twenty *business days* of receipt of the *application for authorization to participate* or of the further information or clarification requested under section 3.1.3, whichever is the later, or within such longer period of time as may be agreed between the *IESO* and the applicant, by order deny the applicant authorization to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*.
- 4.1.9 A conditional order shall be deemed to constitute the order authorizing the applicant to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* as of

the date the applicant receives notification from the *IESO* that the applicant has fulfilled all the conditions of the order.

4.1.10 A person to whom a *facility* is transferred in accordance with MR Ch.7 s.2.5, shall be deemed to be a *market participant* as of the commencement of the first *trading day* following completion of the transfer and shall expeditiously pursue and complete the conditions precedent to becoming fully authorized as required by this Chapter.

4.1.11 A person who wishes to dispute an order of the *IESO* made pursuant to section 4.1.1 or 4.1.8 shall follow the dispute resolution procedures set forth in MR Ch.3 s.2.

5. Prudential Requirements

5.1 Purpose and Application

5.1.1 Sections 5, 5B, 5C and 5D set forth the nature and amount of *prudential support* that must be provided by *market participants* as a condition of participation in the *real-time market* or the *day-ahead market*, as the case may be, or of causing or permitting electricity to be conveyed into, through or out of the *IESO-controlled grid*, and the manner in which *market participants* must provide and maintain such *prudential support* on an on-going basis in order to minimize the impact of payment defaults on *market participants*.

5.1.2 [Intentionally left blank – section deleted]

Application

5.1.3 The rules governing *prudential support* in this Chapter 2 apply to *market participants* in the manner set out below:

Physical Transactions and/or Virtual Transactions

5.1.3.1 Sections 5.1 and 5.2 shall apply to *market participants* authorized to conduct one or any combination of:

- a. *physical transactions* in the *day-ahead market*;
- b. *physical transactions* in the *real-time market*; or
- c. *virtual transactions* in the *day-ahead market*, except for subsection 5.2.6.

Physical Transactions

- 5.1.3.2 Subject to subsection 5.1.3.4, sections 5.3 to 5.8 shall apply to *market participants* authorized to conduct one or any combination of:
- a. *physical transactions* in the *day-ahead market*; or
 - b. *physical transactions* in the *real-time market*.

Virtual Transactions

- 5.1.3.3 Subject to subsection 5.1.3.4, section 5C shall apply to *market participants* authorized to conduct *virtual transactions* in the *day-ahead market*.

Physical Transactions and Virtual Transactions

- 5.1.3.4 Section 5D shall apply to *market participants* authorized to conduct both *physical transactions* and *virtual transactions*. Sections 5 and 5C shall also apply, as appropriate, to *market participants* authorized to conduct both *physical transactions* and *virtual transactions*, except for sections 5.4, 5.6, 5C.2 and 5C.4.

Capacity Auctions

- 5.1.3.5 *Market participants* participating in the *IESO-administered markets* solely as a *capacity market participant* or *capacity auction participant* with a *capacity obligation* shall be subject only to the *capacity prudential support* requirements in section 5B.

5.2 Market Participant Obligations

- 5.2.1 Each *market participant* shall initially and continually satisfy the obligations set forth in this section 5.2 with regard to the provision of *prudential support* as a condition of (i) conducting *physical transactions* in the *real-time market* or (ii) conducting *physical transactions* or *virtual transactions* in the *day-ahead market* or (iii) causing or permitting electricity to be conveyed into, through or out of the *IESO-controlled grid*.
- 5.2.2 Each *market participant* shall provide to the *IESO* and at all times maintain *prudential support* the value of which is not less than the *market participant's* applicable *prudential support obligations*. For this purpose, the aggregate value of the *prudential support* shall be equal to the value of the undrawn or unclaimed amounts of *prudential support* provided by the *market participant*.
- 5.2.3 No *market participant* that is required, pursuant to section 5.3.9, section 5C.5.1, or section 5D.5.1, as the case may be, to provide *prudential support* shall participate in the *real-time market* or the *day-ahead market* or cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* unless

that *market participant* satisfies the *prudential support* requirements of section 5, section 5C, section 5D and MR Ch.2 App.2.3.

- 5.2.4 Each *market participant* shall provide to the *IESO*, on an ongoing basis, such information as the *IESO* may reasonably require for the purpose of determining that *market participant's maximum net exposure* for *physical transactions* and *virtual transactions*.
- 5.2.5 If *prudential support* previously provided to the *IESO* by a *market participant* pursuant to section 5.7, section 5C.5, or section 5D.5 (the "*existing support*"), is due to expire or terminate and, upon expiry or termination of the *existing support* the total *prudential support* held by the *IESO* in respect of that *market participant* will be less than the *market participant's* applicable *prudential support obligations* then, at least ten *business days* prior to the time at which the *existing support* is due to expire or terminate, the *market participant* must provide to the *IESO* a replacement *prudential support* which will become effective no later than the expiry or termination of the *existing support*, such that the total *prudential support* provided is equal to the *market participant's prudential support obligation*.
- 5.2.6 Where a *market participant's prudential support obligation* for *physical transactions* has been reduced pursuant to section 5.8 and the relevant credit rating is revised or the relevant payment history has changed, whether under section 5.8 or otherwise, such as to result in an increase in the *market participant's prudential support obligation* then, within five *business days* of any such change, the *market participant* must provide to the *IESO* additional *prudential support* such that the total *prudential support* provided for *physical transactions* is equal to the *market participant's prudential support obligation* for *physical transactions* when calculated on the basis of the revised credit rating or payment history.
- 5.2.7 Where any part of the *prudential support* provided by a *market participant* otherwise ceases to be current or valid for any reason, the *market participant* must immediately so notify the *IESO* and provide to the *IESO*, within two *business days*, a replacement *prudential support* such that the total *prudential support* provided is at least equal to the *market participant's* applicable *prudential support obligation*.
- 5.2.7A Notwithstanding any other provision of the *market rules*, the *IESO* may exercise its rights in accordance with MR Ch.3 s.6.3.3.2 and MR Ch.2 App.2.3 over any amount of *prudential support* that has been provided by a *market participant* or a person providing *prudential support* on behalf of that *market participant* irrespective of whether the *prudential support* was provided for the purpose of satisfying a *prudential support obligation* for *physical transactions* or a *prudential support obligation* for *virtual transactions*.

- 5.2.8 If, as a result of the *IESO* exercising its rights over the *prudential support* provided by a *market participant* in accordance with MR Ch.3 s.6.3.3.2 and MR Ch.2 App.2.3, the remaining *prudential support* held by the *IESO* in respect of that *market participant* is less than the *market participant's* applicable *prudential support obligations*, the *market participant* must, within five *business days* of receiving notice of the exercise by the *IESO* of such rights, provide the *IESO* with additional *prudential support* such that the total *prudential support* provided is equal to the *market participant's* applicable *prudential support obligations*.
- 5.2.9 A *market participant* to which a *margin call* has been issued pursuant to section 5.4.2, 5C.2.2, or 5D.3.2 shall respond to such *margin call* in accordance with section 5.6, 5C.4 or 5D.4, as the case may be.
- 5.2.10 For the purpose of section 5, a *retailer* shall be deemed to be an *energy trader*.

5.3 Calculation of Participant Trading Limit, Default Protection Amount and Maximum Net Exposure for Physical Transactions

Maximum Net Exposure

- 5.3.1 The *IESO* shall determine, for each *market participant* intending to conduct *physical transactions*, subject to section 5.6.5, a *maximum net exposure* for *physical transactions* as the sum of the *market participant's trading limit* for *physical transactions*, the *market participant's default protection amount* for *physical transactions* and amounts, if any, for which the *market participant* is liable under MR Ch.7 s.2.5.4.

Self-Assessed Trading Limit

- 5.3.2 Subject to section 5.3.3, each *market participant* intending to conduct *physical transactions* shall determine and submit to the *IESO*, using forms and procedures as may be established by the *IESO* in the applicable *market manual*, the amount of its *self-assessed trading limit*, even if that *self-assessed trading limit* is zero.
- 5.3.3 The *self-assessed trading limit* submitted by a *market participant* under section 5.3.2 shall be applicable for the remainder of the current and all future *energy market billing periods* until a revised *self-assessed trading limit* is submitted by that *market participant* to the *IESO* in accordance with the provisions of section 5.3.2. If a *market participant* submits a *self-assessed trading limit* pursuant to section 5.3.2, that *self-assessed trading limit* shall, subject to section 5.3.3A, supersede any previous *self-assessed trading limit*, and the previous *self-*

assessed trading limit shall not be applicable to any such future *energy market billing periods*.

- 5.3.3A A *market participant's* revised *self-assessed trading limit* submitted in accordance with section 5.3.3 shall take effect once the *IESO* confirms receipt of any additional *prudential support*, as would be required based on the *market participant's* revised *self-assessed trading limit* pursuant to the *market rules*.

Minimum Trading Limit

- 5.3.4 Subject to section 5.6.5, the *IESO* shall establish a *minimum trading limit* for *physical transactions* for each *market participant* intending to conduct *physical transactions* as follows:
- 5.3.4.1 the *minimum trading limit* for *physical transactions* for a *market participant* that is not an *energy trader*, shall be equal to the *IESO's* estimate of the *market participant's* net *settlement amounts*, excluding estimated *settlement amounts* associated with *virtual transactions* and *transmission rights*, assuming seven days of participation by way of *physical transactions* and assuming all *energy* injected or withdrawn is transacted through *physical transactions*. The *IESO* may use a greater number, up to and including 49 days, of participation in *physical transactions* for the determination of a *market participant's* *minimum trading limit* for *physical transactions* if that *market participant* that is not an *energy trader* was subject to more than one *margin call* per *energy market billing period* in respect of *physical transactions*, provided that any such *margin call* is not the result of a price spike;
- 5.3.4.2 the *minimum trading limit* for *physical transactions* for an *energy trader* that has conducted *physical transactions* for *energy* for at least three previous *energy market billing periods* shall be equal to 25% of the *IESO's* estimate of the *market participant's* net *settlement amounts* for the upcoming *energy market billing period* associated with *physical transactions*. In estimating this net *settlement amount*, the *IESO* shall, subject to section 5.3.4.3, use an average of the actual net *settlement amounts* for the three most recent *energy market billing periods* in which that *market participant* has conducted *physical transactions* for *energy*. The *IESO* may use a greater percentage, up to and including 100%, of the estimated *market participant's* net *settlement amounts* for the determination of a *market participant's* *minimum trading limit* for *physical transactions* if that *market participant* was subject to more than one *margin call* in respect of *physical transactions* per *energy market billing period*, provided that any such *margin call* is not caused by a price spike; and

- 5.3.4.3 the *minimum trading limit* for *physical transactions* for an *energy trader* who has not conducted *physical transactions* for *energy* for at least three previous *billing periods*, shall be equal to the greater of:
- a. 25% of the absolute value of the *market participant's* estimate of its net *settlement amount* for the upcoming *energy market billing period*. Such a *market participant* shall provide to the *IESO*, an estimate of its net *settlement amount* for the upcoming *energy market billing period*. The *IESO* may adjust the *market participant's minimum trading limit* at any time if that *market participant's* actual net *settlement amounts* for the current *billing period* are projected to differ significantly from the estimate provided; or
 - b. \$25,000.

Establishing Market Participant Trading Limit

- 5.3.5 Upon receipt of a *market participant's self-assessed trading limit* under section 5.3.2, the *IESO* shall use the greater of the following two amounts for that *market participant's trading limit* for *physical transactions* for the remainder of the current or upcoming *energy market billing period*:
- 5.3.5.1 the *market participant's minimum trading limit* for that *energy market billing period* as determined pursuant to section 5.3.4; or
 - 5.3.5.2 the *market participant's self-assessed trading limit* submitted under section 5.3.2.
- 5.3.6 If a *market participant* does not provide a *self-assessed trading limit* as specified in section 5.3.2, the *IESO* shall use the greater of the following two amounts for that *market participant's trading limit* for *physical transactions* for upcoming *energy market billing period*:
- 5.3.6.1 the *market participant's minimum trading limit* for that *energy market billing period* as determined pursuant to section 5.3.4; or
 - 5.3.6.2 the *market participant's trading limit* for *physical transactions* in effect for the current *energy market billing period*.
- 5.3.7 [Intentionally left blank – section deleted]

Establishing Market Participant Default Protection Amount

- 5.3.8 The *IESO* shall, for each *energy market billing period*, establish a *default protection amount* for *physical transactions* for each *market participant* intending to conduct *physical transactions* as follows:
- 5.3.8.1 for a *market participant* that is not an *energy trader*, its *default protection amount* shall be equal to the *IESO's* estimate of the *market participant's* net *settlement amounts* for that *energy market billing period*, excluding estimated *settlement amounts* associated with *virtual transactions* and *transmission rights*, assuming 21 days of participation by way of *physical transactions* and assuming all *energy* injected or withdrawn is transacted through *physical transactions*; and
 - 5.3.8.2 for a *market participant* that is an *energy trader*, the *default protection amount* shall be equal to the *minimum trading limit* for that *market participant* for that *energy market billing period* as determined by the *IESO* pursuant to section 5.3.4.2 or section 5.3.4.3, as applicable.

Adjusting Trading Limit and Default Protection Amount for Physical Bilateral Contracts

- 5.3.8A A *market participant* that is not an *energy trader* with a credit rating of BBB- or higher, subject to any adjustment under section 5.8.2, may request that its *minimum trading limit* and *default protection amount*, in respect of *physical transactions* be calculated by removing the *energy* quantities associated with the *market participant's* *physical bilateral contracts* registered with the *IESO* provided it submits to the *IESO* the quantity and duration of the applicable *physical bilateral contracts* and it notifies the *IESO* immediately upon a change in the quantity or duration of the *physical bilateral contracts* including the termination of any of the contracts.
- 5.3.8B If the conditions of 5.3.8A are met, the *IESO* shall determine the *market participant's* *minimum trading limit* and *default protection amount*, in respect of *physical transactions*, assuming all *energy* injected or withdrawn is transacted through *physical transactions* net of *energy* quantities associated with those *physical bilateral contracts*.

Requirement to Provide Prudential Support

- 5.3.9 If a *market participant's* *maximum net exposure* for *physical transactions*, as calculated by the *IESO*, is zero or negative, the *market participant* is not required to provide any form of *prudential support* for *physical transactions* to the *IESO*. If a *market participant's* *maximum net exposure* for *physical transactions*, as calculated by the *IESO*, is positive, the *market participant* must provide an

amount of *prudential support* to the *IESO* equal to its *prudential support obligation* for *physical transactions*.

Price Bases Used for Determining Minimum Trading Limit and Default Protection Amount

- 5.3.10 The *IESO* shall estimate the net *settlement amounts* for a *market participant* referred to in sections 5.3.4 and 5.3.8 initially based on information provided to the *IESO* by the *market participant* in its *application for authorization to participate* and subsequently using such information as the *IESO* may reasonably require for that purpose and, in each case, on the price bases referred to in 5.3.10A, and the *IESO's estimated market prices* for all other applicable charges for the relevant *energy market billing period*.
- 5.3.10A When calculating the *minimum trading limit* and the *default protection amount* for *market participants* other than *energy traders* in sections 5.3.4, 5.3.8 and 5.3.8B respectively, the *IESO* shall establish and use as its price basis the price basis established in accordance with the following:
- 5.3.10A.1 for a *market participant* that is associated with *generation resource, electricity storage resource, dispatchable load, or price responsive load*, the price basis will be determined as the value that is the percentile set out in the applicable *market manual* of the following values ranked from lowest to highest:
- a. in respect of each *delivery point* and all *settlement hours* over the preceding three-year period, the greater of the *locational marginal price* in the *day-ahead market* and the hourly average *locational marginal price* in the *real-time market*;
- 5.3.10A.2 for a *market participant* that is associated with a *non-dispatchable load*, the price basis will be determined as the value that is the percentile set out in the applicable *market manual* of the following values ranked from lowest to highest:
- a. in respect of each *delivery point* and all *settlement hours* over the preceding three-year period, the greater of the *Ontario zonal price* in the *day-ahead market* and the hourly average *Ontario zonal price* in the *real-time market*;
- 5.3.10A.3 notwithstanding the foregoing, until the requisite amount of historical data is available, the price basis shall be determined by the *IESO* using the same methodology as described in sections 5.3.10A.1 and 5.3.10A.2 except using shadow prices from the day-ahead commitment process and the *real-time market* as necessary to ensure the requisite amount of data is included in the determination of the price basis; or

5.3.10A.4 notwithstanding the foregoing, if the *OEB* publishes prices, the *IESO* may use such published prices as the price basis.

5.3.10B The *IESO* may from time to time, but no less frequent than annually, review each price basis established in accordance with section 5.3.10A. If during such review the *IESO* determines that reassessing the price basis in accordance with section 5.3.10A would result in an increase or decrease by 15% or more, the *IESO* shall reassess and establish a new price basis in accordance with section 5.3.10A.

Reviewing and Modifying Trading Limits, Default Protection Amount and Maximum Net Exposure

5.3.11 The *IESO* may review the *minimum trading limit* for *physical transactions* where applicable, the *trading limit*, *default protection amount* and *maximum net exposure* for *physical transactions*, of each *market participant* in circumstances that include:

5.3.11.1 prior to the start of each *energy market billing period*;

5.3.11.2 within two *business days* after a *market participant's actual exposure* for *physical transactions* exceeds the *trading limit* for that *market participant*;

5.3.11.3 within two *business days* after it receives notice of any changes to the status of a *market participant* as compared to such status that was in effect when the *market participant's maximum net exposure* for *physical transactions* was last calculated if the *IESO* determines that the change in such status would have a material impact on the *market participant's maximum net exposure*;

5.3.11.4 when the *IESO* has adjusted a *market participant's minimum trading limit* for *physical transactions* pursuant to section 5.3.4.3; and

5.3.11.5 when the *IESO* has adjusted its price basis under section 5.3.10B.

5.3.12 The *IESO* may change the *minimum trading limit*, *trading limit*, *default protection amount*, *maximum net exposure* or the *prudential support obligation* for *physical transactions*, for a *market participant* at any time as a result of a review conducted pursuant to section 5.3.11 and shall promptly notify the *market participant* of any such change. Any change to a *market participant's minimum trading limit*, *trading limit*, *default protection amount*, *maximum net exposure* or *prudential support obligation* in respect of *physical transactions* shall apply with effect from such time, not being earlier than the time of notification of the changed *minimum trading limit*, *trading limit*, *default protection amount*, *maximum net exposure* or *prudential support obligation* to the *market participant*, as the *IESO* may specify in the notice. The *market participant* must

supply the *IESO*, within five business days of the effective date of the change, any additional *prudential support* for *physical transactions* that may be required as a result of an increase in the *market participant's prudential support obligation* that results from such change.

5.4 Monitoring of Actual Exposure and Trading Limit for Physical Transactions

5.4.1 If at any time the *actual exposure* for *physical transactions* of a *market participant* that is not also a *virtual trader*, is equal to or exceeds 70% and is less than 100% of the *market participant's trading limit*, the *IESO* shall inform the *market participant* of that fact unless the *market participant* has opted for the *no margin call option* pursuant to section 5.6.4. The *market participant* may, but is not required to, make a cash payment to be applied to reduce its *actual exposure* or take other action to prevent its *actual exposure* from reaching its *trading limit*. No interest shall be paid on any such payment.

5.4.2 If at any time the *actual exposure* for *physical transactions* of a *market participant* that is not also a *virtual trader*, equals or exceeds the *market participant's trading limit* for *physical transactions*, the *IESO* shall issue to the *market participant* a *margin call* unless the *market participant* has opted for the *no margin call option* pursuant to section 5.6.4.

5.5 Calculation of Actual Exposure for Physical Transactions

5.5.1 For the purposes of section 5.4, a *market participant's actual exposure* for *physical transactions* shall be a dollar amount determined by the *IESO* each *business day* shall be equal to and as further described in the applicable *market manual*:

5.5.1.1 the aggregate of:

- a. all amounts payable by the *market participant* in respect of *physical transactions* for *billing periods* prior to the current *billing period* which remain unpaid by the *market participant*, whether or not the applicable *market participant payment date* has yet been reached; and
- b. the *IESO's* reasonable estimate of the aggregate hourly and non-hourly *settlement amounts* payable by the *market participant* in respect of *physical transactions* which have already occurred in the current *billing period*;

5.5.1.2 less the aggregate of:

- a. all amounts payable to the *market participant* in respect of *physical transactions* for *billing periods* prior to the current *billing period* which remain unpaid, whether or not the applicable *IESO payment date* has yet been reached; and
- b. the *IESO's* reasonable estimate of the aggregate hourly and non-hourly *settlement amounts* payable to the *market participant* in respect of *physical transactions* which have already occurred in the current *billing period*.

5.6 Margin Call Requirements and the No Margin Call Option for Physical Transactions

- 5.6.1 A *market participant* that is not also a *virtual trader* must satisfy a *margin call* in respect of *physical transactions* within the time prescribed in section 5.6.2 by paying a portion of the amount payable or which will become payable in respect of the previous or current *energy market billing period*, in accordance with MR Ch.9, in an amount sufficient to reduce the *market participant's actual exposure* to no more than the dollar equivalent of 75% of the *market participant's trading limit*. No interest shall be paid on such payments.
- 5.6.2 The time within which a *margin call* in respect of *physical transactions* must be satisfied under section 5.6.1 shall be by 4:00 pm on the second *business day* following the date of the *margin call*.
- 5.6.3 For the purposes of the *market rules*, a payment made pursuant to section 5.6.1 shall be applied first to the amount outstanding for *physical transactions* with respect to the earliest *energy market billing period* under the *market rules* and, if the amount outstanding under the *market rules* in respect of that *billing period* is less than the amount of the payment, then the excess shall be applied to the next earliest *energy market billing period* in respect of which there is an amount outstanding under the *market rules* and so on until there is no excess.
- 5.6.4 Subject to section 5.6.7, a *market participant* shall not be subject to the *margin call* requirements of sections 5.6.1 and 5.6.2, subject to *IESO* approval, if it elects to use the *no margin call option* using forms and procedures as may be established by the *IESO* in the applicable *market manual*.
- 5.6.5 The *IESO* shall determine the *maximum net exposure* for *physical transactions* of a *market participant* that is not an *energy trader*, that has selected the *no margin call option* based on 70 days of market activity and assuming all of the *market participant's energy* is injected or withdrawn through *physical transactions*. For an *energy trader* that has selected the *no margin call option*, the *IESO* shall determine *maximum net exposure* for *physical transactions* based on an estimate of 100% of its net *settlement amount* for the upcoming *energy*

market billing period. A *market participant* that has elected the *no margin call option* shall not have a *trading limit*.

5.6.6 Other than *small distributors*, any *market participant* that elects to use the *no margin call option* shall not be eligible for reductions in its *prudential support obligations* pursuant to section 5.8.

5.6.7 A *market participant* authorized to conduct *physical transactions* shall not be eligible to use the *no margin call option* if it is also a *virtual trader*.

5.7 Obligation to Provide Prudential Support for Physical Transactions

5.7.1 Each *market participant* must meet its obligation under this section 5 to provide and maintain *prudential support* for *physical transactions* by providing to the *IESO* and maintaining *prudential support*, the value of which is equal to the *market participant's prudential support obligation* for *physical transactions*.

5.7.2 A *market participant's prudential support obligation* for *physical transactions* must be met through the provision to the *IESO* and the maintenance of *prudential support* in one or more of the following forms:

5.7.2.1 a guarantee or irrevocable commercial letter of credit, which in both cases must be in a form acceptable to the *IESO* and provided by:

a. a bank named in a Schedule to the *Bank Act*, S.C. 1991, c.46 with a minimum long-term credit rating of "A" from a major bond rating agency as identified in the list referred to in section 5.8.7; or

b. a credit union licensed by the Financial Services Regulatory Authority of Ontario with a minimum long-term credit rating of "A" from a major bond rating agency as identified in the list referred to in section 5.8.7.

5.7.2.2 a guarantee in a form acceptable to the *IESO* provided by a person, other than an *affiliate* of the *market participant*, having a credit rating from a major bond rating agency identified on the list referred to in section 5.8.7;

5.7.2.3 marketable securities in the form of Canadian Government treasury bills. Such treasury bills shall be valued as cash at their current market value less 2 percent to take into account the potential eroding effects of interest rate increases;

5.7.2.4 subject to section 5.7.4 and 5.7.4A, a guarantee in a form acceptable to the *IESO* provided by a person that is an *affiliate* of the *market*

- participant* and that has a credit rating from a major bond rating agency identified on the list referred to in section 5.8.7; and/or
- 5.7.2.5 cash deposits made with the *IESO* by or on behalf of the *market participant* provided that that *market participant* meets the following criteria:
- a. the *market participant* was already meeting its *prudential support obligation* in whole or in part through a cash deposit on November 4, 2004; and
 - b. the *market participant's prudential support obligation* was less than or equal to \$200,000 on November 4, 2004 and remains less than or equal to \$200,000 thereafter.
- 5.7.2A A *market participant* who has previously provided *prudential support* for *physical transactions* in accordance with subsections 5.7.2.2 or 5.7.2.4, who thereafter intends to become authorized as a *virtual trader* in accordance with subsection 2.1.1.14, shall provide the *IESO* with replacement *prudential support* for *physical transactions*.
- 5.7.3 For the purposes of sections 5.7.2.1 and 5.7.2.2, the *IESO* shall establish, maintain, update as required and *publish* a list of organizations eligible to provide the *prudential support* referred to in sections 5.7.2.1 and 5.7.2.2 and shall establish, for each such eligible *prudential support* provider, an aggregate limit of the *prudential support* that may be provided by that *prudential support* provider to *market participants*. If aggregate limits are reached for any of these eligible organizations, *market participants* will be required to obtain *prudential support* from other eligible organizations that are still within their respective *prudential support* limits.
- 5.7.3A Where a *market participant's prudential support obligation* for *physical transactions* is reduced pursuant to section 5.8.1, 5.8.1A, 5B.5.1 or 5B.5.1A, the *IESO* shall not accept a guarantee from an *affiliate* of the *market participant* pursuant to section 5.7.2.4, unless the *market participant* provides a letter from the applicable major bond rating agency identified in the list referred to in section 5.8.7, stating that the two ratings are not directly linked and are stand alone ratings in relation to each other.
- 5.7.3B The *IESO* shall not accept a guarantee from an *affiliate* of the *market participant* pursuant to section 5.7.2.4 if the *affiliate* is also a *market participant* and has obtained a reduction of its own *prudential support obligation* for *physical transactions* pursuant to section 5.8.1, 5.8.1A, 5B.5.1 or 5B.5.1A.
- 5.7.4 For *market participants*, other than a *distributor*, subject to sections 5.7.3A and 5.7.3B the *IESO* shall not accept a guarantee from a rated *affiliate* of the *market*

participant pursuant to section 5.7.2.4 where the value of the guarantee exceeds the following;

Credit Rating Category of Affiliate using Standard and Poor’s Rating Terminology	Maximum Amount which May be Guaranteed by Affiliate
AA- and above or equivalent	100% of <i>maximum net exposure</i> of all <i>market participants</i> guaranteed by <i>affiliate</i>
A-, A, A+ or equivalent	Greater of 90% of <i>maximum net exposure</i> or \$37,500,000 of all <i>market participants</i> guaranteed by <i>affiliate</i>
BBB-, BBB, BBB+ or equivalent	Greater of 65% of <i>maximum net exposure</i> or \$15,000,000 of all <i>market participants</i> guaranteed by <i>affiliate</i>
BB-, BB, BB+ or equivalent	Greater of 30% of <i>maximum net exposure</i> or \$4,500,000 of all <i>market participants</i> guaranteed by <i>affiliate</i>
Below BB- or equivalent	0

5.7.4.A For *distributors*, subject to sections 5.7.3A and 5.7.3B the *IESO* shall not accept a guarantee from a rated *affiliate* of the *market participant* pursuant to section 5.7.2.4 where the value of the guarantee exceeds the following:

Credit Rating Category of Affiliate using Standard and Poor’s Rating Terminology	Maximum Amount which May be Guaranteed by Affiliate
AA- and above or equivalent	100% of <i>maximum net exposure</i> of all <i>market participants</i> guaranteed by <i>affiliate</i>
A-, A, A+ or equivalent	Greater of 95% of <i>maximum net exposure</i> or \$45,000,000 of all <i>market participants</i> guaranteed by <i>affiliate</i>
BBB-, BBB, BBB+ or equivalent	Greater of 80% of <i>maximum net exposure</i> or \$22,500,000 of all <i>market participants</i> guaranteed by <i>affiliate</i>
BB-, BB, BB+ or equivalent	Greater of 55% of <i>maximum net exposure</i> or \$7,500,000 of all <i>market participants</i> guaranteed by <i>affiliate</i>
Below BB- or equivalent	0

5.7.5 The minimum terms and conditions that shall be included in the *prudential support* for *physical transactions* shall be as follows:

5.7.5.1 *prudential support* provided in accordance with sections 5.7.2.1, 5.7.2.2 and 5.7.2.4 shall be obligations in writing;

- 5.7.5.2 *prudential support* provided in accordance with sections 5.7.2.3 and 5.7.2.5 shall be obligations reflected in a written instrument in a form acceptable to the *IESO*;
- 5.7.5.3 *prudential support* provided in accordance with sections 5.7.2.1, 5.7.2.3 and 5.7.2.5 shall constitute valid and binding unsubordinated obligations to pay to the *IESO* amounts in accordance with its terms which relate to the obligations of the relevant *market participant* under the *market rules*; and
- 5.7.5.4 *prudential support* provided in accordance with sections 5.7.2.1 to 5.7.2.5 shall permit drawings or claims by the *IESO* on demand to a stated certain amount.

5.8 Reductions in Prudential Support Obligations for Physical Transactions

5.8.1 Subject to section 5.8.2, the *prudential support obligation* for *physical transactions* of a rated *market participant*, other than a *distributor*, may be reduced relative to the *market participant's maximum net exposure* for *physical transactions* by an amount equal to the monetary value prescribed, by the table below, to a credit rating from a major bond rating agency identified in the list referred to in section 5.8.7 issued and in effect in respect of the *market participant*.

Credit Rating Category using Standard and Poor's Rating Terminology	Allowable Reduction in Prudential Support
AA- and above or equivalent	100% of <i>maximum net exposure</i>
A-, A, A+ or equivalent	Greater of 90% of <i>maximum net exposure</i> or \$37,500,000
BBB-, BBB, BBB+ or equivalent	Greater of 65% of <i>maximum net exposure</i> or \$15,000,000
BB-, BB, BB+ or equivalent	Greater of 30% of <i>maximum net exposure</i> or \$4,500,000
Below BB- or equivalent	0

5.8.1A Subject to section 5.8.2, the *prudential support obligation* for *physical transactions* of a rated *distributor* may be reduced relative to the *market participant's maximum net exposure* for *physical transactions* by an amount equal to the monetary value prescribed, by the table below, to a credit rating from a major bond rating agency identified in the list referred to in section 5.8.7 issued and in effect in respect of the *market participant*.

Credit Rating Category using Standard and Poor's Rating Terminology	Allowable Reduction in Prudential Support
AA- and above or equivalent	100% of <i>maximum net exposure</i>
A-, A, A+ or equivalent	Greater of 95% of <i>maximum net exposure</i> or \$45,000,000
BBB-, BBB, BBB+ or equivalent	Greater of 80% of <i>maximum net exposure</i> or \$22,500,000
BB-, BB, BB+ or equivalent	Greater of 55% of <i>maximum net exposure</i> or \$7,500,000
Below BB- or equivalent	0

- 5.8.2 Any recommendation to move a *market participant* to "credit watch negative" by any of the major bond rating agencies identified in the list referred to in section 5.8.7 shall be deemed to automatically result in a one-notch reduction in terms of the credit rating (for example, from BBB+ to BBB) of that *market participant* for the purpose of determining the *market participant's prudential support obligation*.
- 5.8.3 Subject to section 5.8.6, the *prudential support obligation* for *physical transactions* of a *market participant* may be reduced relative to the *market participant's maximum net exposure* for *physical transactions*, by an amount equal to the monetary value ascribed, in accordance with section 5.8.4 or 5.8.5, to the *market participant's* historical good payment history in Ontario, which shall be assessed by the *IESO* on the basis of:
- 5.8.3.1 evidence provided by the *market participant* as to the continuous purchase of electricity by the *market participant* prior to the effective date of the *IESO-administered markets* during which time no call for collateral was issued to that *market participant* to protect the supplier from the risk of a payment default by that *market participant*;
 - 5.8.3.2 verification of the evidence referred to in section 5.8.3.1 by the *IESO*; and
 - 5.8.3.3 the *market participant's* payment history in the *IESO-administered markets* provided that the *market participant's* payment history includes no *event of default*.
- 5.8.4 The *IESO* shall determine the dollar amount of any allowable reduction in the *prudential support obligation* for *physical transactions* of an unrated *market participant*, other than a *distributor*, by an amount equal to the monetary value prescribed, by the table below:

Good Payment History Categories for Non-Distributors	Allowable Reduction in Prudential Support
≥6 years	Lesser of 50% of <i>maximum net exposure</i> or \$12,000,000
≥5 years, <6 years	Lesser of 30% of <i>maximum net exposure</i> or \$7,500,000
≥4, <5 years	Lesser of 25% of <i>maximum net exposure</i> or \$6,000,000
≥3, <4 years	Lesser of 20% of <i>maximum net exposure</i> or \$4,500,000
≥2, <3 years	Lesser of 15% of <i>maximum net exposure</i> or \$3,000,000
<2 years	0

5.8.5 If the *market participant* is an unrated *distributor*, the *IESO* shall determine the dollar amount of any allowable reduction in the *market participant's prudential support obligation* for *physical transactions* by an amount equal to the monetary value prescribed, by the table below:

Good Payment History Categories for Distributors	Allowable Reduction in Prudential Support
≥6 years	Lesser of 80% of <i>maximum net exposure</i> or \$14,000,000
≥5 years, <6 years	Lesser of 65% of <i>maximum net exposure</i> or \$9,000,000
≥4, <5 years	Lesser of 45% of <i>maximum net exposure</i> or \$7,500,000
≥3, <4 years	Lesser of 35% of <i>maximum net exposure</i> or \$6,000,000
≥2, <3 years	Lesser of 25% of <i>maximum net exposure</i> or \$4,500,000
<2 years	0

For purposes of this section 5.8.5, the historical payment history of a *distributor* that is the transferee under a transfer by-law made pursuant to subsection 145(1) of the *Electricity Act, 1998* shall be deemed to include the historical payment history of the *distributor* whose licence has been transferred to the transferee under such by-law. For purposes of this section 5.8.5, the historical payment history of a *distributor* that is the successor at law to two or more *distributors*, shall be deemed to include the historical payment history of the predecessor *distributors*.

- 5.8.6 The following restrictions shall apply to the provision of reductions in a *market participant's prudential support obligation* for *physical transactions* as provided for under sections 5.8.1, 5.8.1A, and 5.8.3:
- 5.8.6.1 subject to the last paragraph of section 5.8.5, a *market participant* shall not be entitled to a reduction in its *prudential support obligation* pursuant to section 5.8.3 using the payment history of an *affiliate*;
 - 5.8.6.2 a *market participant* that has a credit rating from a major bond rating agency identified in the list referred to in section 5.8.7 shall not be entitled to a reduction in its *prudential support obligation* under section 5.8.3; and
 - 5.8.6.3 an *energy trader* shall not receive a reduction to its *prudential support obligation* for *physical transactions* pursuant to section 5.8.1 until the *energy trader* has conducted *physical transactions* for *energy* in the *IESO-administered markets* for at least three previous *energy market billing periods*.
- 5.8.7 For the purposes of this chapter, the *IESO* shall establish, maintain, update as required and *publish* a list of major bond rating agencies eligible to provide the credit ratings mentioned throughout.
- 5.8.8 The *IESO* shall reduce the *prudential support obligation* for *physical transactions* of a *distributor* by an amount equal to 60% of the *distributor's* collection of *prudential support*, in the forms specified in section 5.7.2.1, 5.7.2.2, 5.7.2.3, or 5.7.2.4, from the *distributor's* customers. In order to qualify for this reduction in *prudential support obligation*, the *distributor* shall provide the *IESO* with an affidavit attesting to the amount of *prudential support* of the types specified in this section which the *distributor* has collected from its customers attached to which by way of exhibits shall be copies of bank statements showing any cash deposits and any applicable letters of credit, guarantees, or Government of Canada T-bills held as *prudential support*. The *IESO* shall first deduct the *distributor's* collection of *prudential support* from the *distributor's* customers before applying any other *prudential support obligation* deductions in respect of *physical transactions*.

5A. [Intentionally Left Blank – Section

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5B. Capacity Prudential Requirements

5B.1 Purpose

5B.1.1 This section 5B sets forth the nature and amount of *capacity prudential support* that must be provided by *market participants* that are either *capacity auction participants* or *capacity market participants* as a condition of delivering on a *capacity obligation*, and the manner in which such *market participants* must provide and maintain *capacity prudential support* on an on-going basis, in order to protect the *IESO* and *market participants* from payment defaults.

5B.1.2 The *IESO* shall review the *capacity prudential support* requirements set out in this chapter at least once every three years, as part of the review of the *prudential support* requirements pursuant to section 5.1.2.

5B.2 Market Participant Obligations

5B.2.1 Each *market participant* shall initially and continually satisfy the obligations set forth in this section 5B.2 with regard to the provision of *capacity prudential support* as a condition of delivering on a *capacity obligation*.

5B.2.2 No *market participant* that is required to provide *capacity prudential support* shall participate in the *day-ahead market* or *real-time market* or cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* unless that *market participant* satisfies the requirements of this section 5B.2.

5B.2.3 Each *market participant* shall provide to the *IESO*, on an ongoing basis, such information as the *IESO* may reasonably require for the purpose of determining that *market participant's capacity prudential support obligation*.

5B.2.4 If *capacity prudential support* previously provided to the *IESO* by a *market participant* is due to expire or terminate, and upon expiry or termination of the existing *capacity prudential support*, the total *capacity prudential support* held by the *IESO* in respect of that *market participant* will be less than the *market participant's capacity prudential support obligation*, then at least ten *business days* prior to the time at which the existing security is due to expire or terminate, the *market participant* must provide to the *IESO* replacement *capacity prudential support* which will become effective no later than the expiry or termination of the existing collateral, such that the total *capacity prudential support* provided is at least equal to the *market participant's capacity prudential support obligation*.

- 5B.2.5 Where a *market participant's capacity prudential support obligation* has been reduced pursuant to section 5B.5 and the relevant credit rating is revised or the relevant payment history has changed, such as to result in an increase in the *market participant's capacity prudential support obligation*, then within five *business days*, the *market participant* must provide to the *IESO* additional *capacity prudential support* such that the total *capacity prudential support* provided is at least equal to the *market participant's capacity prudential support obligation* when calculated on the basis of the revised credit rating or payment history.
- 5B.2.6 Where any part of the *capacity prudential support* provided by a *market participant* otherwise ceases to be current or valid for any reason, the *market participant* must immediately so notify the *IESO* and provide to the *IESO*, within two *business days*, replacement *capacity prudential support* such that the total *capacity prudential support* provided is at least equal to the *market participant's capacity prudential support obligation*.
- 5B.2.7 If the *IESO* draws upon part or all of a *market participant's capacity prudential support* in accordance with MR Ch.3 s.6.3.3.2 and the remaining *capacity prudential support* held by the *IESO* in respect of that *market participant* is less than the *market participant's capacity prudential support obligation*, the *market participant* must, within five *business days* of receiving notice from the *IESO*, provide the *IESO* with additional *capacity prudential support* such that the total *capacity prudential support* provided is at least equal to the *market participant's capacity prudential support obligation*.

5B.3 Calculation of Capacity Prudential Support Obligations

- 5B.3.1 The *IESO* shall determine, in accordance with the applicable *market manual*, for each *market participant*, a *capacity prudential support obligation* for each *obligation period*, based on a percentage of the highest monthly availability payment, less any allowable reductions pursuant to section 5B.5.
- 5B.3.2 The *IESO* shall review the *capacity prudential support obligation* of each *market participant* as follows:
- 5B.3.2.1 prior to the start of each *obligation period*;
 - 5B.3.2.2 within two *business days* after it receives notice of any changes to the status of a *market participant* as compared to such status that was in effect when the *market participant's capacity prudential support* was last calculated; or
 - 5B.3.2.3 as a result of either a change in or loss of a *market participant's* credit rating or good payment history reduction calculated in accordance with section 5B.5.

5B.3.3 The *IESO* may change the *capacity prudential support obligation* for a *market participant* at any time as a result of a review conducted pursuant to section 5B.3.2, and shall promptly notify the *market participant* of any such change. Any change to a *market participant's capacity prudential support obligation* shall apply with effect from such time, not being earlier than the time of notification of the change to the *market participant*, as the *IESO* may specify in the notice. The *market participant* must supply the *IESO*, within five *business days* of the effective date of the change, any additional *capacity prudential support* that may be required as a result of an increase in the *market participant's capacity prudential support obligation* that results from such change.

5B.4 Obligation to Provide Capacity Prudential Support

5B.4.1 Each *market participant* must provide to the *IESO* and maintain *capacity prudential support*, the value of which is at least equal to the *market participant's capacity prudential support obligation*. The aggregate value of the *capacity prudential support* shall be equal to the value of the undrawn or unclaimed amounts of *capacity prudential support* provided by the *market participant*.

5B.4.2 A *market participant's capacity prudential support obligation* must be met through the provision to the *IESO* and the maintenance of *capacity prudential support* in the following form:

- 5B.4.2.1 a guarantee or irrevocable commercial letter of credit, which in both cases must be in a form acceptable to the *IESO* and provided by:
- a. a bank named in a Schedule to the *Bank Act*, S.C. 1991, c.46 with a minimum long-term credit rating of "A" from an *IESO* acceptable major bond rating agency as identified in the list referred to in section 5B.5.7; or
 - b. a credit union licensed by the Financial Services Commission of Ontario with a minimum long-term credit rating of "A" from an *IESO* acceptable major bond rating agency as identified in the list referred to in section 5B.5.7.

5B.4.3 The following provisions shall apply to a guarantee or irrevocable letter of credit provided in section 5B.4.2.1:

5B.4.3.1 the letter of credit shall provide that it is issued subject to either The Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600 or The International Standby Practices 1998;

5B.4.3.2 the *IESO* shall be named as beneficiary in each letter of credit, each letter of credit shall be irrevocable, partial draws on any letter of credit shall not be prohibited and the letter of credit or the aggregate

amount of all letters of credit shall be in the face amount of at least the amount specified by the *IESO*;

- 5B.4.3.3 the only conditions on the ability of the *IESO* to draw on the letter of credit shall be the occurrence of an *event of default* by or in respect of the *market participant* and a certificate of an officer of the *IESO* that the *IESO* is entitled to draw on the letter of credit, in accordance with the provisions of the *market rules* in the amount specified in the certificate as at the date of delivery of the certificate;
- 5B.4.3.4 the letter of credit shall either provide for automatic renewal (unless the issuing bank advises the *IESO* at least thirty days prior to the renewal date that the letter of credit will not be renewed) or be for a term of at least one (1) year. In either case it is the responsibility of the *market participant* to maintain the requisite amount of *capacity prudential support*. Where the *IESO* is advised that a letter of credit is not to be renewed or the term of the letter of credit is to expire, the *market participant* shall arrange for and deliver alternative *capacity prudential support* within the time frame mandated by the *market rules* so as to enable the *market participant* to be in compliance with the *market rules*; and
- 5B.4.3.5 by including a letter of credit as part of its *capacity prudential support*, the *market participant* represents and warrants to the *IESO* that the issuance of the letter of credit is not prohibited in any other agreement, including without limitation, a negative pledge given by or in respect of the *market participant*.

5B.4.4 For the purpose of section 5B.4.2.1, the *IESO* shall establish, maintain, and *publish* a list of organizations eligible to provide the *capacity prudential support* referred to in section 5B.4.2.1 and shall establish for each such eligible *capacity prudential support* provider, an aggregate limit of the *capacity prudential support* that may be provided by that *capacity prudential support* provider to *market participants*. If aggregate limits are reached for any of these eligible organizations, *market participants* will be required to obtain *capacity prudential support* from other eligible organizations that are still within their respective *capacity prudential support* limits.

5B.4.5 In the event that the *capacity prudential support* provided by a *market participant* is a greater amount than required by the *market rules*, the *IESO* shall, upon written request by the *market participant*, return to the *market participant* an amount equal to the difference between the value of *capacity prudential support* held by the *IESO* and the *capacity prudential support obligation* of the *market participant* at that time. The *IESO* shall return such amount within five *business days* of the receipt of the request for the return of the amount from the *market participant*. In all circumstances, the *IESO* shall return *capacity prudential*

support only after all payments and charges for the final month of a *commitment period* have been settled.

- 5B.4.6 The minimum terms and conditions that shall be included in the *capacity prudential support* in accordance with section 5B.4.2.1 shall be as follows:
- 5B.4.6.1 *capacity prudential support* shall be obligations in writing;
 - 5B.4.6.2 *capacity prudential support* shall constitute valid and binding unsubordinated obligations to pay to the *IESO* amounts in accordance with its terms which relate to the obligations of the relevant *market participant* under the *market rules*; and
 - 5B.4.6.3 *capacity prudential support* shall permit drawings or claims by the *IESO* on demand to a stated certain amount, including partial drawings or claims.
- 5B.4.7 Upon the occurrence of an *event of default*, the *IESO* shall be entitled to exercise its rights and remedies as set out in the *market rules*, or provided for at law or in equity. Without limiting the generality of the foregoing, such rights and remedies shall, in respect of the *capacity prudential support* provided by the *market participant*, include setting-off and applying any and all *capacity prudential support* held against the indebtedness, obligations and liabilities of the *market participant* to the *IESO* in respect of the participation by the *market participant* in the *day-ahead market* or the *real-time market*, including the costs, charges, expenses and fees described in section 5B.4.9.
- 5B.4.8 Each of the remedies available to the *IESO* under the *market rules* or at law or in equity is intended to be a separate remedy and in no way is a limitation on or substitution for any one or more of the other remedies otherwise available to the *IESO*. The rights and remedies expressly specified in the *market rules* or at law or in equity are cumulative and not exclusive. The *IESO* may in its sole discretion exercise any and all rights, powers, remedies and recourses available under the *market rules* or under any document comprising the *capacity prudential support* provided by the *market participant* or any other remedy available to the *IESO* howsoever arising, and whether at law or in equity, and such rights, powers and remedies and recourses may be exercised concurrently or individually without the necessity of any election.
- 5B.4.9 The *market participant* agrees to pay to the *IESO* forthwith on demand all reasonable costs, charges, expenses and fees (including, without limiting the generality of the foregoing, legal fees on a substantial indemnity basis) of or incurred by or on behalf of the *IESO* in the realization, recovery or enforcement of the *capacity prudential support* provided by the *market participant* and enforcement of the rights and remedies of the *IESO* under the *market rules* or at

law or in equity in respect of the participation by the *market participant* in the *day-ahead market* or the *real-time market*.

5B.5 Reductions in Capacity Prudential Support Obligations

5B.5.1 Subject to section 5B.5.2, the *IESO* may reduce the *capacity prudential support obligation* of a rated *market participant*, other than a *distributor*, by an amount equal to the monetary value prescribed by the table below, resulting from a credit rating from a major bond rating agency identified in the list referred to in section 5B.5.7 issued and in effect in respect of the *capacity market participant*.

Credit Rating Category using Standard and Poor's Rating Terminology	Allowable Reduction in Prudential Support
AA- and above or equivalent	100% of the <i>capacity prudential support obligation</i> before allowable reductions
A-, A, A+ or equivalent	Greater of 90% of the <i>capacity prudential support obligation</i> before allowable reductions or \$37,500,000
BBB-, BBB, BBB+ or equivalent	Greater of 65% of the <i>capacity prudential support obligation</i> before allowable reductions or \$15,000,000
BB-, BB, BB+ or equivalent	Greater of 30% of the <i>capacity prudential support obligation</i> before allowable reductions or \$4,500,000
Below BB- or equivalent	0

5B.5.1A Subject to section 5B.5.2, the *IESO* may reduce the *capacity prudential support obligation* of a rated *distributor* by an amount equal to the monetary value prescribed by the table below, resulting from a credit rating from a major bond rating agency identified in the list referred to in section 5B.5.7 issued and in effect in respect of the *capacity market participant*.

Credit Rating Category using Standard and Poor's Rating Terminology	Allowable Reduction in Prudential Support
AA- and above or equivalent	100% of the <i>capacity prudential support obligation</i> before allowable reductions
A-, A, A+ or equivalent	Greater of 95% of the <i>capacity prudential support obligation</i> before allowable reductions or \$45,000,000
BBB-, BBB, BBB+ or equivalent	Greater of 80% of the <i>capacity prudential support obligation</i> before allowable reductions or \$22,500,000

Credit Rating Category using Standard and Poor's Rating Terminology	Allowable Reduction in Prudential Support
BB-, BB, BB+ or equivalent	Greater of 55% of the <i>capacity prudential support obligation</i> before allowable reductions or \$7,500,000
Below BB- or equivalent	0

5B.5.2 Any recommendation to move a *market participant* to "credit watch negative" by any of the major bond rating agencies identified in the list referred to in section 5B.5.7, shall be deemed to automatically result in a one-notch reduction in terms of the credit rating (for example, from BBB+ to BBB) of that *market participant* for the purpose of determining the *market participant's capacity prudential support obligation*.

5B.5.3 Where a *market participant's capacity prudential support obligation* reflects a reduction by reason of the *market participant's* credit rating from a major bond agency identified in the list referred to in section 5B.5.7, the *market participant* shall advise the *IESO* in writing immediately upon the *market participant* becoming aware of either a change in or loss of the then current credit rating or the decision of the bond rating agency to place the *market participant* on "credit watch status" or equivalent.

5B.5.4 Subject to section 5B.5.6, the *IESO* may reduce the *market participant's capacity prudential support obligation* in accordance with sections 5B.5.5 or 5B.5.5A based on the *market participant's* historical good payment history in the *IESO-administered markets*, provided that the *market participant's* payment history includes no *event of default*.

5B.5.5 The *IESO* shall determine the dollar amount of any allowable reduction in the *capacity prudential support obligation* of an unrated *market participant*, other than a *distributor*, by an amount equal to the monetary value prescribed, by the table below:

Good Payment History Categories for Non-Distributors	Allowable Reduction in Prudential Support
≥6 years	Lesser of 50% of the <i>capacity prudential support obligation</i> before allowable reductions or \$12,000,000
≥5 years, <6 years	Lesser of 30% of the <i>capacity prudential support obligation</i> before allowable reductions or \$7,500,000

Good Payment History Categories for Non-Distributors	Allowable Reduction in Prudential Support
≥4, <5 years	Lesser of 25% of the <i>capacity prudential support obligation</i> before allowable reductions or \$6,000,000
≥3, <4 years	Lesser of 20% of the <i>capacity prudential support obligation</i> before allowable reductions or \$4,500,000
≥2, <3 years	Lesser of 15% of the <i>capacity prudential support obligation</i> before allowable reductions or \$3,000,000
<2 years	0

5B.5.5A The *IESO* shall determine the dollar amount of any allowable reduction in the *capacity prudential support obligation* of an unrated *distributor* by an amount equal to the monetary value prescribed, by the table below:

Good Payment History Categories for Distributors	Allowable Reduction in Prudential Support
≥6 years	Lesser of 80% of the <i>capacity prudential support obligation</i> before allowable reductions or \$14,000,000
≥5 years, <6 years	Lesser of 65% of the <i>capacity prudential support obligation</i> before allowable reductions or \$9,000,000
≥4, <5 years	Lesser of 45% of the <i>capacity prudential support obligation</i> before allowable reductions or \$7,500,000
≥3, <4 years	Lesser of 35% of the <i>capacity prudential support obligation</i> before allowable reductions or \$6,000,000
≥2, <3 years	Lesser of 25% of the <i>capacity prudential support obligation</i> before allowable reductions or \$4,500,000
<2 years	0

5B.5.6 The following restrictions shall apply to the provision of reductions in a *market participant's capacity prudential support obligation* as provided for under sections 5B.5.1, 5B.5.1A, and 5B.5.4:

- 5B.5.6.1 a *market participant* shall not be entitled to a reduction in its *capacity prudential support obligation* pursuant to section 5B.5.4 using the payment history of an *affiliate*;
 - 5B.5.6.2 a *market participant* that has a credit rating from a major bond rating agency identified in the list referred to in section 5B.5.7 shall not be entitled to a reduction in its *capacity prudential support obligation* under section 5B.5.4; and
 - 5B.5.6.3 a *market participant's* reduction for either a credit rating or good payment history reduction shall be reduced by the amount of any reductions already granted to the *market participant* under section 5.8.
- 5B.5.7 For the purposes of this chapter, the *IESO* shall establish, maintain, and *publish* a list of major bond rating agencies eligible to provide the credit ratings mentioned in this section 5B.

5C. Virtual Transactions

5C.1 Calculation of Participant Trading Limit, Default Protection Amount and Maximum Net Exposure for Virtual Transactions

Maximum Net Exposure

- 5C.1.1 The *IESO* shall determine, for each *virtual trader*, a *maximum net exposure* for *virtual transactions* as the sum of the *virtual trader's trading limit* for *virtual transactions* and the *virtual trader's default protection amount* for *virtual transactions*.

Maximum Daily Trading Limit

- 5C.1.2 Each *virtual trader* intending to conduct *virtual transactions* shall determine and submit to the *IESO*, using forms and procedures as may be established by the *IESO* in the applicable *market manual*, the absolute value of its *maximum daily trading limit* (in MWh).
- 5C.1.3 The *maximum daily trading limit* submitted by a *virtual trader* under section 5C.1.2 shall be applicable for the current and all future *billing periods* until a revised *maximum daily trading limit* is submitted by that *virtual trader* to the *IESO* in accordance with section 5C.1.2. If a *virtual trader* submits a *maximum daily trading limit* pursuant to section 5C.1.2, that *maximum daily trading limit* shall, subject to section 5C.1.4, supersede any previous *maximum daily trading*

limit, and the previous *maximum daily trading limit* shall not be applicable to any such future *billing periods*.

- 5C.1.4 A *virtual trader's* revised *maximum daily trading limit* submitted in accordance with section 5C.1.3 shall take effect once the *IESO* confirms receipt of any additional *prudential support*, as would be required based on the *virtual trader's* revised *maximum daily trading limit* pursuant to the *market rules*.

Minimum Trading Limit

- 5C.1.5 The *IESO* shall establish a *minimum trading limit* for *virtual transactions* for each *virtual trader* equal to the *IESO's* estimate of the *virtual trader's* net *settlement amounts*, assuming two days of participation in the *day-ahead market*. The *IESO* may use a greater number, up to and including seven days of participation in the *day-ahead market* for the determination of a *virtual trader's* *minimum trading limit* for *virtual transactions*, if that *virtual trader* was subject to more than one *margin call* per *billing period*.

Establishing Trading Limits for Virtual Transactions

- 5C.1.6 For *virtual transactions*, the *IESO* established *minimum trading limit* determined in accordance with section 5C.1.5 shall be the *trading limit* for *virtual transactions* for that *virtual trader* for the current or upcoming *billing period*.

Establishing Default Protection Amounts for Virtual Transactions

- 5C.1.7 The *IESO* shall, for each *energy market billing period*, establish a *default protection amount* for *virtual transactions* for each *virtual trader* equal to the *IESO's* estimate of the *virtual trader's* net *settlement amounts*, assuming seven days of participation in the *day-ahead market*.

Requirement to Provide Prudential Support

- 5C.1.8 If a *virtual trader's* *maximum net exposure* for *virtual transactions*, as calculated by the *IESO*, is zero or negative, the *virtual trader* is not required to provide any form of *prudential support* for *virtual transactions* to the *IESO*. If a *virtual trader's* *maximum net exposure* for *virtual transactions*, as calculated by the *IESO*, is positive, the *virtual trader* must provide an amount of *prudential support* to the *IESO* equal to its *prudential support obligation* for *virtual transactions*.

Price Delta Used for Determining Minimum Trading Limit and Default Protection Amount

- 5C.1.9 For purposes of calculating the *minimum trading limit* for *virtual transactions* and the *default protection amount* for *virtual transactions*, the *IESO* shall determine the price delta (ΔDAP_{VT} , $ARTP_{VT}$) as follows:

- 5C.1.9.1 The price delta ($\Delta DAP_{VT}, ARTP_{VT}$) will be determined as the value that is the percentile set out in the applicable *market manual* of the following values ranked from lowest to highest:
- a. In respect of all *virtual transaction zones*, the absolute value of the difference between the *day-ahead market virtual zonal price* and the hourly average *real-time market virtual zonal price* of the same *settlement hours* for all *settlement hours* within the immediately preceding three-year period.
- 5C.1.9.2 Until three years of historical data is available, the price delta ($\Delta DAP_{VT}, ARTP_{VT}$) shall be estimated by the *IESO* based on relevant proxies and deemed to mean the "interim price delta" ($\Delta DAP_{VTI}, ARTP_{VTI}$). The interim price delta may consider, but will not be limited to the following:
- a. shadow prices from the day-ahead commitment process and the *real-time market*;
 - b. price delta information from *day-ahead markets* and *real-time markets* in neighbouring electricity systems; and
 - c. temporal weightings of the data used to calculate the price deltas ($\Delta DAP_{VT}, ARTP_{VT}$).
- 5C.1.10 The *IESO* shall review the price delta referred to in section 5C.1.9, at least once annually. The *IESO* shall modify the applicable price delta if it has increased or decreased by 15% or more from the price delta used by the *IESO*.
- 5C.1.11 The *IESO* shall *publish* annually the price delta described in section 5C.1.9, and *publish* any modified price delta information resulting from a review pursuant to section 5C.1.10.

Reviewing and Modifying Trading Limits, Default Protection Amount and Maximum Net Exposure

- 5C.1.12 The *IESO* may review the *minimum trading limit*, *trading limit*, *default protection amount* and *maximum net exposure*, for *virtual transactions*, of each *virtual trader* in circumstances that include:
- 5C.1.12.1 prior to the start of each *energy market billing period*;
 - 5C.1.12.2 within two *business days* after a *virtual trader's actual exposure* for *virtual transactions* exceeds the *virtual trader's trading limit* for *virtual transactions*;
 - 5C.1.12.3 within two *business days* after it receives notice of any changes to the status of a *virtual trader* as compared to such status that was in effect when the *virtual trader's maximum net exposure* for *virtual*

transactions was last calculated if the *IESO* determines that the change in such status would have a material impact on the *virtual trader's maximum net exposure* for *virtual transactions*;

5C.1.12.4 when the *IESO* has adjusted a *virtual trader's minimum trading limit*, if the *virtual trader* was subject to more than one *margin call* per *energy market billing period*, pursuant to section 5C.1.4;

5C.1.12.5 when the *IESO* has adjusted the price delta under section 5C.1.9; and

5C.1.12.6 when a *virtual trader* submits a revised *maximum daily trading limit* in accordance with section 5C.1.3.

5C.1.13 The *IESO* may change the *minimum trading limit*, *trading limit*, *default protection amount*, *maximum net exposure* or the *prudential support obligation*, for *virtual transactions*, for a *virtual trader* at any time as a result of a review conducted pursuant to section 5C.1.12 and shall promptly notify the *virtual trader* of any such change. Any change to a *virtual trader's minimum trading limit*, *trading limit*, *default protection amount*, *maximum net exposure* or *prudential support obligation* for *virtual transactions* shall apply with effect from such time, not being earlier than the time of notification of the changed *minimum trading limit*, *trading limit*, *default protection amount*, *maximum net exposure* or *prudential support obligation* for *virtual transactions* to the *virtual trader*, as the *IESO* may specify in the notice. The *virtual trader* must supply the *IESO*, within five *business days* of the effective date of the change, any additional *prudential support* for *virtual transactions* that may be required as a result of an increase in the *virtual trader's prudential support obligation* that results from such change.

5C.2 Monitoring of Actual Exposure and Trading Limit for Virtual Transactions

5C.2.1 If at any time the *actual exposure* for *virtual transactions* of a *virtual trader* that is not authorized to conduct *physical transactions*, is equal to or exceeds 70% and is less than 100% of the *virtual trader's trading limit* for *virtual transactions*, the *IESO* shall inform the *virtual trader* of that fact. The *virtual trader* may, but is not required to, make a cash payment to be applied to reduce its *actual exposure* or take other action to prevent its *actual exposure* from reaching its *trading limit*. No interest shall be paid on any such payment.

5C.2.2 If at any time the *actual exposure* for *virtual transactions* of a *virtual trader* that is not authorized to conduct *physical transactions*, equals or exceeds the *virtual trader's trading limit* for *virtual transactions*, the *IESO* shall issue to the *virtual trader* a *margin call* in respect of *virtual transactions*. Upon issuance of a *margin call*, the *IESO* shall reject subsequent *virtual trader bids* and *offers* for *virtual transactions* until the *virtual trader* satisfies the *margin call* in accordance with section 5C.4.1.

5C.3 Calculation of Actual Exposure for Virtual Transactions

5C.3.1 For the purposes of sections 5C.2 and 5D.2.2, a *virtual trader's actual exposure* for *virtual transactions* shall be a dollar amount determined by the *IESO* each *business day*, in accordance with the applicable *market manual*, and shall be equal to:

5C.3.1.1 the aggregate of:

- a. all amounts payable by the *virtual trader* in respect of *virtual transactions* for *billing periods* prior to the current *billing period* which remain unpaid by the *virtual trader*, whether or not the *market participant payment date* thereof has yet been reached; and
- b. the *IESO's* reasonable estimate of the aggregate hourly and non-hourly *settlement amounts* payable by the *virtual trader* in respect of *virtual transactions* which have already occurred in the current *billing period*;

5C.3.1.2 less the aggregate of:

- a. all amounts payable to the *virtual trader* in respect of *virtual transactions* for *billing periods* prior to the current *billing period* which remain unpaid, whether or not the *IESO payment date* thereof has yet been reached; and
- b. the *IESO's* reasonable estimate of the aggregate hourly and non-hourly *settlement amounts* payable to the *virtual trader* in respect of *virtual transactions* which have already occurred in the current *billing period*.

5C.3.2 The *IESO* shall *publish* daily, a price delta for the purposes of calculating the daily cumulative *actual exposure* for *virtual transactions*. This price delta will be determined as the value that is the percentile set out in the applicable *market manual* of the following values ranked from lowest to highest:

5C.3.2.1 In respect of each *virtual transaction zone*, the absolute value of the difference between the *day-ahead market virtual zonal price* and the hourly average *real-time market virtual zonal price* of the same *settlement hours* for all *settlement hours* within the following days:

- a. the 30 days immediately prior to *trading day* for which the price delta is being *published*;
- b. the *trading day* that is exactly 1 year prior to the *trading day* for which the price delta is being *published*;

- c. the 30 days immediately prior to and the 30 days immediately following the *trading day* referred to in subsection b;
- d. the *trading day* that is exactly 2 years prior to the *trading day* for which the price delta is being *published*; and
- e. the 30 days immediately prior to and the 30 days immediately following the *trading day* referred to in subsection d.

5C.3.3 Notwithstanding section 5C.3.2, until the requisite amount of historical data is available, the price delta shall be determined by the *IESO* using the same methodology as described in section 5C.3.2 except using shadow prices from the day-ahead commitment process and the *real-time market* as necessary to ensure the requisite amount of data is included in the determination of the price delta.

5C.4. Margin Call Requirements for Virtual Transactions

5C.4.1 A *virtual trader* that is not also authorized to conduct *physical transactions* must satisfy a *margin call* in respect of *virtual transactions* within the time prescribed in section 5C.4.2 by paying a portion of the amount payable or which will become payable in respect of the previous or current *energy market billing period*, in accordance with MR Ch.9, in an amount sufficient to reduce the *virtual trader's actual exposure* for *virtual transactions* to no more than the dollar equivalent of 75% of the *virtual trader's trading limit* for *virtual transactions*. No interest shall be paid on such payments.

5C.4.2 The time within which a *margin call* in respect of *virtual transactions* must be satisfied under section 5C.4.1 shall be by 4:00 pm on the second *business day* following the date of the *margin call*.

5C.4.3 For the purposes of the *market rules*, a payment made pursuant to section 5C.4.2 shall be applied first to the amount outstanding for *virtual transactions* with respect to the earliest *billing period* under the *market rules* and, if the amount outstanding under the *market rules* in respect of that *billing period* is less than the amount of the payment, then the excess shall be applied to the next earliest *billing period* for *virtual transactions* in respect of which there is an amount outstanding under the *market rules* and so on until there is no excess.

5C.4.4 Upon receipt of a *margin call* payment in respect of *virtual transactions* in accordance with section 5C.4.1, the *IESO* shall reinstate the *virtual trader's* ability to conduct *virtual transactions*.

5C.5 Obligation to Provide Prudential Support for Virtual Transactions

- 5C.5.1 Each *virtual trader* must meet its obligation under this section 5C to provide and maintain *prudential support* for *virtual transactions* by providing to the *IESO* and maintaining *prudential support*, the value of which is equal to the *virtual trader's prudential support obligation* for *virtual transactions*.
- 5C.5.2 A *virtual trader's prudential support obligation* for *virtual transactions* must be met through the provision to the *IESO* and the maintenance of *prudential support* in one or more of the following forms:
- 5C.5.2.1 a guarantee or irrevocable commercial letter of credit, which in both cases must be in a form acceptable to the *IESO* and provided by:
- a. a bank named in a Schedule to the *Bank Act*, S.C. 1991, c.46 with a minimum long-term credit rating of "A" from a major bond rating agency as identified in the list referred to in section 5C.5.3; or
 - b. a credit union licensed by the Financial Services Regulatory Authority of Ontario with a minimum long-term credit rating of "A" from a major bond rating agency as identified in the list referred to in section 5C.5.3.
- 5C.5.3 For the purposes of sections 5C.5.2.1, the *IESO* shall establish, maintain, update as required and *publish* a list of organizations eligible to provide the *prudential support* referred to in sections 5C.5.2.1 and shall establish, for each such eligible *prudential support* provider, an aggregate limit of the *prudential support* that may be provided by that *prudential support* provider to *virtual traders*. If aggregate limits are reached for any of these eligible organizations, *virtual traders* will be required to obtain *prudential support* from other eligible organizations that are still within their respective *prudential support* limits.

5C.6 Reductions in Prudential Support Obligations for Virtual Transactions

- 5C.6.1 Subject to the *IESO's* approval, a *virtual trader* that is a *market creditor* based on its *physical transactions* as a *generator*, that has achieved *market creditor* status in its most recent six *energy market billing periods*, may receive a reduction to its *prudential support obligation* for *virtual transactions* as calculated by the *IESO*, by an amount up to 75% of the average amount that the *IESO* owes to the *virtual trader* during the relevant six *billing periods*.

5D. Prudential Support for Market Participants Authorized to Conduct Both Physical Transactions and Virtual Transactions

5D.1 Purpose and Application

5D.1.1 This section 5D shall apply to a *market participant* that is authorized to conduct both *physical transactions* and *virtual transactions*.

5D.2 Calculation of Consolidated Actual Exposure and Consolidated Trading Limit

5D.2.1 The consolidated *actual exposure* of a *market participant* shall be the sum of the *market participant's actual exposure* for *physical transactions* in accordance with section 5.5 and the *actual exposure* for *virtual transactions* in accordance with section 5C.3.

5D.2.2 The consolidated *trading limit* of a *market participant* shall be the sum of the *market participant's trading limit* for *physical transactions* in accordance with section 5.3 and the *trading limit* for *virtual transactions* in accordance with section 5C.1.5.

5D.3 Monitoring of Consolidated Actual Exposure and Consolidated Trading Limit

5D.3.1 If at any time the consolidated *actual exposure* of a *market participant* is equal to or exceeds 70% and is less than 100% of the *market participant's consolidated trading limit*, the *IESO* shall inform the *market participant* of that fact. The *market participant* may, but is not required to, make a cash payment to be applied to reduce its consolidated *actual exposure* or take other action to prevent its consolidated *actual exposure* from reaching its consolidated *trading limit*. No interest shall be paid on any such payment.

5D.3.2 If at any time the consolidated *actual exposure* of a *market participant* equals or exceeds the *market participant's consolidated trading limit*, the *IESO* shall issue to the *market participant* a consolidated *margin call*. Upon issuance of a consolidated *margin call*, the *IESO* shall reject subsequent *market participant bids* and *offers* for *virtual transactions* until the *market participant* satisfies the consolidated *margin call* in accordance with section 5D.4.1.

5D.4 Consolidated Margin Call Requirements

5D.4.1 A *market participant* must satisfy a consolidated *margin call* within the time prescribed in section 5D.4.2 by paying a portion of the amount payable or which will become payable in respect of the previous or current *energy market billing period*, in accordance with MR Ch. 9, in an amount sufficient to reduce the *market participant's consolidated actual exposure* to no more than the dollar equivalent of 75% of the *market participant's consolidated trading limit*. No interest shall be paid on such payments.

- 5D.4.2 The time within which a consolidated *margin call* must be satisfied under section 5D.4.1 shall be by 4:00 pm on the second *business day* following the date of the *margin call*.
- 5D.4.3 For the purposes of the *market rules*, a payment made pursuant to section 5D.4.1 shall be applied first to the amount outstanding with respect to the earliest *billing period* under the *market rules* and, if the amount outstanding under the *market rules* in respect of that *billing period* is less than the amount of the payment, then the excess shall be applied to the next earliest *billing period* in respect of which there is an amount outstanding under the *market rules* and so on until there is no excess.
- 5D.4.4 Upon receipt of a payment made in response to a consolidated *margin call* in accordance with this section 5D.4.1, the *IESO* shall reinstate the *market participant's* ability to conduct *virtual transactions*.

5D.5 Obligation to Provide Prudential Support for Market Participants Authorized to Conduct Both Physical Transactions and Virtual Transactions

- 5D.5.1 *Market participants* authorized to conduct both *physical transactions* and *virtual transactions* shall provide and maintain:
- 5D.5.1.1 *prudential support for physical transactions*, the value of which is not less than the *market participant's prudential support obligation for physical transactions* as calculated by the *IESO* in accordance with sections 5.3 and 5.8, and in the forms of *prudential support for physical transactions* specified in section 5.7; and
 - 5D.5.1.2 *prudential support for virtual transactions*, the value of which is not less than the *market participant's prudential support obligation for virtual transactions* as calculated by the *IESO* in accordance with sections 5C.1 and 5C.6, and in the forms of *prudential support for virtual transactions* specified in section 5C.5.

6. Technical Requirements

6.1 Technical Requirements

- 6.1.1 Each *market participant, embedded generator, embedded electricity storage participant* and *embedded load consumer* shall, in addition to ensuring that its *facilities* and equipment meet all other applicable technical requirements set forth in these *market rules* ensure that its *facilities*:

- 6.1.1.1 meet the applicable technical requirements of Appendix 2.2; and
- 6.1.1.2 are capable of meeting the performance standards referred to in MR Ch.4 ss.7.3.1.4, 7.3A.1.4, 7.4.1.2, 7.5.1.2 or 7.6.1.2, as the case may be.

6.2 Certification, Testing and Inspection for Authorization

- 6.2.1 Each person referred to in section 6.1.1 that applies for authorization as a *market participant* shall, as a condition of obtaining authorization as a *market participant* pursuant to section 3 or 4.1.1, certify to the *IESO* that its *participant workstation* complies with all applicable technical requirements set forth in MR Ch.2 App.2.2.
- 6.2.2 Each person referred to in section 6.1.1 that applies for authorization as a *market participant* shall, as a condition of obtaining authorization as a *market participant* pursuant to section 3 or 4.1.1, successfully complete such testing and permit such inspection as the *IESO* may require for the purposes of testing or inspecting whether the person's *participant workstation* meets all applicable technical requirements set forth in MR Ch.2 App.2.2.

6.3 Certification, Testing and Inspection for Registration of Facilities

- 6.3.1 Each *market participant* shall, as a condition of obtaining the registration of its *facility* and any associated *resource* or for using a *boundary entity resource* pursuant to MR Ch. 7 s. 2.2 or as a condition of obtaining approval to aggregate *resources*:
 - 6.3.1.1 provide the certifications referred to in MR Ch.7 ss.2.2.3.3 and 2.2.3.4 or in MR Ch.7 ss.2.3.2.4 and 2.3.2.5, as the case may be; and
 - 6.3.1.2 successfully complete the testing and permit the inspection referred to in MR Ch.7 ss.2.2.3.5 or 2.3.2.6, as the case may be.

7. Payment Default Procedure

- 7.1.1 The *events of default* relating to payment and either *prudential support*, *capacity prudential support*, as well as the rights and obligations of the *IESO* and *market participants* upon the occurrence of such *event of default*, are specified in MR Ch.3 s.6.3.

8. Default Levy

8.1 Power to Impose Default Levy

8.1.1 The *IESO* shall be entitled to recover, by means of the imposition of a *default levy* on *non-defaulting market participants*, in accordance with this section 8, the aggregate of any amounts owing to the *IESO* under the *market rules* which have not been paid in full by the *defaulting market participant* and the costs and expenses reasonably incurred by the *IESO* in investigating the default in payment, in realizing on any applicable *prudential support* and in implementing the *default levy*.

8.1.2 The imposition of a *default levy* pursuant to this section 8 shall in no way waive, excuse or relieve a *defaulting market participant* of its obligations under the *market rules* and shall be without prejudice to:

8.1.2.1 such rights or remedies which the *IESO* may otherwise have to recover all amounts owing by the *defaulting market participant*; and

8.1.2.2 the right of the *IESO* to take such other action, including but not limited to the issuance of a *suspension order*, as may be provided for in these *market rules* in respect of the *defaulting market participant's* default in payment.

8.1.3 [Intentionally left blank – section deleted]

8.1.4 The provisions of this section 8 apply only to a default in payment by a *defaulting market participant* in the *real-time market* or the *day-ahead market*. Default in payment by a *defaulting market participant* in the *TR market* shall be addressed in accordance with the provisions of MR Ch.8 s.3.

8.2 Notice of First Default Levy

8.2.1 Where a *market participant* has failed to either remit or cause to be remitted to the *IESO settlement clearing account* the full amount due by that *market participant* by the close of banking business (of the bank at which the *IESO settlement clearing account* is held) on a *market participant payment date*:

8.2.1.1 [Intentionally left blank]

8.2.1.2 [Intentionally left blank]

8.2.1.3 the *IESO* may take such steps as may be permitted by MR Ch.9 s.6.16.

- 8.2.2 Where the *IESO* has issued a *suspension order* or *termination order* to a *defaulting market participant*, the *IESO* may:
- 8.2.2.1 issue a first *notice of default levy* in accordance with section 8.2.3; and
 - 8.2.2.2 take such steps, if it has not already done so, as may be required to realize, in accordance with section 3 of Appendix 2.3, any *prudential support* held in respect of the *defaulting market participant* the right to realization of which is triggered by the default in payment at issue.
- 8.2.3 A first *notice of default levy* shall be issued to each *non-defaulting market participant* that participated in the *real-time market* or the *day-ahead market* to which the default in payment by the *defaulting market participant* relates during the *billing period* to which such default relates and shall identify:
- 8.2.3.1 the name of the defaulting *market participant*;
 - 8.2.3.2 [Intentionally left blank];
 - 8.2.3.3 the *defaulting market participant's default amount*, calculated in accordance with section 8.3.1;
 - 8.2.3.4 the amount of the first *default levy* calculated in accordance with section 8.3.2; and
 - 8.2.3.5 [Intentionally left blank];
 - 8.2.3.6 [Intentionally left blank];
 - 8.2.3.7 the *non-defaulting market participant's* share of the first *default levy*, calculated in accordance with section 8.6.1.
- 8.2.4 The first *notice of default levy* shall be issued at least ten days prior to the date on which the *invoice* imposing the first *default levy* on *non-defaulting market participants* is issued by the *IESO* in accordance with section 8.6.2.

8.3 Calculation of Default Amount and First Default Levy

- 8.3.1 For the purposes of section 8.2.3.3, the *market participant's default amount* shall be the aggregate of:
- 8.3.1.1 the net *invoice* amount payable by the *defaulting market participant* for the *billing period* in respect of which payment has not been received within the time specified in section 8.2.2, exclusive of any amounts payable on account of financial penalties or damages; and

8.3.1.2 any *default interest* payable in respect of the amount referred to in section 8.3.1.1 that has accrued since the *market participant payment date* referred to in section 8.2.1 in accordance with MR Ch.9 s.6.16.3.

8.3.2 For the purposes of section 8.2.3.4, the amount of the first *default levy* shall be:

8.3.2.1 the aggregate of:

a. the *defaulting market participant's default amount*, calculated in accordance with section 8.3.1; and

b. any costs and expenses reasonably incurred to the date of issuance of the first *notice of default levy* by the *IESO* in investigating the default in payment to which the *default levy* relates, in realizing on any applicable *prudential support* held in respect of the *defaulting market participant* and in implementing the *default levy*;

8.3.2.2 less the aggregate unclaimed or undrawn dollar amount of all *prudential support* held in respect of the *defaulting market participant* the right to realization of which is triggered by the default in payment at issue.

8.3.3 The first *default levy* shall be apportioned amongst and *invoiced* to *non-defaulting market participants* in accordance with sections 8.6.1 and 8.6.2.

8.4 Notice of Second Default Levy

8.4.1 Unless the amount of the first *default levy* is equal to the *defaulting market participant's default amount* the *IESO* shall, issue a second *notice of default levy* or further successive *default levy* notices in accordance with section 8.4.2.

8.4.2 The second *notice of default levy* or successive residual *default levy* notices shall be issued to each *non-defaulting market participant* on whom the residual *default levy amount period* has been imposed and shall identify:

8.4.2.1 the name of the defaulting *market participant*;

8.4.2.2 [Intentionally left blank];

8.4.2.3 the *defaulting market participant's* residual *default amount*, calculated in accordance with section 8.5.1;

8.4.2.4 the aggregate amount of the first *default levy* or *default levies*;

8.4.2.5 [Intentionally left blank];

8.4.2.6 [Intentionally left blank];

8.4.2.7 the amount of the residual *default levy*, calculated in accordance with section 8.5.2; and

8.4.2.8 the *non-defaulting market participant's* share of the second *default levy*, calculated in accordance with section 8.6.1.

8.4.3 The second *notice of default levy* shall be issued at least ten days prior to the date on which the *invoice* imposing the second *default levy* on *non-defaulting market participants* is issued by the *IESO* in accordance with section 8.6.2.

8.5 Calculation of Residual Default Amount and Second Default Levy

8.5.1 For the purposes of section 8.4.2.3, the *defaulting market participant's* residual *default amount* shall be:

8.5.1.1 the aggregate of:

- a. the net *invoice* amount payable by the *defaulting market participant* for the *billing period* in respect of which payment has not been received as of the date of issuance of the second *notice of default levy*, exclusive of any amounts payable on account of financial penalties or damages; and
- b. any *default interest* payable in respect of the amount referred to in section 8.5.1.1(a) that has accrued since the date of issuance of the first *notice of default levy* in accordance with MR Ch.9 s.6.16.3;

8.5.1.2 less the aggregate of:

- a. the amount of the first *default levy*; and
- b. any amount that has been recovered by the *IESO* since the date of issuance of the first *notice of default levy* under any *prudential support* held in respect of the *defaulting market participant*.

8.5.2 For the purposes of section 8.4.2.7, the amount of the second *default levy* shall be the aggregate of:

8.5.2.1 the *defaulting market participant's* residual *default amount*, calculated in accordance with section 8.5.1; and

8.5.2.2 any costs and expenses reasonably incurred by the *IESO* in investigating the default in payment to which the *default levy* relates, in realizing any applicable *prudential support* and in implementing the *default levy* since the date on which the first *default levy* was calculated.

8.5.3 The second *default levy* shall be apportioned and *invoiced* to *non-defaulting market participants* in accordance with sections 8.6.1 and 8.6.2.

8.6 Apportionment and Invoicing of Default Levy

8.6.1 For the purposes of sections 8.2.3.7 and 8.4.2.8, the amount of a *default levy* shall be apportioned amongst all *non-defaulting market participants* to whom a *notice of default levy* has been issued in accordance with sections 8.2.3 or 8.4.2 by allocating to each *non-defaulting market participant* a share of the *default levy* calculated as follows:

8.6.1.1 in the case of a *default levy* imposed in respect of a default in the *real-time market* and the *day-ahead market*, the share allocated to each *non-defaulting market participant* shall be determined on the basis of the following formula:

[<i>default amount</i> x (absolute value of the <i>non-defaulting market participant's net invoice</i> amount, exclusive of any amounts payable on account of financial penalties or damages, in the <i>real-time market</i> and the <i>day-ahead market</i> for the <i>billing period</i> to which the default in payment by the <i>defaulting market participant</i> relates)]	divided by	net transaction dollar amount
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Where the *net transaction dollar amount* is:

Σ the absolute value, in dollars, of each <i>market participant's net invoice</i> amount, for the <i>energy market billing period</i> to which the default in payment by the <i>defaulting market participant</i> relates	Minus	the absolute value, in dollars, of the <i>defaulting market participant's net invoice</i> amount for such <i>energy market billing period</i> ;
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8.6.2 Subject to section 8.6.3, a *non-defaulting market participant's* share of a *default levy* shall be included in or with the first *invoice* scheduled to be issued to the *non-defaulting market participant* pursuant to MR Ch.9 following the expiry of

the time noted in section 8.2.4 or 8.4.3, as the case may be, in respect of each *IESO-administered market* to which the *default levy* relates.

- 8.6.3 Where, for any reason, no *invoice* is scheduled to be issued to a *non-defaulting market participant* to whom a second *notice of default levy* has been issued under section 8.4.2, the *IESO* shall issue an *invoice* to that *non-defaulting market participant* comprising the amount of that *non-defaulting market participant's* share of the second *default levy*. Any such *non-defaulting market participant* shall pay to the *IESO* the *invoice* amount on the second *business day* following receipt of the *invoice*.

8.7 Allocation of Default Levy

- 8.7.1 The *IESO* shall allocate amounts received from *non-defaulting market participants* in respect of a *default levy*:
- 8.7.1.1 first, to repay any short-term funds borrowed by the *IESO* pursuant to MR Ch.9 s.6.16.5 on account of the *defaulting market participant's* default in payment; and
 - 8.7.1.2 [Intentionally left blank]
 - 8.7.1.3 second, to the payment of amounts owed by the *defaulting market participant* to the *IESO* on account of the *IESO administration charge*.
- 8.7.2 Amounts received from *non-defaulting market participants* in respect of a *default levy* to cover the reasonable costs and expenses referred to in sections 8.3.2.1 and 8.5.2.2 shall be used to offset the *IESO administration charge*.

8.8 Other Recovery of Default Amounts

- 8.8.1 Notwithstanding the imposition of a *default levy*, the *IESO* shall take all reasonable steps to recover from the *defaulting market participant*, including by means of the realization of any *prudential support* held in respect of a *defaulting market participant* that has not been realized as at the date of calculation of a second *default levy*, all amounts owing to the *IESO* under the *market rules*. The *IESO* may, but shall not be obliged to, follow the dispute resolution process set forth in MR Ch.3 s.2 for the purpose of obtaining such recovery.
- 8.8.2 Subject to section 8.8.3, any full or partial recovery made by the *IESO* pursuant to section 8.8.1 shall be distributed to each *non-defaulting market participant* that remitted payment to the *IESO* on account of a *default levy* on a prorated basis according to, and in an amount that does not exceed, the amount so remitted by the *non-defaulting market participant*. Where the *non-defaulting market participant* is, at the relevant time, still a *market participant*, any such amount shall appear as a credit on the next *invoice* scheduled to be issued to

that *non-defaulting market participant* under MR Ch.9. Where the *non-defaulting market participant* is no longer a *market participant* at the relevant time, any such amount shall be paid to the former *non-defaulting market participant* in such manner as the *IESO* determines appropriate.

- 8.8.3 In the event that the *IESO* cannot, after taking all reasonable steps to do so, locate a former *non-defaulting market participant* that has remitted payment to the *IESO* on account of a *default levy*, any amount that would otherwise be distributed to such former *non-defaulting market participant* under section 8.8.2 shall:
- 8.8.3.1 be allocated and distributed to other *non-defaulting market participants* in the manner described in section 8.8.2; or
 - 8.8.3.2 where other *non-defaulting market participants* have already been reimbursed in respect of a *default levy* and are therefore not entitled to payment of any amounts under section 8.8.2, be used to offset the *IESO administration charge*.
- 8.8.4 Any costs and expenses reasonably incurred by the *IESO* in recovering amounts from a *defaulting market participant* under section 8.8.1 that have not been included in a *default levy* under section 8.3.2.1(b) or 8.5.2.2 shall be included in the *IESO administration charge*.

9. Withdrawal by a Market Participant

- 9.1.1 Provided that the *market participant* has requested that the *IESO* de-register or transfer any applicable *facilities* pursuant to MR Ch.7 ss.2.4 or 2.5, a *market participant* shall notify the *IESO* in writing if it wishes to cease to be a *market participant*. The notice shall specify the date of the *trading day* upon which the *market participant* intends to cease to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*. The *trading day* specified shall not be earlier than the *trading day* on which:
- 9.1.1.1 the last of the *market participant's* applicable *facilities* is to be de-registered by the *IESO* and, where applicable, *disconnected* from the *IESO-controlled grid*, determined in accordance with MR Ch.7 s.2.4; or
 - 9.1.1.2 the registration of the last of the *market participant's* applicable *facilities* is to be transferred by the *IESO*, determined in accordance with MR Ch.7 s.2.5.

- 9.1.2 Upon receipt of the notice referred to in section 9.1.1, the *IESO* must *publish* and provide to all *market participants* a further notice stating that:
- 9.1.2.1 the *IESO* has received a notice under section 9.1.1; and
 - 9.1.2.2 the person who gave the notice has stated that, from the end of the *trading day* specified in the notice, the person intends to cease participating in the *IESO-administered markets* or causing or permitting electricity to be conveyed into, through or out of the *IESO-controlled grid*.
- 9.1.3 The *markets participant* shall cease to participate in the *IESO-administered markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid* no later than the end of the *trading day* specified in the notice given under section 9.1.1.
- 9.1.4 A *market participant* which has given a notice under section 9.1.1 shall cease to be a *market participant* on the date:
- 9.1.4.1 specified in the notice referred to in section 9.1.1;
 - 9.1.4.2 on which the last of the *market participant's* applicable *facilities* is de-registered by the *IESO* and, where applicable, *disconnected* from the *IESO-controlled grid* pursuant to MR Ch.7 s.2.4;
 - 9.1.4.3 on which the registration for the last of the *market participant's* applicable *facilities* has been transferred by the *IESO* pursuant to MR Ch.7 s.2.5;
 - 9.1.4.4 on which all payments due to be paid by it or to it under the *market rules* have been made; or
 - 9.1.4.5 the *market participant* has no further liability under MR Ch.7 s.2.5.4, whichever is the latest. Any *boundary entity resource* registered to be used by such *market participant* shall no longer be used by that *market participant* as of such date.
- 9.1.5 A person who ceases to be a *market participant* shall remain subject to and liable for all of its obligations and liabilities as a *market participant* including, but not limited to, a liability under section 8 and an *adjustment period allocation* debit under MR Ch.9 ss.6.8.11.2, 6.9.4.2, or 6.10.4.4(a) resulting from an event that occurred while such person was a *market participant*, which were incurred or arose under the *market rules* prior to or on the *trading day* on which it ceases to be a *market participant* regardless of the date on which any claim relating thereto may be made.

10. Market Participant Fees

- 10.1.1 The *IESO* shall not less than annually *publish* and notify *market participants* of the fees or schedule of fees payable by *market participants* and persons who apply for authorization to become *market participants*, including the application fee referred to in section 3.1.2.1. Such fees or schedule of fees shall be those approved by the *Ontario Energy Board* from time to time pursuant to section 25 of the *Electricity Act, 1998*.
- 10.1.2 The *IESO* shall recover the relevant fees from each *market participant* or prospective *market participants* in such manner as the *IESO* determines appropriate, including by means of the inclusion of the fees in a billing statement.
- 10.1.3 Each *market participant* or prospective *market participant* shall pay to the *IESO* the fees stated by the *IESO* to be payable by the *market participant* or prospective *market participant* by the date or dates specified for payment.

Market Rules

Chapter 2

Participation - Appendices

Appendix 2.1 – [Intentionally left blank]

Appendix 2.2 – Technical Requirements: Voice Communication, Monitoring and Control, Workstations and Re-Classification of Facilities

1.1 Voice Communications

1.1.1 Each *generator* that participates in the *IESO-administered markets* or that causes or permits electricity to be conveyed into, through or out of the *IESO-controlled grid* shall, subject to section 1.1.11, provide and maintain the following voice communication facilities for purposes of communicating with the *IESO*:

1.1.1.1 one *high priority path facility* and one *normal priority path facility* at the *dispatch centre, control centre* and *authority centre* for each of its *generation facilities* provided that either:

- a. the *IESO* has determined that a *high priority path facility* and a *normal priority path facility* are required to enable the *IESO* to maintain *reliable* operation of the *IESO-controlled grid*; or
- b. one of the applicable *generation facilities* is a *major generation facility*; or
- c. the aggregate rated size of applicable *generation facilities* is 100 MVA or greater; or
- d. any one of the applicable *generation facilities* is a *certified black start facility*;

1.1.1.2 subject to section 1.1.1.1, one *normal priority path facility* at the *dispatch centre, control centre* and *authority centre* for each of its *generation facilities* provided that the aggregate rated size of applicable *generation facilities* is less than 100 MVA;

1.1.1.3 one *high priority path facility* and one *normal priority path facility* for each of its *major generation facilities* that are attended *generation stations*;

1.1.1.4 one commercially available telephone for each of:

- a. its *major generation facilities, significant generation facilities* and *minor generation facilities* that are *unattended*; and

b. its *self-scheduling generation facilities* with name-plate ratings of less than 10 MW,

the telephone number of which shall be provided by the *generator* to the *IESO*;

1.1.1.5 one *high priority path facility* and one *normal priority path facility* for each of its *major generation facilities*, *significant generation facilities* and *minor generation facilities* that is a *certified black start facility*, and

1.1.1.6 one *normal priority path facility* for each of its *significant generation facilities* and *minor generation facilities* that is attended and is not a *certified black start facility*.

1.1.2 Each *embedded generator* that is not a *market participant* or whose *embedded generation facility* is not associated with any *resources* shall, subject to section 1.1.11, provide and maintain the voice communication facilities referred to in sections 1.1.1.1 to 1.1.1.6, as may be applicable, in respect of each of its *embedded generation facilities* that:

1.1.2.1 includes a *generation unit* rated at 20 MVA or higher or that comprises *generation units* the ratings of which in the aggregate equals or exceeds 20 MVA; and

1.1.2.2 has been designated by the *IESO* for the purposes of this section 1.1.2 as requiring such voice communication facilities in order to enable the *IESO* to maintain the *reliability* of the *IESO-controlled grid*.

1.1.3 Each *distributor* whose *distribution system* is *connected* to the *IESO-controlled grid* and that has control of any step-down transformer secondary breakers or low voltage feeder breakers for its loads shall, subject to section 1.1.11, provide and maintain the following voice communication facilities for purposes of communicating with the *IESO*:

1.1.3.1 one *high priority path facility* and one *normal priority path facility* at each location that controls such breakers if the *connection facilities* connecting such *distributor's distribution system* to the *IESO-controlled grid* have ratings that in aggregate equal or exceed 200 MVA; and

1.1.3.2 one *normal priority path facility* at each location that controls such breakers if the *connection facilities* connecting such *distributor's distribution system* to the *IESO-controlled grid* have ratings that in aggregate are less than 200 MVA.

- 1.1.4 Each *transmitter* whose *transmission system* or part thereof forms part of or is *connected* to the *IESO-controlled grid* shall, subject to section 1.1.11, provide and maintain the following voice communication facilities for purposes of communicating with the *IESO*:
- 1.1.4.1 one *high priority path facility* and one *normal priority path facility* at the dispatch or *control centre* for each such *transmission system*;
 - 1.1.4.2 one *high priority path facility* and one *normal priority path facility* at the *authority centre* for each such *transmission system*;
 - 1.1.4.3 one *high priority path facility* and one *normal priority path facility* for each attended transformer station forming part of such *transmission system*; and
 - 1.1.4.4 one commercially available telephone for each *unattended* transformer station forming part of such *transmission system*, the telephone number of which shall be provided by the *transmitter* to the *IESO*.
- 1.1.5 Each *connected wholesale customer* that has control of any step-down transformer secondary breakers or low voltage feeder breakers for its loads shall, subject to section 1.1.11, provide and maintain the following voice communication facilities for purposes of communicating with the *IESO*:
- 1.1.5.1 one *high priority path facility* and one *normal priority path facility* at each location that controls such breakers for each of its *load facilities* that is *connected* to the *IESO-controlled grid* and that includes a *load facility* rated at 200 MVA or higher or that is comprised of sets of *load equipment* the ratings of which in the aggregate equals or exceeds 200 MVA; and
 - 1.1.5.2 one *normal priority path facility* at each location that controls such breakers for each of its *load facilities* that is *connected* to the *IESO-controlled grid* and that is rated at less than 200 MVA.
- 1.1.6 Each *embedded load consumer* whose *embedded load facility*:
- 1.1.6.1 includes a *load facility* that is rated at 20 MVA or higher or is comprised of sets of *load equipment* the ratings of which in the aggregate equals or exceeds 20 MVA; and
 - 1.1.6.2 has been designated by the *IESO* for the purposes of this section 1.1.6 as requiring voice communication facilities in order to enable the *IESO* to maintain the *reliability* of the *IESO-controlled grid*,

shall provide and maintain one *normal priority path facility* for each such *embedded load facility* for the purposes of communicating with the *IESO*.

1.1.7 Each *high priority path facility* referred to in this section 1.1 shall provide unimpeded voice communications between the *IESO* and the *facility* to which the *high priority path facility* relates and shall:

1.1.7.1 meet the applicable specifications and other requirements set forth in the *participant technical reference manual*;

1.1.7.2 have a receiving apparatus that is independent of any *normal priority path facility*;

1.1.7.3 have a communication channel that is and operates in a manner that is geographically and technologically distinct from any *normal priority path facility*;

1.1.7.4 permit the *IESO* to connect and communicate immediately, without the possibility of encountering a busy signal;

1.1.7.5 if an *attended facility*, at all times while the *facility* is attended be answered by live voice by a person in attendance at the *facility*;

1.1.7.6 [Intentionally left blank]

1.1.7.7 be secure from the effects of interruptions in power supply for a period of at least eight hours; and

1.1.7.8 [Intentionally left blank]

1.1.7.9 [Intentionally left blank]

1.1.7.10 not involve any manual intermediate switching.

1.1.8 Each *normal priority path facility* referred to in this section 1.1 shall comply with each of the following elements as may, except with respect to section 1.1.8.5, be commercially available:

1.1.8.1 meet the applicable specifications and other requirements set forth in the *participant technical reference manual*;

1.1.8.2 have a receiving apparatus that is independent of any *high priority path facility*;

- 1.1.8.3 have a communication channel that is and operates in a manner that is geographically and technologically distinct from any *high priority path facility*;
 - 1.1.8.4 be part of a public service telephone network;
 - 1.1.8.5 if an *attended facility*, at all times while the facility is attended, be answered by live voice by a person in attendance at the *facility*;
 - 1.1.8.6 permit and implement caller identification and call waiting;
 - 1.1.8.7 have a separate telephone number dedicated exclusively to receiving voice communications from the *IESO*;
 - 1.1.8.8 be secure against interception of communications by unauthorized third parties; and
 - 1.1.8.9 be secure against disclosure of communications to unauthorized third parties.
- 1.1.9 Each person that is required by this section 1.1 to provide and maintain voice communication facilities and that applies for authorization as a *market participant* in respect of a *facility* to which such voice communication facilities relate shall:
- 1.1.9.1 identify, during the authorization or registration processes, the voice communication facilities that it shall provide and maintain in accordance with this section 1.1, the owner of such voice communication facilities and the telephone number or access code, as the case may be, for such voice communication facilities;
 - 1.1.9.2 notify the *IESO* of any change in the telephone number or access code, as the case may be, for the voice communication facilities referred to in section 1.1.9.1, or in the equipment forming part of such voice communication facilities, no less than four days prior to the change being effected; and
 - 1.1.9.3 if it will cease to be the owner of the voice communication facilities referred to in section 1.1.9.1, notify the *IESO* of the succeeding owner of such facilities no less than four days prior to the date on which the change of ownership is effected.
- 1.1.10 Each person that is required by this section 1.1 to provide and maintain voice communication facilities and that does not apply for authorization as a *market participant* in respect of the *facility* to which such voice communication facilities relate shall:

- 1.1.10.1 notify the *IESO* of the voice communication facilities that it shall provide and maintain in accordance with this section 1.1, of the owner of such voice communication facilities and of the telephone number or access code, as the case may be, for such voice communication facilities;
 - 1.1.10.2 notify the *IESO* of any change in the telephone number or access code, as the case may be, for the voice communication facilities referred to in section 1.1.10.1, or in the equipment forming part of such voice communication facilities, no less than four days prior to the change being effected; and
 - 1.1.10.3 if it will cease to be the owner of the voice communication facilities referred to in section 1.1.10.1, notify the *IESO* of the succeeding owner of such facilities no less than four days prior to the date on which the change of ownership is effected.
- 1.1.11 The *IESO* shall provide to a person required by this section 1.1 to maintain a *high priority voice communication facility*, the communication channel for such *high priority voice communication facility* if the *IESO* determines that such communication channel cannot be made available to the person without substantial cost.
- 1.1.12 Each *electricity storage participant* that participates in the *IESO-administered markets* or that causes or permits electricity to be conveyed into, through or out of the *IESO-controlled grid* shall, subject to section 1.1.11, provide and maintain the following voice communication facilities for purposes of communicating with the *IESO*:
- 1.1.12.1 one *high priority path facility* and one *normal priority path facility* at the *dispatch centre, control centre* and *authority centre* for each of its *electricity storage facilities* provided that either:
 - a. the *IESO* has determined that a *high priority path facility* and a *normal priority path facility* are required to enable the *IESO* to maintain *reliable* operation of the *IESO-controlled grid*; or
 - b. one of the applicable *electricity storage facilities* is a *major electricity storage facility*; or
 - c. the aggregate of the *electricity storage facility sizes* of the applicable *electricity storage facilities* is 100 MVA or greater.
 - 1.1.12.2 subject to section 1.1.12.1, one *normal priority path facility* at the *dispatch centre, control centre* and *authority centre* for each of its *electricity storage facilities* provided that the aggregate of the

electricity storage facility size ratings of the applicable *electricity storage facilities* is less than 100 MVA;

1.1.12.3 one *high priority path facility* and one *normal priority path facility* for each of its *major electricity storage facilities* that are attended electricity storage stations;

1.1.12.4 one commercially available telephone for each of:

a. its *major electricity storage facilities, significant electricity storage facilities* and *minor electricity storage facilities* that are *unattended*; and

b. its *self-scheduling electricity storage facilities* with an *electricity storage facility size* of less than 10 MW,

the telephone number of which shall be provided by the *electricity storage participant* to the *IESO*;

1.1.12.5 one normal priority path facility for each of its *significant electricity storage facilities* and *minor electricity storage facilities* that is attended.

1.1.13 Each *embedded electricity storage participant* that is not a *market participant* or whose *embedded electricity storage facility* is not associated with any *resources* shall, subject to section 1.1.11, provide and maintain the voice communication facilities referred to in sections 1.1.12.1 to 1.1.12.6, as may be applicable, in respect of each of its *embedded electricity storage facilities* that:

1.1.13.1 includes an *electricity storage unit* with a rated *electricity storage unit size* of 20 MVA or higher or that comprises multiple *electricity storage units*, the aggregated *electricity storage unit size* ratings of which equals or exceeds 20 MVA; and

1.1.13.2 has been designated by the *IESO* for the purposes of this section 1.1.13 as requiring such voice communication facilities in order to enable the *IESO* to maintain the *reliability* of the *IESO-controlled grid*.

1.2 Technical Requirements for Monitoring and Control

1.2.1 Each *generator* shall, for the purposes of submitting to the energy management system referred to in MR Ch.5 s.12 the monitoring and control information required to be provided by a *generator* to the *IESO* pursuant to the provisions of MR Ch.4 and MR Ch.5:

- 1.2.1.1 provide, maintain and connect to each of its applicable *generation facilities* monitoring and control devices that meet the specifications and other requirements set forth in the *participant technical reference manual*; and
 - 1.2.1.2 provide and maintain, in accordance with the *participant technical reference manual*, a location and supporting facilities enabling the installation of a communication terminal point between the monitoring and control devices for each of its applicable *generation facilities* and the real-time communication network channel or channels provided by the *IESO*.
- 1.2.2 Each *connected wholesale customer* shall, for the purposes of submitting to the energy management system referred to in MR Ch.5 s.12 the monitoring and control information required to be provided by a *connected wholesale customer* to the *IESO* pursuant to the provisions of MR Ch.4 and MR Ch.5:
- 1.2.2.1 provide, maintain and connect to:
 - a. where directed by the *IESO* if *transmitter* data is not adequate, each of its *load facilities* that includes *load equipment* rated individually or in the aggregate at 20MVA or higher that is exclusively associated with a *non-dispatchable load* or *price responsive load*; and
 - b. each of its *load facilities* associated with a *dispatchable load*,monitoring and control devices that meet the specifications and other requirements set forth in the *participant technical reference manual*; and
 - 1.2.2.2 provide and maintain, in accordance with the *participant technical reference manual*, a location and supporting facilities enabling the installation of a communication terminal point between the monitoring and control devices for each of its *load facilities* referred to in section 1.2.2.1 and the real-time communication network channel or channels provided by the *IESO*.
- 1.2.3 Each *transmitter* shall, for the purposes of submitting to the energy management system referred to in MR Ch.5 s.12 the monitoring and control information required to be provided by a *transmitter* to the *IESO* pursuant to the provisions of MR Ch.4 and MR Ch.5:
- 1.2.3.1 provide, maintain and connect to each of its applicable transmission assets monitoring and control devices that meet the specifications and other requirements set forth in the *participant technical reference manual*; and

- 1.2.3.2 provide and maintain, in accordance with the *participant technical reference manual*, a location and supporting facilities enabling the installation of a communication terminal point between the monitoring and control devices for each of its applicable transmission assets and the real-time communication network channel or channels provided by the *IESO*.
- 1.2.4 Each *distributor* shall, for the purposes of submitting to the energy management system referred to in MR Ch.5 s.12 the monitoring and control information required to be provided by a *distributor* to the *IESO* pursuant to the provisions of MR Ch.4 and MR Ch.5:
 - 1.2.4.1 provide, maintain and connect to each of its applicable distribution assets monitoring and control devices that meet the specifications and other requirements set forth in the *participant technical reference manual*; and
 - 1.2.4.2 provide and maintain, in accordance with the *participant technical reference manual*, a location and supporting facilities enabling the installation of a communication terminal point between the monitoring and control devices for each of its applicable distribution assets and the real-time communication network channel or channels provided by the *IESO*.
- 1.2.5 Each *embedded load consumer* shall, for the purposes of submitting to the energy management system referred to in MR Ch.5 s.12 the monitoring and control information required to be provided by the *embedded load customer* to the *IESO* pursuant to the provisions of MR Ch.4 and MR Ch.5:
 - 1.2.5.1 provide, maintain and connect to:
 - a. where directed by the *IESO* if *transmitter* or *distributor* data is not adequate, each of its applicable *load facilities* that includes *load equipment* rated individually or in the aggregate at 20 MVA or higher that is associated exclusively with a *non-dispatchable load* or *price responsive load*; and
 - b. each of its applicable *load facilities* associated with a *dispatchable load*

monitoring and control devices that meet the specifications and other requirements set forth in the *participant technical reference manual*; and
 - 1.2.5.2 provide and maintain, in accordance with the *participant technical reference manual*, a location and supporting facilities enabling the

installation of a communication terminal point between the monitoring and control devices for each of its *embedded load facilities* referred to in section 1.2.5.1 and the real-time communication network channel or channels provided by the *IESO*.

1.2.6 Each person referred to in this section 1.2 shall provide access to its equipment, installation space and a reliable power source that meet the specifications and other requirements of the *participant technical reference manual*.

1.2.7 Each *electricity storage participant* shall, for the purposes of submitting to the energy management system referred to in MR Ch.5 s.12 the monitoring and control information required to be provided by an *electricity storage participant* to the *IESO* pursuant to the provisions of MR Ch.4 and MR Ch.5:

1.2.7.1 provide, maintain and connect to each of its applicable *electricity storage facilities* monitoring and control devices that meet the specifications and other requirements set forth in the *participant technical reference manual*; and

1.2.7.2 provide and maintain, in accordance with the *participant technical reference manual*, a location and supporting *facilities* enabling the installation of a communication terminal point between the monitoring and control devices for each of its applicable *electricity storage facilities* and the real-time communication network channel or channels provided by the *IESO*.

1.3 Dispatch Workstations

1.3.1 Each *market participant* other than those that are exclusively registered to participate as an *energy trader*, *virtual trader*, *TR participant*, a *capacity auction participant* with a *capacity obligation* through an *hourly demand response resource*, or any combination of the foregoing, shall, for the purposes of:

1.3.1.1 the provision to the *IESO* of real-time information required by the *IESO* to direct the operations of the *IESO-controlled grid*;

1.3.1.2 if the person is or will be associated with a *dispatchable resource*, the receipt of *dispatch instructions*; and

1.3.1.3 the exchange with the *IESO* of other information required to be submitted or received pursuant to MR Ch.7 or MR Ch.8, other than the submission, receipt of confirmation of and validation of *dispatch data*, *TR bids* in the *TR market* and *physical bilateral contract data*,

provide, install and maintain a *dispatch workstation* that meets the specifications and other requirements set forth in the *participant technical reference manual* and that is configured to support communication with the real-time communication network channel or channels provided by the *IESO* in the manner described in the *participant technical reference manual*.

- 1.3.2 The *dispatch workstation* referred to in section 1.3.1 shall be located at:
 - 1.3.2.1 the *facility* to which the *dispatch workstation* relates; or
 - 1.3.2.2 the *authority centre* for the *facility* to which the *dispatch workstation* relates so as to permit a response to *dispatch instructions* within the time prescribed by the *participant technical reference manual*.
- 1.3.3 Each *market participant* that is required by this section 1.3 to provide, install and maintain a *dispatch workstation* shall:
 - 1.3.3.1 prior to commencing participation in the *IESO-administered markets*, notify the *IESO* of the premises at which its *dispatch workstation* will be located; and
 - 1.3.3.2 notify the *IESO* of any change in the location of its *dispatch workstation* no less than four days prior to the date on which the change will be effected.

1.4 Participant Workstations

- 1.4.1 Subject to section 1.6, each *market participant* shall, for the purposes of conducting secure communications or transactions with the *IESO* using *IESO*-supplied or approved software, provide, install and maintain a *participant workstation* that meets the specifications, definitions and other requirements set forth in the *participant technical reference manual*.
- 1.4.2 Each *participant workstation* required to be installed and maintained pursuant to section 1.4.1 shall:
 - 1.4.2.1 where the *market participant* is exchanging the information referred to in section 1.4.1 by means of the internet, be configured to support internet communication in the manner described in the *participant technical reference manual* and, if a *TR participant*, to support communication with the communication protocol referred to in MR Ch.8 App.8.2; and
 - 1.4.2.2 where the *market participant* is exchanging the information referred to in section 1.4.1 by means of the private network dedicated

communication links, be configured to support communication between the *participant workstation* and the *IESO* in the manner described in the *participant technical reference manual* and, if a *TR participant*, to support communication with the communication protocol referred to in MR Ch.8 App.8.2.

1.5 Re-classification of Facilities

1.5.1 The *IESO* may, for the purposes of this Appendix 2.2 and of MR Ch.5 s.12:

1.5.1.1 re-classify a *small generation facility* as a *minor generation facility*, a *significant generation facility* or a *major generation facility*;

1.5.1.2 re-classify a *minor generation facility* as a *significant generation facility* or a *major generation facility*;

1.5.1.3 re-classify a *significant generation facility* as a *major generation facility*;

1.5.1.4 re-classify a *minor dispatchable load facility* as a *significant dispatchable load facility* or a *major dispatchable load facility*; and

1.5.1.5 re-classify a *significant dispatchable load facility* as a *major dispatchable load facility*;

where the *IESO* determines that such re-classification is required to enable the *IESO* to maintain the *reliability* of the *IESO-controlled grid*.

1.5.1A The *IESO* may, for the purposes of this Appendix 2.2 and of MR Ch.5 s.12:

1.5.1A.1 re-classify a *small electricity storage facility* as a *minor electricity storage facility*, a *significant electricity storage facility* or a *major electricity storage facility*;

1.5.1A.2 re-classify a *minor electricity storage facility* as a *significant electricity storage facility* or a *major electricity storage facility*;

1.5.1A.3 re-classify a *significant electricity storage facility* as a *major electricity storage facility*;

where the *IESO* determines that such re-classification is required to enable the *IESO* to maintain the *reliability* of the *IESO-controlled grid*.

1.5.2 The *IESO* may, for the purposes of this Appendix 2.2 and of MR Ch.5 s.12:

- 1.5.2.1 re-classify a *major generation facility* as a *significant generation facility*, a *minor generation facility* or a *small generation facility*;
- 1.5.2.2 re-classify a *significant generation facility* as a *minor generation facility* or a *small generation facility*;
- 1.5.2.3 re-classify a *minor generation facility* as a *small generation facility*;
- 1.5.2.4 re-classify a *major dispatchable load facility* as a *significant dispatchable load facility* or a *minor dispatchable load facility*; and
- 1.5.2.5 re-classify a *significant dispatchable load facility* as a *minor dispatchable load facility*;

where the *IESO* determines that such re-classification will not adversely affect the ability of the *IESO* to maintain *reliability* of the *IESO-controlled grid*.

1.5.2A The *IESO* may, for the purposes of this Appendix 2.2 and of MR Ch.5 s.12:

- 1.5.2A.1 re-classify a *major electricity storage facility* as a *significant electricity storage facility*, a *minor electricity storage facility* or a *small electricity storage facility*;
- 1.5.2A.2 re-classify a *significant electricity storage facility* as a *minor electricity storage facility* or a *small electricity storage facility*;
- 1.5.2A.3 re-classify a *minor electricity storage facility* as a *small electricity storage facility*;

where the *IESO* determines that such re-classification will not adversely affect the ability of the *IESO* to maintain *reliability* of the *IESO-controlled grid*.

1.5.3 A person whose *facility* has been re-classified pursuant to section 1.5.1, 1.5.1A, 1.5.2 or 1.5.2A shall ensure that its *facilities* and equipment meet the requirements set forth in this Appendix 2.2 and in MR Ch.5 s.12 applicable to the class of *facility* in which its *facility* has been re-classified.

1.6 Terms and Conditions

1.6.1 Where a *market participant* conducts secure communications or transactions with the *IESO* in accordance with section 1.4, sections 1.6.2 to 1.6.5 shall apply.

1.6.2 Each *market participant* shall be solely responsible to ensure the authenticity, integrity and non-repudiation of communications or transactions, as described in the *participant technical reference manual*.

- 1.6.3 Each *market participant* agrees to:
- 1.6.3.1 be bound by an authenticated communication or transaction to the same extent, and with the same effect of law, as if the authenticated communication or transaction had existed in a manually signed or otherwise authenticated form;
 - 1.6.3.2 acknowledge that the *IESO* will act in reliance on an authenticated communication or transaction, even where the authenticated communication or transaction contains an error;
 - 1.6.3.3 accept the time-stamp in the validation response or the time stamp of the communication or transaction recorded by the *IESO* as the authoritative record. In the case of a discrepancy, the time stamp of the communication or transaction recorded by the *IESO* shall prevail; and
 - 1.6.3.4 immediately notify the *IESO* if the *market participant* suspects any unauthorized, or inappropriate access to or activity on the *IESO's* systems or information.
- 1.6.4 The *IESO* may, without notice, temporarily suspend a *market participant's* ability to conduct secure communications or transactions if the *IESO* reasonably suspects unauthorized or inappropriate access to or activity on the *IESO's* systems or information. These suspensions will be for a period of time necessary to permit the thorough investigation of such suspended activity.
- 1.6.5 The *IESO* shall not be liable for any unauthorized activity and the damages or consequences that may result from the use of secure communications or transactions, unless such violation was solely and directly as a result of the actions of the *IESO*.

Appendix 2.3 – Prudential Support

1. Additional Provisions Regarding Prudential Support

1.1 Determination of Prudential Support Obligations

Prior to participating in the *real-time market* or the *day-ahead market*, the *IESO* shall deliver to each *market participant* a schedule, in the form set forth in the applicable *market manual*, setting out the determination by the *IESO* of that *market participant's prudential support obligations*, which shall be completed by the *IESO* on the basis of the determinations referred to in MR Ch. 2 ss.5, 5C and 5D. Such schedule shall be effective until amended and replaced in accordance with this Appendix.

1.2 Provision of Prudential Support

Prior to participating in the *real-time market* or the *day-ahead market*, each *market participant* shall deliver to the *IESO*:

1.2.1 a schedule, in the form set forth in the applicable *market manuals* completed by the *market participant* setting out the *prudential support* with which the *market participant* has elected to satisfy its *prudential support obligation* in respect of either or both *physical transactions* or *virtual transactions* as set forth in the schedule delivered to it by the *IESO* referred to in section 1.1; and

1.2.2 the *prudential support* as set out in that schedule.

In the event that the sum of all *prudential support* provided by the *market participant* to the *IESO* is a greater amount than required by the *market rules*, the *IESO* shall, upon written request by the *market participant*, return (or direct the custodian to return) to the *market participant* an amount equal to the difference between the value of all *prudential support* then held by or on behalf of the *IESO* and the *prudential support obligation* of the *market participant* at that time. The *IESO* shall return such amount within five *business days* of the receipt of the request for the return of the amount from the *market participant*. In the event the *market participant* has posted one or more different types of *prudential support*, the *IESO* shall return the type of *prudential support* as directed by the *market participant*. Upon the return by the *IESO* to the *market participant* of the amount of any *prudential support*, any security interest or lien

granted on such *prudential support* will be released immediately and, to the extent possible, without any further action by either party.

1.3 Reduction of Prudential Support Obligation for Physical Transactions for Credit Rating

Where the *market participant's prudential support obligation for physical transactions* reflects a reduction by reason of the *market participant's* credit rating from a major bond rating agency identified in the list of such agencies *published* by the *IESO*, the *market participant* covenants and agrees to advise the *IESO* in writing immediately upon the *market participant* becoming aware of either a change in or loss of the then current credit rating or the decision of the bond rating agency to place the *market participant* on "credit watch status" or equivalent. Where, as a result of either any such change or loss in the then current rating or the placing of the *market participant* on "credit watch status", the *market participant* is no longer entitled under the *market rules* to the same reduction by way of credit rating, the *IESO* shall deliver to the *market participant* an amended schedule setting out the *market participant's* revised *prudential support obligation for physical transactions*.

1.4 Prudential Support for Physical Transactions by way of a Third-Party Guarantee

Prudential support for physical transactions in the form of a guarantee provided by a third party pursuant to MR Ch.2 s.5.7.2.2 or 5.7.2.4 shall provide for payment by the guarantor to the *IESO* on demand up to the amount stated in the guarantee. The only conditions on the ability of the *IESO* to draw on the guarantee shall be the delivery of copies of an unpaid *invoice* previously issued to the *market participant* and a certificate of an officer of the *IESO* that a specified amount is owing by the *market participant* to the *IESO* and that, in accordance with the provisions of the *market rules*, the *IESO* is entitled to payment of that specified amount as of the date of delivery of the certificate. Where the *market participant's prudential support* includes a guarantee provided by a third party that has a credit rating from a major bond rating agency identified in the list of such agencies *published* by the *IESO*, the *market participant* covenants and agrees to advise the *IESO* in writing immediately upon the *market participant* becoming aware of a change in or loss of the then current credit rating issued to the guarantor. Where as a result of the loss of such credit rating, the *market participant* is no longer entitled to meet its *prudential support obligation for physical transactions* in whole or in part through the provision of such a guarantee, the *market participant* must provide alternative *prudential support* within the time frame mandated in MR Ch.2 s.5.2.

1.5 Reduction of Prudential Support Obligation for Physical Transactions for Payment History

Where the *market participant's prudential support obligation* for *physical transactions* reflects a reduction by reason of evidence of the *market participant's* good payment history determined in accordance with MR Ch.2 s.5.8.4 or 5.8.5 and, for any reason, the *market participant* is no longer entitled under the *market rules* to the same amount of reduction by way of good payment history, the *IESO* shall deliver to the *market participant* an amended schedule setting out the *market participant's* revised *prudential support obligation*.

1.6 Prudential Support by way of Letter of Credit

Where a portion of the *market participant's prudential support* is in the form of a letter of credit pursuant to MR Ch. 2 s.5.7.2.1 or 5C.5.2.1, the following provisions shall apply:

- 1.6.1 the letter of credit shall provide that it is issued subject to either The Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600 or The International Standby Practices 1998;
- 1.6.2 the *IESO* shall be named as beneficiary in each letter of credit, each letter of credit shall be irrevocable, partial draws on any letter of credit shall not be prohibited and the letter of credit or the aggregate amount of all letters of credit shall be in the face amount of at least the amount specified in its then current schedule;
- 1.6.3 the only conditions on the ability of the *IESO* to draw on the letter of credit shall be the occurrence of an *event of default* by or in respect of the *market participant* and a certificate of an officer of the *IESO* that the *IESO* is entitled to draw on the letter of credit in accordance with the provisions of the *market rules* in the amount specified in the certificate as at the date of delivery of the certificate;
- 1.6.4 the letter of credit shall either provide for automatic renewal (unless the issuing bank advises the *IESO* at least thirty days prior to the renewal date that the letter of credit will not be renewed) or be for a term of at least one (1) year. In either case it is the responsibility of the *market participant* to maintain the requisite amount of *prudential support*. Where the *IESO* is advised that a letter of credit is not to be renewed or the term of the letter of credit is to expire, the *market participant* shall arrange for and deliver alternative *prudential support* within the time frame mandated by the *market rules* so as to enable the *market participant* to be in compliance with the *market rules*; and

- 1.6.5 by including a letter of credit as part of its *prudential support*, the *market participant* represents and warrants to the *IESO* that the issuance of the letter of credit is not prohibited in any other agreement, including without limitation, a negative pledge given by or in respect of the *market participant*.

1.7 Prudential Support by way of Cash or Treasury Bills

Where any portion of the *market participant's prudential support* for *physical transactions* is in the form of treasury bills pursuant to MR Ch.2 s.5.7.2.3, the provision of such *prudential support* shall be reflected in a written instrument that is acceptable at the sole discretion of the *IESO* and the following provisions shall apply:

- 1.7.1 any such treasury bills shall be issued by the Government of Canada and for *IESO* purposes shall be valued at their current market value from time to time less two (2%) percent to take into account the potential eroding effects of interest rate increases on the value of such treasury bills;
- 1.7.2 the *IESO* shall retain the services of a custodian which shall retain the treasury bills as agent for the *IESO* and not the *market participant*; and
- 1.7.3 any interest income paid by the treasury bill shall be apportioned to the benefit of the *market participant's prudential support* for *physical transactions*.

The *IESO* shall have no obligation to pay interest on the cash proceeds from the maturity of a treasury bill, or on any cash deposit held by the *IESO* in accordance with MR Ch.2 s.5.7.2.5.

1.8 Replacement Schedules

The *IESO* and the *market participant* may or, where required to enable the *market participant* to be in compliance with the *market rules*, shall from time to time deliver to one another one or more additional schedules, which schedules shall be in the form approved by the *IESO* from time to time. Where the *IESO* delivers to the *market participant* an additional schedule, each such schedule shall replace the preceding schedule, and shall be effective from the date of its delivery to the *market participant* for all purposes thereafter until such time as a subsequent amended schedule is delivered by the *IESO* to the *market participant*. Where any such amended schedule shows an increase in the *market participant's prudential support obligation* relative to the preceding schedule or requires the provision of alternative *prudential support*, the *market participant* shall deliver such additional or alternative *prudential support* as may be required so as to enable the *market participant* to be in compliance with the *market rules*. Where the *market participant* delivers an amended schedule, modified to reflect additional or alternative forms of *prudential support*, such amended schedule,

provided that it is accompanied by such additional or alternative *prudential support*, shall replace the preceding schedule and shall be binding on the *market participant* for all purposes thereafter until such time as a subsequent amended schedule is delivered to the *IESO* by the *market participant*.

1.9 Dispute Resolution

If the *market participant* disagrees with the determination by the *IESO* of any of the amounts of *prudential support obligations* set out on a schedule and such dispute cannot be resolved by the *market participant* and the *IESO*, then the *market participant* shall submit the matter to dispute resolution under MR Ch.3 s.2. Notwithstanding the initiation of the dispute resolution process, the *market participant* shall provide such additional *prudential support* as may be required in order to continue participating in the *real-time market* or *day-ahead market* based on the determination by the *IESO* until the matter has been resolved.

2. Pledge of Prudential Support in the form of Cash or Treasury Bills

2.1 Pledge

Prudential support in the form of cash or treasury bills provided as part of the *market participant's prudential support obligation* for *physical transactions* in respect of the *market participant's* participation in the *real-time market* and *day-ahead market* shall be held by or on behalf of the *IESO* (together with all accretions thereto, all income therefrom and proceeds thereof) and the *market participant* shall assign to the *IESO* all of its present and future right, title and interest in and to such cash and treasury bills as general and continuing collateral security and as a pledge to secure:

- 2.1.1 subject to MR Ch.1 s.13, all indebtedness, obligations and liabilities of any kind, now or hereafter existing, direct or indirect, absolute or contingent, joint or several, of the *market participant* to the *IESO* in respect of the *market participant's* participation in the *real-time market* and the *day-ahead market*; and
- 2.1.2 all reasonable costs, charges, expenses and fees (including, without limiting the generality of the foregoing, reasonable legal fees on a substantial indemnity basis) incurred by or on behalf of the *IESO*, in the enforcement of its rights under the *market rules* in respect of the participation by the *market participant* in the *real-time market* and the *day-ahead market*.

3. Exercise of Rights and Remedies to Prudential Support

3.1 Exercise of Rights

Upon the occurrence of an *event of default*, the *IESO* shall be entitled to exercise its rights and remedies as set out in the *market rules*, or provided for at law or in equity. Without limiting the generality of the foregoing, such rights and remedies shall, in respect of the *prudential support* provided by the *market participant*, include setting-off and applying any and all *prudential support* held in the form of cash or treasury bills or proceeds of either cash or treasury bills against the indebtedness, obligations and liabilities of the *market participant* to the *IESO* in respect of the participation by the *market participant* in the *real-time market* and *day-ahead market*. When the *IESO* is reasonably certain that it will be issuing a first *notice of default levy* it shall *publish* the name of the *defaulting market participant*.

3.2 Remedies Cumulative

Each of the remedies available to the *IESO* under the *market rules* or at law or in equity is intended to be a separate remedy and in no way is a limitation on or substitution for any one or more of the other remedies otherwise available to the *IESO*. The rights and remedies expressly specified in the *market rules* or at law or in equity are cumulative and not exclusive. The *IESO* may in its sole discretion exercise any and all rights, powers, remedies and recourses available under the *market rules* or under any document comprising the *prudential support* provided by the *market participant* or any other remedy available to the *IESO* howsoever arising, and whether at law or in equity, and such rights, powers and remedies and recourses may be exercised concurrently or individually without the necessity of any election.

3.3 Application of Prudential Support against Actual Exposure

Except as may be otherwise provided in the *market rules*, all moneys received in respect of the realization of the *prudential support* provided by the *market participant* may, notwithstanding any appropriation by the *market participant* or any other person, be appropriated to such parts of the *market participant's actual exposure* or its other obligations, any interest thereon owing pursuant to the *market rules* or the costs, charges, expenses and fees referred to in section 3.4 and in such order as the *IESO* sees fit, and the *IESO* shall have the right to change any appropriation at any time.

3.4 Payment of Expenses

The *market participant* agrees to pay to the *IESO* forthwith on demand all reasonable costs, charges, expenses and fees (including, without limiting the generality of the foregoing, legal fees on a substantial indemnity basis) of or incurred by or on behalf of the *IESO* in the realization, recovery or enforcement of the *prudential support* provided by the *market participant* and enforcement of the rights and remedies of the *IESO* under the *market rules* or at law or in equity in respect of the participation by the *market participant* in the *real-time market* and the *day-ahead market*.

3.5 Deficiency

If the proceeds of the realization of any *prudential support* provided by the *market participant* are insufficient to pay all of the *actual exposure* of the *market participant* or its other obligations to the *IESO*, the *market participant* shall forthwith pay or cause to be paid to the *IESO* any such deficiency. The *IESO* shall provide a calculation of any such deficiency to the *market participant*.