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MANUAL

PROCEDURE

~~Market Ma~~

~~Part 5.4: Prudential Support~~

~~Issue 30.0~~

~~This procedure describes the activities to be undertaken by the IESO and Market Participants to manage the prudential support required to participate in the real-~~

Market Manual 5: Settlements

Part 5.4: Prudential Support

Issue 30.1
October 13, 2020Issue 30.1

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This procedure describes the activities to be undertaken by the IESO and Market Participants to manage the prudential support required to participate in the real-time market.

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~~21.0~~	~~To reflect: (1) the GST rate reduction by one percentage point from 6% to 5%, effective January 1, 2008; and (ii) the OEB's interim fees order to allow the reduction to the IESO's usage fee starting January 1, 2008 from $0.815/MWh to $0.799/MWh, and change to the OPA's usage fee from $0.372/MWh to $0.391/MWh.~~	~~February 1, 2008~~
~~22.0~~	~~To reflect: (i) the OEB's interim fees order to change the OPA's usage fee starting January 1, 2009 from $0.346/MWh to $0.485/MWh, and (ii) the OEB's fees order to change the Network Service, Line Connection Service, and Transformation Connection~~	~~January 1, 2009~~

Issue	Reason for Issue	Date
	~~Service Rates from $2.31/kW, $0.59/kW, and $1.61/kW to $2.57/kW, $0.70/kW, and $1.62/kW respectively.~~	
~~23.0~~	~~To reflect: (i) the OEB's interim fees order to change the OPA's usage fee starting January 2010 from $0.485/MWh to $0.551/MWh, (ii) the OEB's fees order to change the Network Service, Line Connection Service, and Transformation Connection Service Rates from $2.66/kW, $0.70/kW, and $1.57/kW to $2.97/kW, $0.73/kW, and $1.71/kW respectively. (iii) update the IESO fee to $0.822/MWh (iv) update Rural and Remote rate to $1.30/MWh and (v) update applicable taxes from 5% to 13%.~~For changes prior to 2016, refer to versions 30.0 and prior.	
~~24.0~~	~~Updated for Baseline 28.0~~ ~~To reflect: (i) Approval of MR-00392: Remove Provisions for Physical Allocation Data (ii) the OEB's fees order to change the Network Service, Line Connection Service, and Transformation Connection Service Rates to $3.57/kW, $0.80/kW, and $1.86/kW respectively. (iii) update the Rural and Remote rate to $1.10/MWh~~	~~September 12, 2012~~
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Related Documents

Document ID	Document Title

~~(**This page must be removed before the document is released to the public. This section is only pertinent to *IESO* internal people, not the public.**)~~

~~Document Control~~

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Table of Changes

Reference (Paragraph and Section)	Description of Change
~~Section 1.3.8~~Throughout	~~Updated Capacity Prudential Requirements to reflect the that *capacity obligations* are specific to the resource, rather than a zone. This change is applicable to *capacity obligations* secured through a *capacity auction* for *commitment periods* beginning on or after May 1, 2021.~~ "Batch 1" changes for Market Renewal Program, reflecting design elements in the following detailed design documents: • Authorization and Participation • Prudential Security • Facility Registration

~~Market Manuals~~

Market Manuals

The *market* ~~*manuals*~~*manuals* consolidate the market procedures and associated forms, standards, and policies that define certain elements relating to the operation of the *IESO-administered markets*~~.~~. Market procedures provide more detailed descriptions of the requirements for various activities than is specified in the ~~"Market Rules".~~*market rules*. Where there is a discrepancy between the requirements in a document within a *market manual* and the ~~"Market Rules",~~*market rules,* the ~~"Market Rules"~~*market rules* shall prevail. Standards and policies appended to, or referenced in, these procedures provide a supporting framework.

~~Market Procedures~~

Conventions

~~The Settlements Manual is Volume 5 of the *market manuals*, where this document forms "Part 5.4: Prudential Support."~~

~~A list of the other component parts of the Settlements Manual is provided in "Part 5.0: Settlements Overview", in Section 2, "About This Manual".~~

~~Structure of External Procedures~~

~~Each external~~The standard conventions followed for *market manuals* are as follows:

- The word 'shall' denotes a mandatory requirement;
- Terms and acronyms used in this *market manual* including all Parts thereto that are *italicized* have the meanings ascribed thereto in Chapter 11 of the "Market Rules";
- All user interface labels and options that appear on the *IESO* portals and tools are formatted with the **bold** font style;
- Double quotation marks are used to indicate titles of legislation, publications, forms and other documents; and

Any procedure~~ is composed of the following sections:~~

~~1. **"Introduction"**, which contains general information about the procedure, including an overview, a description of the purpose and scope of the procedure, and information about roles and responsibilities of the parties involved in the procedure.~~

- ~~**"Procedural Work Flow"**, which contains a graphical representation of the steps and flow of information~~ specific convention(s) shall be identified within the procedure document itself.

~~2. **"Procedural Steps"**, which contains a table that describes each step and provides other details related to each step.~~

~~3. **"Appendices"**, which may include such items as forms, standards, policies, and agreements.~~

~~Conventions~~

~~The *market manual* standard conventions are defined in the "Market Manual Overview" document.~~

– End of Section –

1. Introduction

1.1. Purpose

This ~~procedure~~*market manual* describes the activities ~~undertaken~~performed by the *IESO* and *market* ~~*participants* (or *applicants* wishing to become authorized~~*participants,* as ~~*market participants*)[1] in relation to the initial, and ongoing, assessment of a *market participant's*~~ they relate to *prudential support* ~~*obligation* (PSO)~~. *Market participants' prudential support obligations* are reviewed at the time of authorization and on an ongoing basis by the *IESO* and may increase or decrease based on ~~the~~ *market* ~~*participant's*~~*participants'* actual and expected ~~and actual~~ market activities. ~~It~~[2] This *market manual* also ~~addresses the posting of *prudential support*~~describes the activities performed by *market participants* to ~~satisfy these obligations and the actions undertaken by the *IESO* when this is not done.~~

~~The *IESO* is responsible for ensuring that *prudential support* is posted by all *market participants*~~post *prudential support* to satisfy their *prudential support* ~~*obligation* and, therefore, mitigate the impact of an *event of default* by a *market participant*. This process involves the following activities:~~*obligations* for *physical transactions* and *virtual transactions* and the actions undertaken by the *IESO.*

- ~~the initial assessment of the *prudential support obligation* for an *applicant* wishing to become authorized as a *market participant*, based on their estimated trading activity in the *real-time market*;~~
- ~~the regular review of a *market participant's trading limit* by the *market participant* (with the exception of *market participants* under the *no margin call option*);~~
- ~~the regular review of a *market participant's trading limit*, *default protection amount* (DPA) and *prudential support obligation* by the *IESO* prior to the start of a new *billing period* as applicable;~~
- ~~the annual review of each price basis used in the calculation of a *metered market participant's minimum trading limit* and *default protection amount*, and modification of the applicable price basis if it has increased or decreased by 15% or more from the price basis used by the *IESO*;~~
- ~~the daily monitoring of the *market participant's actual exposure* in the *real-time market* against their *trading limit* (with the exception of *market participants* under the *no margin call option*);~~
- ~~the posting of *prudential support* by *market participants* to meet their current *prudential support obligation*; and~~

~~[1] Unless otherwise stated, references to *market participants* in this procedure should also be read as including applicants wishing to become authorized as a *market participant*.~~

[2] Unless otherwise stated, references to a *market participant* in this procedure are deemed to also include persons who intend to become authorized as a *market participant*.

- ~~the review of the *prudential support* requirements set out in Chapter 2 of the *market rules* at least once every three years, with the first review to be completed no later than September 30, 2010.~~

~~The initial assessment of the *prudential support obligation* for an *applicant* wishing to become authorized as a *market participant* (and the subsequent posting of initial *prudential support* by the *applicant*) is undertaken as part of the Participant Authorization process. (See the Market Manual 1: "Market Entry, Maintenance & Exit, Part 1.1 Participant Authorization" for more information on this process.) However, the calculation of the initial *prudential support obligation* that occurs as part of this authorization process is undertaken in accordance with the process for establishing a *prudential support obligation* described in this procedure.~~

~~Elements of the assessment of a *market participant's prudential support obligation* are an internal process undertaken by the *IESO*, in accordance with the obligations established in the *market rules*. However, details on this process are documented in this procedure to provide background information and context for the processes that are addressed in this procedure.~~

1.2. Scope

This ~~procedure is intended to provide~~ *market* ~~*participants*~~*manual* provides *market participants* with a summary of the steps and interfaces between *market participants* and the *IESO* with ~~regard~~regards to managing their *prudential support*. The procedural ~~work flows~~workflows and steps ~~described in this document~~ serve as a roadmap ~~for *applicants* and the *IESO*, and~~ and reflect the requirements set out ~~within~~in the *market* ~~*rules* and applicable~~ *rules* and *IESO* policies and standards.

- This ~~procedure relates~~*market manual* applies only to the ~~*real-time market*. In addition, this procedure~~*prudential support obligations* that relate to the *IESO's* physical markets. This *market manual* does not address~~.~~:

- the process of posting *transmission rights* (*TR*) *market deposits*, which are a prerequisite for participating in a *TR auction*~~. See Market Manual 4: Market Operations, "Part 4.4 – Transmission Rights Auction" for more details on this process.~~. This process is provided in Market Manual 4: Market Operations Part 4.4: Transmission Rights Auction;

~~The overview information in Section 1.3 is provided for context purposes only, highlighting the main actions that comprise the procedure, as set out in Section 2.~~

- the process of posting *capacity auction deposits*, which are a prerequisite for participating in a *capacity auction*. This process is provided in Market Manual 12: Capacity Auctions; and

- the process of issuing a *default levy* by the *IESO*, which is provided in Market Manual 5 Settlements Part 5.9: Settlement Payment Methods and Schedule.

This *market manual* covers the following:

- set *prudential support obligations* for *physical transactions* – this section describes the calculation and the *IESO* review of a *market participant's prudential support obligation* for *physical transactions* and the forms of *prudential support* for *physical transactions*;
- daily monitoring of *prudential support* for *physical transactions* – this section describes the *IESO's* daily monitoring of *actual exposure* and *trading limit*, as well as *margin call* warnings and *margin calls* for *physical transactions*;
- set *prudential support obligations* for *virtual transactions* – this section describes the calculation and *IESO* review of a *market participant's prudential support obligation* for *virtual transactions*, the forms of *prudential support* for *virtual transactions* and monitoring of *actual exposure* and *trading limit*. It also describes *margin call* warnings and *margin calls* for *virtual transactions*;
- daily monitoring of *prudential support* for *virtual transactions* – this section describes the *IESO's* daily monitoring of *actual exposure* and *trading limit* and *margin call* warnings and *margin calls* for *virtual transactions*;
- consolidated process for *physical transactions* and *virtual transactions* – this section describes the *IESO's* daily monitoring of *market participant*s' consolidated *trading limit* for their *physical transactions* and *virtual transactions* against their consolidated *actual exposure* for their *physical transactions* and *virtual transactions*;
- event of default – this section discusses the impact of an *event of default* on *physical bilateral contract quantities* for *market participants* and *default levy* issuance to *market participants* conducting *physical transactions* and *virtual transactions*;
- capacity prudential requirements – this section describes the calculation of *prudential support obligations* for *capacity auction participants*; and
- appendices – the appendices include information such as forms, credit rating reduction tables and good payment history reduction tables.

1.3. Prudential Security Overview

~~Assessment of~~ In real-time electricity markets, there is no way to recover the physical commodity if a buyer is unable to pay because the electricity has already been consumed. In addition, for *virtual transactions,* once a *bid* or *offer* has been approved in the *day-ahead market*, the virtual *energy trader* must buy back or sell the quantity of *energy* equal to their original virtual *offer* or *bid* at the *real-time market* locational marginal price of *energy* at a *virtual transaction* zonal trading entity*.* The difference between *the day-ahead market* locational marginal price of *energy* at a *virtual transaction* zonal trading entity and the *real-time market* locational marginal price of *energy* at a *virtual transaction* zonal trading entity could lead to losses for the *market participant* conducting *virtual transactions,* which it may not be able to cover.

Under the *market rules*, the *IESO* must pay *market creditors* within four *business days* from the time when the *IESO* issues an *invoice*. *Market debtors* must pay the *IESO* within two *business days* of receiving an *invoice* from the *IESO* so that the *IESO* can remit funds owed. *Market participants* conducting *virtual transactions* are subject to the same invoicing and payment timelines.

If *market participants* do not remit their full amount due, the *IESO* does not assume the outstanding debt. Instead, all non-defaulting *market participants* assume the debt. The *prudential support* process helps ensure that the *IESO* has a reasonable amount of collateral on hand to cover potential default situations for *both physical transactions* and *virtual transactions*. The process helps provide protection to non-defaulting *market participants* from the risk of having to incur the costs of another *market participant's* default.

The *IESO* requires *prudential support* from *market participants* seeking authorization to participate in the *day-ahead market* and *real-time market* and for *capacity auction participants* that acquire a *capacity obligation* in the *capacity auction*. For details on *capacity prudential support* requirements for *capacity auction participants*, refer to section 7 of this *market manual*.

Figure 1-1 provides an overview of the process to calculate *market participants' prudential support obligations*. The *market participant* information requirements, the *IESO's* calculation of the *prudential support obligation*, and the acceptable forms of *prudential support* will differ depending on whether *market participants* conduct *physical transactions* or *virtual transactions*.

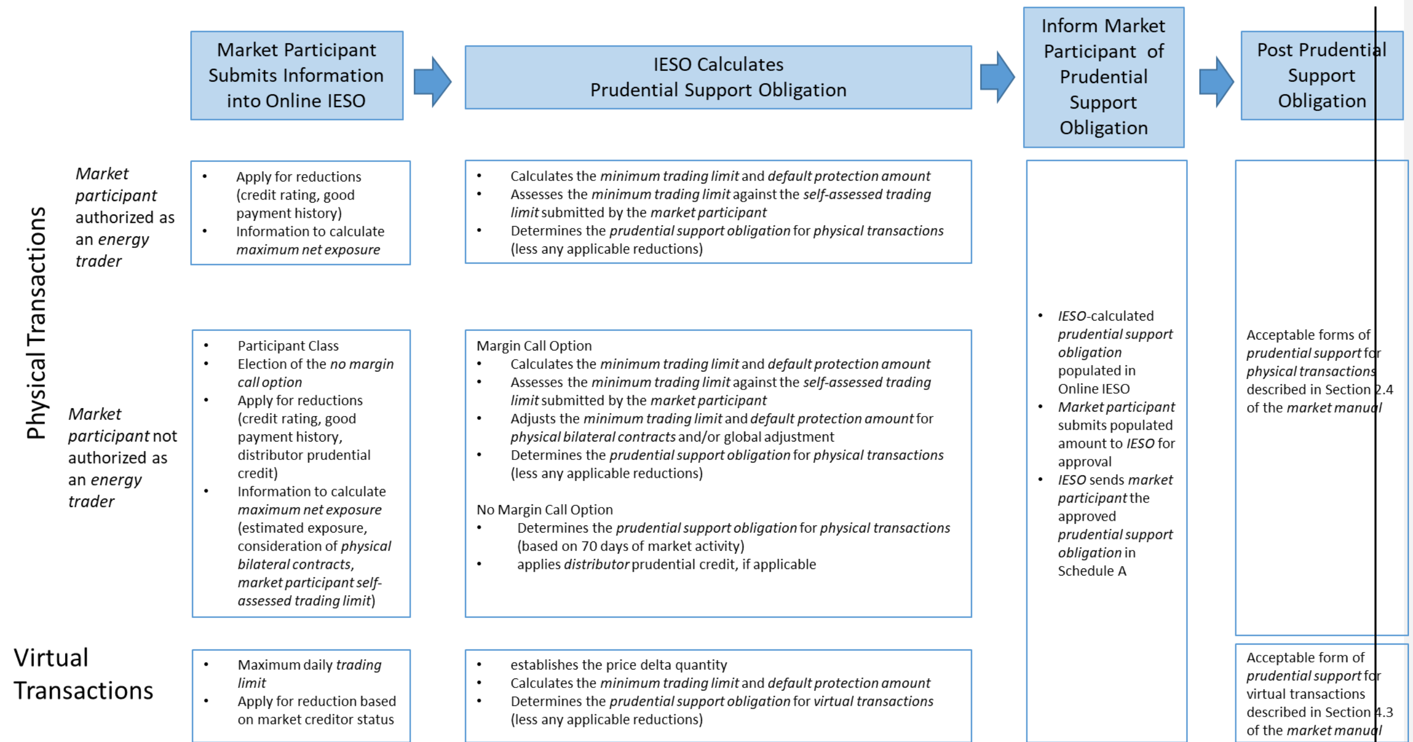

Figure 1-1: Overview of the Process for Setting a Market Participant's Prudential Support Obligation ~~for the Physical Markets~~

Figure 1-2 provides an overview of the process for daily monitoring and screening of *market participants' prudential support obligation*. The components that are used in *market participants' actual exposure* estimate differ depending on whether *market participants* conduct only *physical transactions*, only *virtual transactions*, or a combination of *physical transactions* and *virtual transactions*. Daily screening is limited to *market participants* conducting *virtual transactions.*

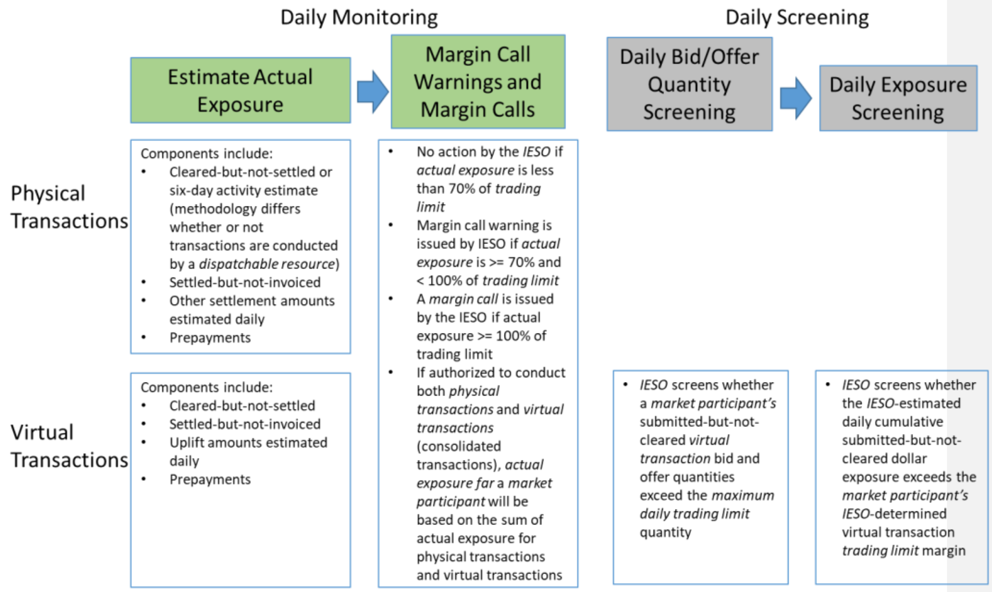

Figure 1-2: Overview of the Process for Monitoring and Screening of a Market Participant's Prudential Support Obligation

1.4. Roles and Responsibilities

Responsibility for *prudential support* is shared among:

- ~~The *IESO* undertakes an assessment of the *prudential support obligation* for each *applicant* wishing to become authorized as a~~ *market* ~~*participant* during~~*participants,* who are responsible for functions and responsibilities such as:
    - submitting the ~~Participant Authorization process. The *IESO* assesses this~~required *prudential support* ~~*obligation* based on~~ information ~~provided by~~

~~the *applicant* about its~~via Online IESO and/or **Prudential Manager**[3] for *physical transactions* and *virtual transactions*;

- notifying the *IESO* that they wish to adjust their *self-assessed trading limits* for *physical transactions* as necessary to reflect their expected trading activity ~~in the *real-time*~~during that *billing period.* This excludes *market* ~~via the IESO's online Appian workflow tool.~~ *participants* authorized to conduct *physical transactions* under the *no margin call option*;
- ~~The~~ notifying the *IESO* that they wish to adjust their *maximum daily trading limit* quantity (in MWh) for *virtual transactions* as necessary to reflect their expected trading activity during that *billing period;*
- posting an appropriate form of *prudential support* that satisfies their *prudential support obligations* for *physical transactions* and/or *virtual transactions*;
- submitting to the *IESO* the quantity and duration of the applicable *physical bilateral contracts* and notifying the *IESO* immediately upon a change in the quantity or duration of the *physical bilateral contract.* This includes the termination of the contracts for a *market participant* that is not an *energy trader* with a credit rating of BBB– or higher that has requested its *physical bilateral contract* quantities be taken into consideration when calculating its *minimum trading limit* and *default protection amount* for its *physical transactions*;
- ensuring valid prudential contacts are registered with the *IESO* to receive *margin call* warnings and *margin call* notices and taking appropriate action;
- ensuring valid prudential contacts are registered with the *IESO* to receive a default notice, or a *notice of intent to suspend*, and taking appropriate action to remedy the *event of default*; and
- maintaining appropriate levels of *prudential support* as required under the *market rules*;
- if *prudential support* is due to expire or terminate, *market participants* must provide *prudential support* at least 10 *business days* prior to expiration (Chapter 2, section 5.2.5 of the *market rules*);
- where *market participants'* credit rating or good payment history are revised, resulting in additional *prudential support* requirements, they must provide any additional *prudential support* within five *business days* (Chapter 2, section 5.2.6 of the *market rules*); or

[3] **Prudential Manager** can be accessed by navigating through: https://portal.ieso.ca

   - where any part of the *prudential support* provided by *market participants* otherwise ceases to be current or valid for any reason, *market participants* must immediately notify the *IESO* and provide to the *IESO* within two *business days*, a replacement of its *prudential support* (Chapter 2, section 5.2.7 of the *market rules*).

- The *IESO*, which is responsible for functions and responsibilities such as:
   - continuously assessing the *minimum trading limit*, *trading limit*, and *default protection amount* of each prospective market participation authorization (or *market participant*) as applicable;
   - assessing (and reassessing) the *maximum net exposure* and *prudential support obligation* of each applicant seeking authorization (or each *market participant)*;
   - determining whether adequate *prudential support* has been provided by the *market participant*, according to the *market rules*;
   - checking for credit rating watch warnings against *market participants* conducting *physical transactions*;
   - determining if the *estimated actual exposure* amount is below the *trading limit* and warning *market participants* of potential *margin calls* or issuing *margin calls*, as appropriate (with the exception of *market participants* under the *no margin call option)*;
   - providing information to the Energy Market Interface regarding the maximum quantity (in MWh) and *trading limit* (in dollars) that a *market participant* can transact through *virtual transactions* on a given *trading day*;
   - taking appropriate action in response to an *event of default*; and
   - drawing on a *market participant's prudential support*, as necessary, and verifying that *prudential support* is re-established within a specified timeframe.

1.5. Contact Information

As part of the participant authorization and registration process, *market participants* are required to identify a Prudential Requirements Contact. If a *market participant* has not identified a specific contact, the *IESO* will seek to contact the Primary Contact for activities within this *market manual*, unless alternative arrangements have been established between the *IESO* and the *market participant*. If *market participants* wish to contact the *IESO*, they can contact *IESO* Customer Relations via email at IESOCustomerRelations@ieso.ca, *IESO*

Prudentials via email at prudential@ieso.ca, or by using the phone number provided on the *IESO*'s website (www.ieso.ca), on the Contact page.

– End of Section –

~~may reassess this initial~~

2. Setting Prudential Support Obligations for Physical Transactions

This section describes the process of setting *market participants' prudential support obligation* and the process of posting *prudential support* for *market participants* authorized to conduct *physical transactions* in the *day-ahead market* and the *real-time market. Market participants* that intend to conduct *physical transactions* in the *day-ahead market* and the *real-time market* are required to initiate this process prior to entering the *IESO-administered market.*

Market participants with *prudential support obligations* are grouped into two categories:

- *market participants* authorized as *energy traders*[4]; and
- *market participants* not authorized as *energy traders*.

The process for setting the *prudential support obligation* consists of the following activities:

1. *Market participants* submit *prudential support* information to the *IESO* using Online IESO.
2. The *IESO* uses the information submitted by the *market participants* to calculate the *market participants* aggregate *day-ahead market* and *real-time market prudential support obligation* as per the market rules.
3. The *IESO* informs *market participants* of the *prudential support obligation* using Online IESO.
4. *Market participants* post their *prudential support* in a form required by the *IESO.* If no further changes are required, the *IESO* will provide the *market participants* with a Schedule A[5].

2.1. Submitting Prudential Support Information

As part of the Authorization and Participation process described in Market Manual 1: Connecting to Ontario's Power System Part 1.5: Market Registration Procedures, *market participants* must submit their *prudential support information,* using Online IESO. To do this, each prospective *market participant* must first assign a Prudential Requirements Contact.

[4] For the purposes of setting a *market participant's prudential support obligation* for *physical transactions* and monitoring activities in respect of *physical transactions*, as described in sections 2 and 3 of this *market manual*, a *retailer* shall be deemed to be an *energy trader* (Chapter 2, section 5.2.10 of the *market rules).*

[5] A Schedule A sets out a *market participant's prudential support obligation* and is available in the "prudential support obligation" tab of the Prudential Manager on the *IESO* portal.

This contact will be granted permissions in Online IESO to submit the information required to establish the *market participant's prudential support obligation* and will function as the point of contact for the *IESO* for matters relating to *prudential support*.

After authorization, *market participants* must keep the *IESO* informed, using Online IESO, of circumstances that could change their *prudential support obligation* for *physical transactions* and ensure that all amounts of *prudential support* continue to satisfy the *market participant's prudential support obligation*. Notably, this is likely to occur in the circumstances that include but are not limited to:

- a change to *market participants'* credit rating or payment history, which requires a review of the *market participant's prudential support obligation*. *Market participants* that owe the *IESO* additional *prudential support* as a result of a review to their *prudential support obligation*, will have up to five *business days* to post the balance required to satisfy their *prudential support obligation*; or
- an *event of default*.

In addition, *market participants* should review their *self-assessed trading limit* for *physical transactions* and submit a revised *self-assessed trading limit* for *physical transactions*, as appropriate, as described in Chapter 2, section 5.3.2 of the *market rules*.

2.1.1. Information Required of Market Participants Authorized as Energy Traders

Market participants authorized (or requesting authorization) as *energy traders* provide two sets of information:

- application for reductions; and
- information to calculate *maximum net exposure*. This information consists of the estimated maximum monthly *settlement* amount and the option to submit a *self-assessed trading limit*.

2.1.1.1 Application for Reductions

(Market Rules: Chapter 2, section 5.8)

Market participants authorized as *energy traders* may select one of the following for reductions:

- reduction for credit rating. During the first three months of conducting transactions in the *IESO-administered markets* of any type, *market participants* authorized as *energy traders* are not eligible for this reduction;
- reduction for good payment history. During the first two years of conducting transactions in the *IESO-administered markets* of any type, *market participants* are not eligible for this reduction.

2.1.1.2 Information to Calculate Maximum Net Exposure

(Market Rules: Chapter 2, sections 5.3.1, 5.3.2, 5.3.4.2, 5.3.4.3, 5.3.5, and 5.3.8.2)

Market participants authorized as *energy traders* who have not conducted *physical transactions* for *energy* for at least the three most recent *billing periods* are required to provide their estimated net *settlement amount* for the upcoming *energy market billing period*. After an *energy trader* has conducted *physical transactions* for *energy* for at least three previous *billing periods*, *energy traders* are no longer required to provide their estimated net *settlement amounts.* The *IESO* will use an average of the actual net *settlement amounts* for the three most recent *energy market billing periods* for which the *energy trader* has conducted *physical transactions* for *energy*, to calculate *maximum net exposure*.

Prospective *market participants* who wish to be authorized as *energy traders* are also required to submit a *self-assessed trading limit*, even if that *self-assessed trading limit* might be zero. Once authorized as a *market participant*, *energy traders* may, on an ongoing basis elect to submit a revised *self-assessed trading limit* in dollars or as a percentage of their estimated net *settlement amount. Energy traders* may consider using up to 100% of their estimated net *settlement amount* for the upcoming *energy market billing period* in their calculation if they want to decrease the likelihood of receiving *margin calls*. *Energy traders* who wish to post the lowest amount of *prudential support* allowable by the *IESO* should continue to keep their *self-assessed trading limit* at zero.

2.1.2. Information Required of Market Participants Not authorized as Energy Traders

Market participants not authorized as *energy traders* provide the following information:

- participant class;
- option to select the *no margin call option*;
- application for reductions; and
- information to calculate *maximum net exposure*. This information consists of the estimated exposure, *physical bilateral contracts*, and *self-assessed trading limits*.

2.1.2.1 Participant Class

Market participants must provide their participant class as one of class A, class B or local distribution company. This is used to determine the *market participant's* global adjustment allocation.

2.1.2.2 Election of the No-Margin Call Option

(Market Rules: Chapter 2, sections 5.6.4, 5.6.5, 5.6.6 and 5.6.7)

Subject to the *IESO's* approval, *market participants* that are authorized to conduct *physical transactions,* but are not authorized as a *virtual trader,* may elect to participate in the *no margin call option. Market participants* that elect the *no margin call option* are exempt from receiving *margin calls* (Chapter 2, section 5.6.4 of the *market rules*). *Margin calls* are issued to *market participants* when their *actual exposure* reaches 100% of their *trading limit*. However, the *IESO* determines the *prudential support obligation* for *market participants* electing the *no margin call option* using an alternate methodology as described in Chapter 2, sections 5.6.5 and 5.6.6 of the *market rules*.

2.1.2.3 Application for Reductions

(Market Rules: Chapter 2, section 5.8)

Market participants that are not *distributors* may apply for one of credit rating or good payment history reductions to their *prudential support obligation* relative to their *maximum net exposure*.

Distributors may apply for one of credit rating or good payment history reduction in addition to the reduction for the *distributor* prudential credit to their *prudential support obligation* relative to their *maximum net exposure* for *physical transactions*:

- reduction for credit rating; or
- reduction for good payment history; and
- distributor prudential credit.

Note: The reductions mentioned in this section are only applicable to *maximum net exposure* for *physical transactions*.

Reduction for Credit Rating

[illegible]
[illegible]
maximum net exposure using their
credit rating (refer to

Appendix C: Credit Ratings). For this application, *market participants* provide their credit rating in accordance with Standard & Poors, Moody's and DBRS Morningstar. *If market participants* share their credit rating with multiple *market participants,* they must provide all the associated *market participant* information along with the percentage share to be allocated to each.

If *market participants* elect the *no margin call option* and are *small distributors,* they may apply for a reduction based on their credit rating. However, *market participants* that are *small distributors* are not eligible for this reduction if they are authorized to conduct *virtual* *transactions*. All other *market participants* that have elected the *no margin call option* are ineligible for a reduction for a credit rating.

Reduction for Good Payment History

Market participants that elect the *no margin call option* may apply to have their *prudential support obligation* for *physical transactions* reduced by a percentage of their *maximum net exposure* based on the *market participant's* good payment history for energy purchases in Ontario (refer to

Appendix D: Good Payment History).

All other *market participants* that have elected the *no margin call option* are ineligible for a reduction for a credit rating.

Distributor Prudential Credit

The Ontario Energy Board's Retail Settlement Code authorizes *distributors* to collect *prudential support* from their customers. In such cases, the retail customers post *prudential support* with the *distributor*, in addition to the *prudential support* for *physical transactions* posted by the *distributor* with the *IESO* for the same *energy* measured in MWh.

Distributors are permitted to apply a 60% reduction to their *prudential support obligation* for *physical transactions* for every dollar in *prudential support* they have collected from their customers (Chapter 2, section 5.8.8 of the *market rules*) if in one of the following "tangible" forms:

- cash;
- Government of Canada T-Bills;
- irrevocable commercial letters of credit from a Schedule Bank in Canada; and
- guarantees by a third person or affiliate. ~~for a number of reasons~~

To qualify for this reduction in their *prudential support obligation* for *physical transactions*, *distributors* must provide proof of the *prudential support* they have collected from their customers. They can provide this proof by swearing an "Affidavit Regarding Reduction in *Prudential Support* Obligations" – IMO_AFF_0001 form for *physical transactions*. This form is an affidavit attesting to the amount of tangible *prudential support* that *distributors* hold for their customers. The submitted proof may also include copies of the irrevocable letters of credit and bank statements detailing cash deposits held for such a purpose as requested by the *IESO*.

For example, if a *distributor* has a *maximum net exposure* of $25 million for its *physical transactions*, but the *distributor* has collected *prudential support* in the amount of $10 million from its own customers, and can provide verifiable proof (i.e. an affidavit) of said *prudential support* to the *IESO*, then its outstanding *prudential support obligation* would be $19 million [$25M – ($10M * 0.6)]. Any outstanding *prudential support obligation* would have to be met by using one or a combination of the other instruments listed in Chapter 2, section 5.7 of the *market rules*. Under this option, a *distributor* can also claim good payment history or credit rating reduction pursuant to Chapter 2, section 5.8.5 or 5.8.1A of the *market rules* to meet its *prudential support obligation* for its *physical transactions*. The *distributor* prudential credit will be deducted first before other applicable reductions can be applied.

Under a *no margin call option,* all *distributors*, with the exception of *small distributors*, will be ineligible for the *distributor* prudential credit.

2.1.2.4 Information to Calculate Maximum Net Exposure

Estimated Exposure

To estimate their *maximum net exposure* for *physical transactions*, *market participants* must submit their combined estimated daily maximum quantity of *energy* to be transacted in the both the *day-ahead market* and the *real-time market* and expected estimated peak load associated with the daily maximum quantity of *energy*. *Market participants* can update these estimated values in Online IESO for an upcoming *billing period* that may impact their *prudential support obligation*.

Option for Consideration of Physical Bilateral Contracts

Market participants with a credit rating of BBB− or higher, subject to any adjustments set out in Chapter 2, section 5.8.2 of the *market rules*, may choose to use the *IESO's settlement process* to settle their *physical bilateral contract*s. If *market participants* choose for the *IESO* to settle their *physical bilateral contract*s, they may submit to the *IESO* the aggregate *energy* quantities and duration associated with the *physical bilateral contracts* from all applicable *resources*. *Market participants* can then request that the *IESO* remove these *energy* quantities when calculating their *minimum trading limit* and *default protection amount in respect of physical transactions*. *Market participants* are required to also notify the *IESO* immediately upon a change in the submitted *energy* quantities or duration of their applicable *physical bilateral contracts*, including termination of any of the contracts.

Market Participant Self-Assessed Trading Limit

For the purpose of establishing *market participants' trading limit*s and *maximum net exposure* for *physical transactions*, *market participants* that conduct *physical transactions* are eligible to submit a self-assessed *trading limit* by providing either:

- the number of calendar days up to 70 calendar days, in which they intend to participate in *physical transactions* in the *day-ahead market* and the *real-time market*; or
- a dollar amount estimate of their *trading limits* for the upcoming *billing period*.

A *market participant* that intends to reduce the number of *margin calls* should base their *self-assessed trading limit* on 49 calendar days of market activity. If a *market participant* wants to post a lower *prudential support* amount, the *market participant* may at a minimum, use seven calendar days of market activity.

2.2. Calculating Prudential Support Obligation for Physical Transactions

2.2.1. Assessment for Market Participants Authorized as Energy Traders

(Market Rules: Chapter 2, sections 5.3.1, 5.3.2, 5.3.4.2, 5.3.4.3, 5.3.5, 5.3.8.2 and 5.8)

Upon receipt of the *prudential support* information from *market participants*, the *IESO* undertakes a five-stage process to calculate the *prudential support obligation* for *physical transactions* for *market participants* authorized as *energy traders* during which the *IESO*:

- Calculates the *minimum trading limit* as a dollar amount.
- Calculates the *default protection amount* as a dollar amount, which is equal to the *minimum trading limit* in the previous step.
- Assesses the *minimum trading limit* against the *self-assessed trading limit* submitted by *market participants*. The *IESO* then selects the greater of the two *trading limit* amounts and establishes the *maximum net exposure* for *market participants* as the sum of the selected *trading limit* and the *default protection amount*.
- Applies any applicable reductions.
- Determines the market participant’s prudential support obligation for physical transactions. This amount is equal to the market participant’s maximum net exposure for physical transactions.

Figure 2-1 provides an illustration of how the *prudential support obligation* for *physical transactions* are determined for *market participants* that are *energy traders*.

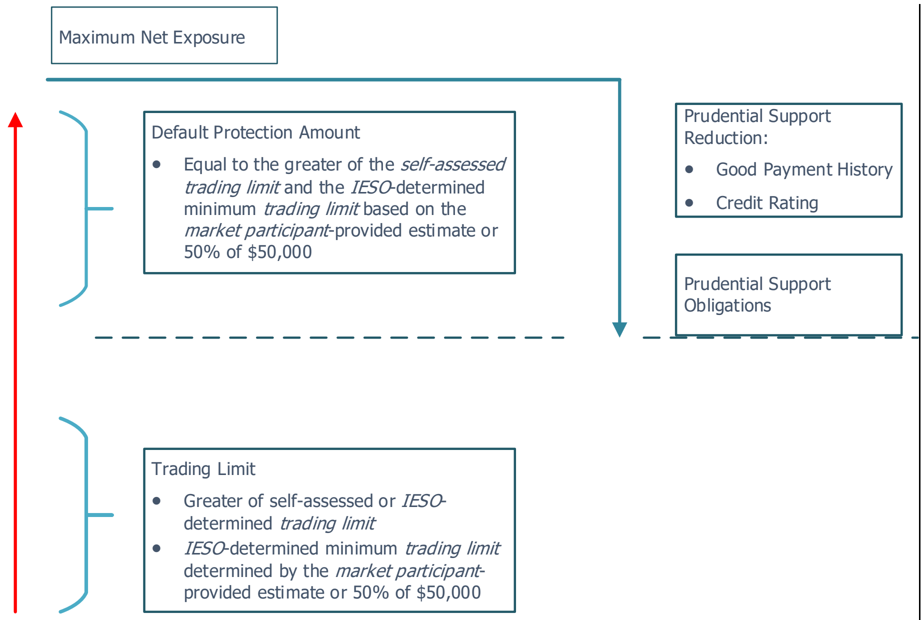

Figure 2-1: Determination of Prudential Support Obligation for a Market Participant that is an Energy Trader

2.2.1.1 Determining the Minimum Trading Limit

(Market Rules: Chapter 2, sections 5.3.4.2, 5.3.4.3 and 5.3.5)

The *IESO*-calculated *minimum trading limit* for *physical transactions* is a dollar amount that represents a *market participant's* lowest possible *trading limit* that may be established under the *market rules*. This amount is based on an estimate of *a market participant*'s expected combined activity for *physical transactions* in the *day-ahead market* and the *real-time market* (refer to Chapter 2, section 5.3.5 of the *market rules*).

The *IESO* calculates the *minimum trading limit* by estimating the net *settlement amount* that a *market participant* would incur conducting *physical transactions* in the *day-ahead market* and the *real-time market*.

For *market participants* that are *energy traders*, the *IESO* sets their *minimum trading limits* for their *physical transactions* to 25% of each *market participant's* estimated net *settlement amount* for the upcoming *energy market billing period*. If any *market participant* has been subject to more than one *margin call* per *billing period*, the *IESO* may use a greater percentage, up to and including 100%, of the *market participant's* estimated net *settlement amounts* (Chapter 2, section 5.3.4.2 of the *market rules*).

To estimate the net *settlement amount,* the *IESO* uses the following:

- an average of the *market participant's* estimated net *settlement amounts* for physical transactions for the three most recent energy market billing periods where the market participant transacted energy within the IESO-administered markets; or
- an estimate of the *market participant's* future market activity as the estimated net *settlement amount* for *physical transactions* for the upcoming *billing period* if the *market participant* has not conducted *physical transactions* for *energy* for at least three most recent *energy market billing periods*, calculated in accordance with Chapter 2, section 5.3.4.3 of the *market rules*.

For further details surrounding the process of calculating the *prudential support obligation* for *market participants* authorized as *energy traders that* have not conducted *physical transactions* for *energy* for at least the three most recent *energy market billing periods,* refer to section 2.2.1.4 below (Chapter 2, section 5.3.4.3 of the *market rules*).

2.2.1.2 Determining the Default Protection Amount

(Market Rules: Chapter 2, section 5.3.8.2)

The *default protection amount* for *physical transactions* represents the *IESO's* estimate of the additional debt *market participants* could accumulate while conducting *physical transactions* in the *day-ahead market* and *real-time market*. The *default protection amount* estimates the debt that can be accumulated if a *market participant* were to default on a payment date until such time as the *market participant* could be removed from the *IESO-administered markets*, and prevented from incurring any further debt. For *market participants* that are *energy traders*, the *default protection amount* is equal to the *minimum trading limit* calculated by the *IESO*.

For details on the process of calculating the *default protection amount* for a *market participant* authorized as an *energy trader* that has not conducted *physical transactions* for *energy* for at least the three most recent *energy market billing periods,* refer to section 2.2.1.4 below (Chapter 2, section 5.3.4.3 of the *market rules*).

2.2.1.3 Determining the Maximum Net Exposure

(Market Rules: Chapter 2, section 5.3.1)

The *IESO* calculates the *maximum net exposure* for *physical transactions* of an *energy trader* by adding the *trading limit* with *default protection amount* in respect of *physical transactions.*

2.2.1.4 Application of Reductions

(Market Rules: Chapter 2, section 5.8**)**

Market participants may be eligible for a reduction to their *maximum net exposure* based on:

- the *market participants*' credit rating;
- the *market participants'* good payment history for the purchase of electricity in Ontario.
- Appendix B and Appendix C provide further details for credit rating reductions for non-*distributors* and reduction amounts for good payment history for non-*distributors.*

The *IESO* applies reductions equally to the *default protection amount* and the *trading limit*. In addition, new *market participants* will be ineligible for reductions associated with credit ratings until they have conducted *physical transactions* for at least three consecutive months.

2.2.1.5 Determination of Prudential Support Obligation

The *IESO* determines the *prudential support obligation* for *energy traders* using the following two methods.

Energy Traders with Transaction History for Three Most Previous Energy Market Billing Periods

(Market Rules: Chapter 2, sections 5.3.4.2, 5.3.8.2 and 5.8)

For *energy traders* that have conducted *physical transactions* for three previous *energy market billing periods,* its *prudential support obligation* for *physical transactions* is equal to their *maximum net exposure* for *physical transactions* minus applicable reductions.

Energy Traders Without Transaction History for Three Previous Energy Market Billing Periods

(Market Rules: Chapter 2, sections 5.3.4.3, 5.3.8.2, and 5.8.6.3)

For *energy traders* that have not conducted *physical transactions* for three previous *energy market billing periods,* their *prudential support obligation* for *physical transactions* is equal to their *maximum net exposure.*

The *IESO* requires *market participants* that are *energy traders* without any activity of conducting *physical transactions* in the *IESO-administered markets* in the most recent three *energy market billing periods* to post no less than $50,000 of *prudential support*. This requirement applies to all *market participants* regardless of whether they expect to be a net creditor.

The *prudential support obligation* for *physical transactions* for *market participants* that are *energy traders* without experience conducting *physical transactions* for at least three previous *energy billing periods* is equal to the greater of the following:

- the *minimum trading limit* plus the *default protection amount* for *physical transactions*; or
- $50,000, equalling the sum of its *minimum trading limit* of $25,000 and the *default protection amount* of $ 25,000 for *physical transactions*.

2.2.2. Assessment for Market Participants Not Authorized as Energy Traders

2.2.2.1 Margin Call Option

Upon receipt of *market participants' prudential support* information, the *IESO* undertakes a six-stage process to calculate *market participants' prudential support obligation* for *physical transactions* under a *margin call* option, during which the *IESO*:

- calculates the *minimum trading limit* as a dollar amount;
- calculates the *default protection amount* as a dollar amount;
- assesses the *minimum trading limit* against the *self-assessed trading limit* submitted by the *market participants*. The *IESO* then selects the greater of the two *trading limit* amounts and establishes the *maximum net exposure* for the *market participant* as the sum of the selected *trading limit* and the *default protection amount*;
- adjusts the *minimum trading limit* and *default protection amount* for *physical bilateral contracts*;
- applies any applicable reductions; and
- determines the *market participant's prudential support obligation* for *physical transactions*.

Figure 2-2 provides an illustration of how *physical transaction prudential support obligations* are determined for *market participants* that are not *energy traders* under a *margin call option*.

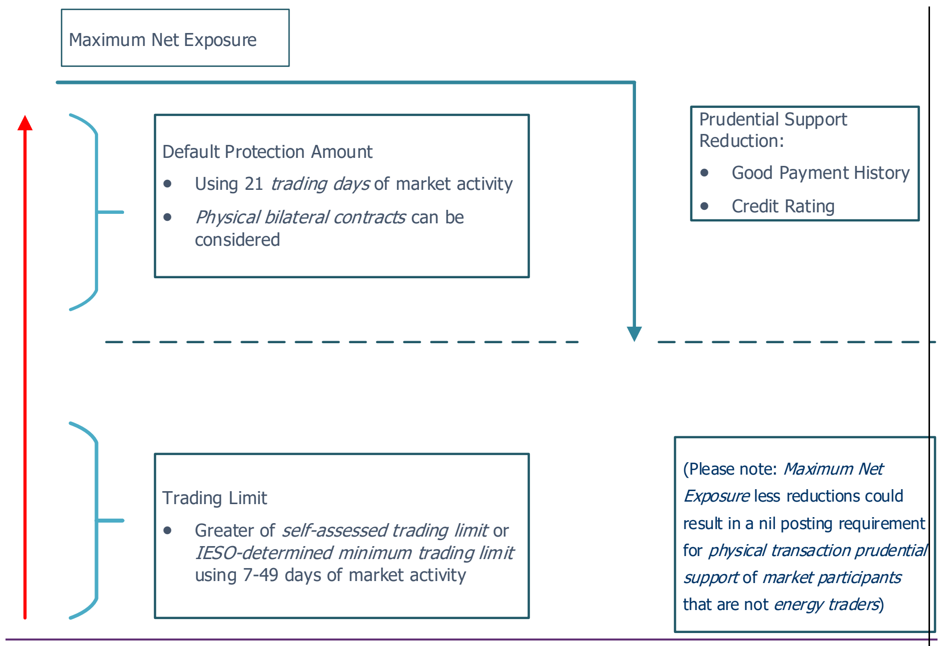

Figure 2-2: Margin Call Option for Physical Transactions for a Market Participant that is not an Energy Trader

The charges estimated as part of the *minimum trading limit* and *default protection amount* for a *market participant* that is not an *energy trader* include but may change over time:

- *energy* exposure (including *physical bilateral contract* credit (if requested by *market participant*);
- global adjustment;
- transmission exposure;
  - line connection service rate (as applicable);
  - network service rate (as applicable);
  - transformation connection service rate (as applicable);
- rural rate protection;
- *IESO* fee; and
- uplifts and ancillary charges.

The *IESO* applies HST to all charges listed as part of the *minimum trading limit* and *default protection amount* estimation.

Determining the Trading Limit for Physical Transactions

(Market Rules: Chapter 2, sections 5.3.2, 5.3.4.1, and 5.3.5)

The *IESO* establishes the *trading limit for market participants* to limit the amount of debt that *market participants* may accumulate before the *IESO* issues a *margin call.* The *IESO* determines the *trading limit* for *physical transactions* based on the greater of a *market participant's* (i) *self-assessed trading limit*; and (ii) the *IESO*-calculated *minimum trading limit* for *physical transactions* (refer to Chapter 2, section 5.3.5 of the *market rules*).

Both the s*elf-assessed trading limit* and *IESO*-calculated *minimum trading limit* for *physical transactions* are dollar amounts that are based on the expected activity of *market participants* in both the *day-ahead market* and the *real-time market* related to *physical transactions*. The *minimum trading limit* for *physical transactions* represents a *market participant's* lowest possible *trading limit* that may be established under the *market rules*.

The *IESO* calculates the *minimum trading limit* for *physical transactions* by estimating the *net exposure* that *market participants* would incur when they conduct *physical transactions* in the *day-ahead market* and the *real-time market*. This estimate accounts for at least seven calendar days of market activity, ignoring the impact of *physical bilateral contracts*. For additional information on the calendar days of market activity factored into the calculation of the *minimum trading limit,* refer to Chapter 2, section 5.3.4.1 of the *market rules*. The *IESO* will use the applicable *energy* price for each *resource* of a *market participant* to calculate that *market participant's minimum trading limit*.

Determining of Default Protection Amount for Physical Transactions

(Market Rules: Chapter 2, section 5.3.8.1)

The *default protection amount* for *physical transactions* represents the *IESO's* dollar estimate of the additional debt that *market participants* could accumulate while conducting *physical transactions* in the *day-ahead market* or the *real-time market*. The *default protection amount* is determined by estimating the amount of additional debt *market participants* could experience if an *event of default* were to occur until the time *market participants* could be removed from the *day-ahead market* or the *real-time market*. The *IESO's* calculation of the *default protection amount* under a *margin call* option is similar to the methodology it uses to calculate the *minimum trading limit*.

For a *market participant* that is not an *energy trader,* the *IESO* determines the *default protection amount* for *physical transactions* by factoring 21 calendar days of market activity ignoring the impact of *physical bilateral contracts*, covering potentially both the *day-ahead market* activity and the *real-time market* activity following an *event of default*.

The *IESO* will use the applicable estimated *energy* price for each *resource* of a *market participant* to calculate that *market participant's default protection amount*.

Determining the Maximum Net Exposure

(Market Rules: Chapter 2, section 5.3.1)

The *maximum net exposure*, in respect of *physical transactions*, is the *IESO's* estimate of the net *settlement amount market participants* could owe for conducting *physical transactions* in the *day-ahead market* and the *real-time market*.

The *IESO* establishes *market participants' maximum net exposure* for *physical transactions* by adding the *market participants' trading limit* for *physical transactions* and *default protection amount* for *physical transactions*. In the event *market participants' maximum net exposure* for *physical transactions* is negative or equal to zero, *market participants* are not required to post *prudential support*.

Adjustment of Minimum Trading Limit and Default Protection Amount for Physical Bilateral Contracts

(Market Rules: Chapter 2, sections 5.3.8A and 5.3.8B**)**

If *market participants* that are not *energy traders* request an adjustment based on their *physical bilateral contracts*, as described in section 2.1.2.4, the *IESO* calculates their *minimum trading limits* and *default protection amounts* by removing the *energy* quantities associated with the *market participants' physical bilateral contracts* registered with the *IESO.*

For this calculation, the *IESO* assumes all transacted quantities are completed through the *day-ahead market* and *real-time market* net of *energy* quantities associated with those *physical bilateral contracts*. For details on *physical bilateral contracts*, refer to Chapter 2, section 5.38A-5.3.8B and Chapter 8 of the *market rules*.

Application of Reductions

(Market Rules: Chapter 2, section 5.8**)**

Market participants may be eligible for a reduction to their *maximum net exposure* based on:

- the *market participants*' credit rating;
- the *market participants'* good payment history for the purchase of electricity in Ontario; or
- the *distributor* prudential credit.

- Appendix C and Appendix D provide further details for credit rating reductions for non-*distributors*, credit rating reductions for *distributors*, reduction amounts for good payment history for non-*distributors* and reduction amounts for good payment history for *distributors.*

Determination of Prudential Support Obligation

The *maximum net exposure* less allowable reductions that may be permitted under Chapter 2, section 5.8 of the *market rules* constitute the amount of *prudential support obligation* for *physical transactions* that *market participants* not authorized as *energy traders* must submit. The *IESO* determines the *prudential support obligations* for *market participants* as follows:

- if the *maximum net exposure* calculated by the *IESO* for a *market participant* is positive, and available prudential support reductions do not lower the *market participant's prudential support obligation* to zero, the *market participant* must post *prudential support* to the *IESO*; and
- 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 post any *prudential support* to the *IESO* for *physical transactions*.

2.2.2.2 No Margin Call Option

(Market Rules: Chapter 2, sections 5.6.4 and 5.6.5**)**

For *market participants* that elect the *no margin call option*, the *IESO* establishes the *maximum net exposure* for those *market participants' physical transactions* by factoring in 70 calendar days of market activity into the calculation (Chapter 2, section 5.6.5 of the *market rules*). The *IESO* does not take into account *physical bilateral contracts* for the *day-ahead market* and *real-time market* towards *market participants' maximum net exposure* for their *physical transactions* under a *no margin call option.* Other than *small distributors, market participants* that elect the *no margin call option* are ineligible to receive reductions to their *maximum net exposure* (refer to Chapter 5, section 5.6.6 of the *market rules*).

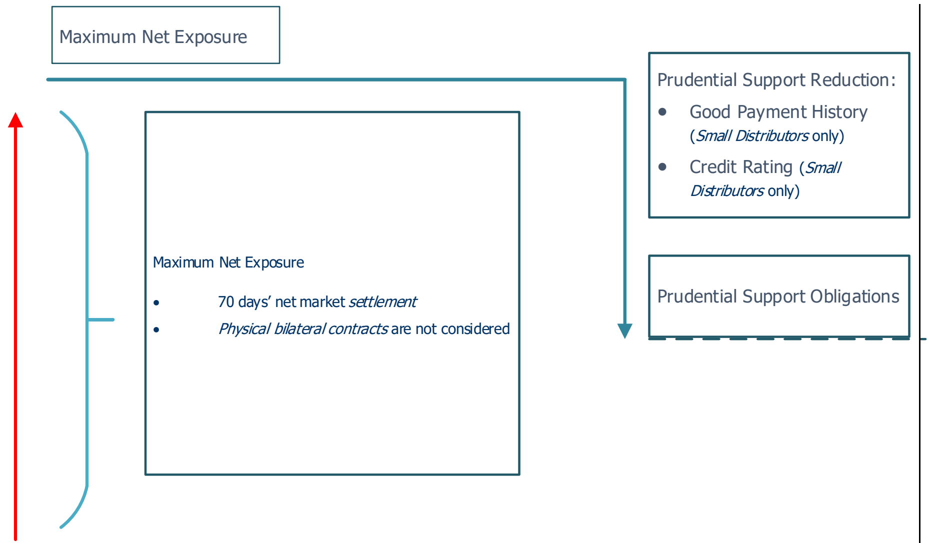

Figure 2-3: No Margin Call Option for Physical Transactions for a Market Participant that is not an Energy Trader

2.3. Informing of Prudential Support Obligations

After determining *prudential support obligations*, the following steps occur to inform *market participants* of their *prudential support obligations*:

1. Online IESO presents the *market participants'* proposed *prudential support obligation* for their review in the **Tasks** tab.
2. If the *market participants* are satisfied with the *IESO*-proposed *prudential support obligation*, they will submit the proposed amount into Online IESO for processing.
3. Upon approval of this amount by the *IESO*, an email notification from the *IESO* will be sent to the *market participants* advising them that the *prudential support obligation*, as set out in Schedule A assessment results, is available in Online IESO. Schedule A assessment results also reflect whether any allowable reductions are applied to the calculation of the *prudential support obligation*.

2.4. Posting of Prudential Support for Physical Transactions

(Market Rules: Chapter 2, section 5.7)

After *market participants* receive their Schedule A assessment results, they are then required to post *prudential support* to satisfy their *prudential support obligation* for *physical transactions* with the *IESO* or the *IESO's* custodian. *Prudential support* must be posted at least two weeks before *market participants* becomes authorized to participate in the *IESO-administered markets*. Furthermore, existing *market participants* that have previously posted *prudential support* in the form of a guarantee or letter of credit to satisfy their *prudential support obligation* for *physical transactions* must provide the *IESO* with updated *prudential support* for *physical transactions* in order to become authorized as *virtual traders* (Chapter 2, section 5.7.3A of the *market rules*). Such *market participants* must provide the *IESO* with replacement *prudential support* dated no earlier than January 1, 2023.

The *prudential support* posted by *market participants* to satisfy their *prudential support obligations* for *physical transactions* must be in one or a combination of the following formats as outlined in Chapter 2, section 5.7.2 of the *market rules*:

- a guarantee or an irrevocable commercial letter of credit, which is in a form acceptable to the *IESO* and provided by:
- 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*~~(Chapter 2, section 5.~~-approved credit rating agency; or
- a credit union licensed by the Financial Services Commission of Ontario with a minimum long-term credit rating of "A" from an *IESO*-approved credit rating agency;
- 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 an *IESO* approved credit rating agency;
- 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% to take into account the potential eroding effects of interest rate increases;
- subject to Chapter 2, section 5.7.4 and 5.7.4A of the *market rules*, a guarantee in a form acceptable to the *IESO* provided by a person that is a rated *affiliate* of the *market participant* and has a credit rating from an *IESO* approved credit rating agency (refer to Chapter 2, sections 5.7.2.2, 5.7.3A, 5.7.3B, 5.7.4 and 5.7.4A of the *market rules* for limits on the guarantee from a rated *affiliate*); or
- cash deposits made to the *IESO* by a *market participant* or on the *market participant's* behalf, as long as the *market participant* meets the following criteria:
- the *market participant* had already met its *prudential support obligation* for *physical transactions* in whole or in part through a cash deposit on November 4, 2004; and

- the *market participant's prudential support obligation* for *physical transaction* was $200,000 or less on November 4, 2004 and it remains $200,000 or less.

Once a *market participant* posts its *prudential support*, the *IESO* will review and, upon acceptance, will send the *market participant* an e-mail notification stating that a detailed Schedule A is available in the **Prudential Support Obligation** tab of the **Prudential Manager.**

2.5. Updating the Prudential Support Obligation for Physical Transactions

(Market Rules: Chapter 2, section 5.3.11~~ of the *market rules*~~):)

To ensure that the *prudential support* posted by *market participants* is sufficient to satisfy their *prudential support obligations*, the *IESO* regularly reviews *market participants' prudential support obligations* for *physical transactions*. The *IESO* conducts this review in the following circumstances and applicable timelines:

- prior to the start of each *energy market billing period*~~;~~, when the *IESO* reviews:
- the daily trading activity in MWh for *market participants* that are not an *energy trader* against their submitted daily quantity in MWh; or
- the average net *settlement amounts* for the most recent three *energy market billing periods* for *market participants* that are *energy traders*;
- within two *business days* after ~~a~~ *market* ~~*participant's*~~*participants' actual exposure* for *physical transactions* exceeds the *market participants' trading* ~~limit for that *market participant*~~*limits* (with the exception of *market participants* under the *no margin call option*);
- within two *business days* after the *IESO* receives notice of any changes to the status of a *market participant* if the *IESO* determines that the change in such status would have a material impact on the *market participant's maximum net exposure.* Examples of such changes include operational changes, such as increase or decrease in load, peaks, etc.;
- when the *IESO* has adjusted the *minimum trading limit* for *market participants* that are *energy traders* conducting *physical transactions* pursuant to Chapter 2, section 5.3.4.3 of the *market rules*;
- when the *IESO* has adjusted its price basis under Chapter 2, section 5.3.10B of the *market rules*; and
- when the *IESO* annually estimates future Class A or Class B *global adjustment* amounts.

- If the *IESO* review reveals that *market participants' maximum net exposure* for *physical transactions* has changed from the amount that was previously determined, the *IESO* will update the *market participants'* Schedule A[6] accordingly, and inform the *market participants* of the same. If *market participants* are required to post additional *prudential support* as a result of the change to their *maximum net exposure* for *physical transactions*, they must provide the additional *prudential support* within five *business days* from the effective date of the change.

There are circumstances where *market participants* may be required to re-establish a portion or all of their *prudential support* to ensure that their *prudential support obligations* for *physical transactions* are satisfied. These circumstances include but are not limited to:

- if any part of *market participants' prudential support* is due to expire or terminate, those *market participants* must provide the replacement at least 10 *business days* before the expiry date;
- if any part of *market participants' prudential support* is otherwise no longer current or valid, the *market participants* must provide a replacement within two *business days* of being notified to that effect by the *IESO*; or
- if the *IESO* draws or claims any part of the *market participants' prudential support*, the *market participant* must provide a replacement within five *business days* of receiving notice from the *IESO*.

2.5.1. Credit Warnings in the context of Physical Transactions

(Market Rules: Chapter 2, section 5.8.2**)**

If the *IESO* determines that there is a credit watch negative warning for a *market participant*, there is an automatic one-notch reduction in the *market participant's* credit rating (for example, from BBB+ to BBB), as set out in Appendix C . A credit watch negative warning is generated when there is a movement of the *market participant* to a negative credit watch status by any *IESO* approved bond-rating agencies. The *IESO* will review the *market participant's prudential support obligation* for *physical transactions* and/or review the acceptability of any prudential guarantees received as *prudential support* for *physical transactions*, based on the revised credit rating of the guarantor.

– End of Section –

[6] A Schedule A sets out a *market participant's prudential support obligation* and is available in the "prudential support obligation" tab of the Prudential Manager on the *IESO* portal. Schedule A also reflects whether any allowable reductions are used in the calculation of the *prudential support obligation.*

3. Daily Monitoring of Prudential Support for Physical Transactions

The *IESO* verifies that each *market participant* has provided sufficient levels of *prudential support* to cover their financial trading activity for both the *day-ahead market* and the *real-time market*. Daily monitoring applies to *market participants* who are subject to *margin calls* by not electing the *no margin call option.*

Daily monitoring for *market participants* authorized to conduct *physical transactions* consists of the following activities:

- the *IESO* calculates *market participants'* estimated *actual exposure* using an estimate of charges;
- the *IESO* compares the calculated *actual exposure* against the *trading limit* to determine whether to issue a *margin call* or a *margin call* warning[7] to a *market participant*; and
- *market participants* take actions to respond to *margin calls* or *margin call* warnings.

Throughout the process, *market participants* can view their own estimated *actual exposure* and *margin call* warnings and *margin calls* using the **Prudential Manager**.

3.1. Estimated Actual Exposure for Physical Transactions

(Market Rules: Chapter 2, section 5.5.1)

Market participants' actual exposure for their *physical transactions* are comprised of the following components:

- cleared-but-not settled (for *dispatchable resources*) or six-day activity estimate (for *resources* that are not *dispatchable*);
- settled-but-not-invoiced;
- other *settlement amounts* estimated daily; and
- prepayments.

[7] The *IESO issues margin call warnings* by delivering a "Notice of Margin Call Warning" via a generic email.

3.1.1. Cleared-But-Not-Settled or Six-Day Activity Estimate for Physical Transactions

Settlement amounts for a given *trading day* are first calculated by the *IESO* on the seventh calendar day following a *trading day*. As a result, the *IESO* must estimate *actual exposure* during the six-calendar day period during which *settlements* data is unavailable using the following components:

- for *physical transactions* conducted by *market participants* by using *dispatchable resources*: a cleared-but-not-settled component; and
- for *physical transactions* conducted by *market participants* by using *resources* that are not *dispatchable*: a six-day activity estimate component.

3.1.1.1 Cleared-but-Not-Settled for Physical Transactions Conducted by a Market Participant by Using a Dispatchable Resource or Price Responsive Load

The cleared-but-not-settled calculation for *physical transactions* applies to *market participants* conducting *physical transactions* using *dispatchable resources*. It is an estimate based on *bids* and *offers* of the net amount of *dispatched energy* and *operating reserve* that has not yet been settled.

Cleared-but-not settled amounts for *physical transactions* are applicable to *market participants* using the following *dispatchable resources:*

- dispatchable generation resources;
- dispatchable loads; and
- *boundary entity resource* import and export transactions.

For the purpose of calculating the cleared-but-not-settled component, *physical transactions* conducted by *market participants* by using *price responsive loads* are subject to the same methodology as used for *dispatchable loads*.

The *IESO* updates the cleared-but-not-settled component applicable to the *physical transactions* conducted by *market participants* by using a *dispatchable resource* on a daily basis.

At any given time, the *IESO's* rolling six-calendar days cleared-but-not-settled calculation covers the previous six calendar days with market activity that has not yet been re-categorized under the settled-but-not-invoiced component. On the seventh calendar day following a given *trading day* with market activity, the *IESO* removes the amount for the oldest calendar day from the six-calendar day rolling calculation of the cleared-but-not-settled calculation and adds the amount from the calendar day to the settled-but-not-invoiced total. The daily update to the cleared-but-not-settled calculation by the *IESO* reflects the total based on the cleared-but-not-settled calculation for that *trading day*.

3.1.1.2 Six-Day Activity Estimate Calculation for Physical Transactions Conducted by a Market Participant by Using a Resource that is Not Dispatchable

The six-day activity estimate calculation for *physical transactions* applies to *market participants* conducting *physical transactions using resources* that are not *dispatchable*. *Physical transactions* conducted by *market participants* by using *resources* that are not *dispatchable* include but are not limited to:

- transactions arising from the consumption of *energy* from *non-dispatchable loads* such as local distribution companies; and
- transactions arising from the injection of *energy* by *market participants* using self scheduling *generation resources.*

For a given *trading day*, the *IESO's* rolling six-day activity estimate uses the average Allocated Quantity of Energy Withdrawn ("AQEW") or the Allocated Quantity of Energy Injected ("AQEI") from the previous six calendar days and multiplies the quantities by the applicable average daily prices.

3.1.2. Settled-but-Not-Invoiced for Physical Transactions

The settled-but-not-invoiced component represents *settlement amounts* specific to a *market participant* that appear on the *preliminary settlement statements* or *final settlement statements* but that have not yet appeared on a *market participant's invoice*.

The *IESO* determines the settled-but-not-invoiced component of the *actual exposure* for *physical transactions* based on a *market participant's day-ahead market* and *real-time market* activity*.* All *settlement amounts* used in the settled-but-not-invoiced component are either hourly or non-hourly charges from a *market participant's preliminary settlement statements* and *final settlement statements*. For details on physical *settlement statements,* refer to Market Manual 5 Settlements Part 5.5: Physical Markets Settlement Statements.

3.1.3. Other Settlement Amounts Estimated Daily

On a daily basis, the *IESO* estimates other *settlement amounts*. The other *settlement amounts* do not fall under the category of cleared-but-not-settled, six-day estimate and are non-hourly. The majority of these non-hourly *settlement amounts* are calculated based on legislation and regulation in Ontario. *Market participants* may view all *settlement amounts* under the *actual exposure* calculation through the **Estimated Net Exposure** tab in the **Prudential Manager**.

3.1.4. Prepayments

Market participants may reduce the level of their estimated *actual exposure* at any time by making a pre-payment to the *IESO*, and then logging in to send the *IESO* an electronic Notification of Prepayment using **Prudential Manager**. These prepayments are then applied to the *invoice* once the invoice is issued. These include *margin call* prepayments and voluntary prepayments.

3.2. Margin Call Warnings and Margin Calls for Physical Transactions

(Market Rules: Chapter 2, section 5.4 and 5.6)

Table 3-1 summarizes the actions taken by the *IESO* based on a comparison of *market participants' trading limit* for *physical transactions* and their *actual exposure* for *physical transactions.*

Table 3-1: Actions Taken as a Result of Daily Monitoring of Physical Transactions

Trading Limit – AE comparison	**IESO Action**	**Market Participant Action**
Actual exposure< 70 % *trading limit*	None	None
70% *trading limit* <= *actual exposure*< 100 % *trading limit*	The *IESO* issues a "Notice of Margin Call Warning" to *market participants* for their *physical transactions* for the *day-ahead market* and the *real-time market* via a generic e-mail.	*Market participants* may make a cash payment to reduce a portion of any amounts payable to the *IESO* to reduce their *actual exposure* for *physical transactions*, or take other appropriate actions to ensure that their *actual exposure* for *physical transactions* does not reach their *trading limit* for *physical transactions* (Chapter 2, section 5.4.1 of the *market rules*).
Actual exposure >= 100 % *trading limit*	The *IESO* issues a *margin call* to *market participants* for their *physical transactions* for the *day-ahead market* and the *real-time market* via a generic e-mail.	A *market participant* is required to satisfy a *margin call* by paying cash in an amount sufficient to reduce its *actual exposure* for *physical transactions* to no more than 75% of the *market participant's trading limit* for *physical transactions* (Chapter 2, section 5.6.1 and 5.6.2 of the *market rules*). Note, payment must be made by 4:00 pm eastern prevailing time (EPT) on the second business day following the date of the *margin call.*

Note, *market participants* can log on to the **Prudential Manager** located on the *IESO* portal to view *margin call* warnings and *margin call* details.

The *IESO* has the authority to draw upon all or part of the *market participant's prudential support* for *physical transactions* in the event that *market participants* default on their required *margin call* payment. *Market participants* are considered to have defaulted on the required *margin call* payment if their *actual exposure* for *physical transactions* is not reduced to no more than 75% of the *trading limit* for *physical transactions* by 4:00 pm EPT on the second *business day* following the date of the *margin call*.

– End of Section –

4. Setting Prudential Support Obligations for Virtual Transactions

The *IESO* requires that *market participants* be authorized as *virtual traders* to conduct *virtual transactions* in the *day-ahead market* (refer to Market Manual 1: Connecting to Ontario's Power System Part 1.5: Market Registration Procedures, section 2). To account for the heightened risk profile associated with *virtual transactions*, the authorization to conduct *virtual transactions* gives rise to a *prudential support obligation* specific for *virtual transactions*. Therefore, the *IESO* calculates the *prudential support obligation* for *virtual transactions* and *actual exposure* for *virtual transactions* differently than for *physical transactions*.

The following section describes the process of setting *market participants' prudential support obligations* and posting of *prudential support* for *market participants* authorized as *virtual traders.*

The process is made up of the following activities:

1. *Market participants* submit *prudential support* information to the *IESO* using Online IESO.
2. The *IESO* uses the information submitted by *market participants* to determine that *market participant's prudential support obligation* subject to any applicable reductions.
3. The *IESO* informs *market participants* of their *prudential support obligation*. If this is the first time *market participants* have submitted *prudential support* or if there is a requirement to change the amount of *prudential support*, the *IESO* will inform *market participants* through Online IESO.
4. Market participants post their prudential support in a form required by the IESO.
5. The *IESO* receives the *prudential support* and either accepts or rejects the *prudential support*. If the *prudential support* is accepted by the *IESO*, the *IESO* sends an e-mail notification to the *market participant* which states the detailed Schedule A[8] is available to be viewed by the *market participant* in the **Prudential Support** tab of the **Prudential Manager**.

[8] A Schedule A sets out a *market participant's prudential support obligation* and is available in the **Prudential Support Obligation** tab of the **Prudential Manager** on the *IESO* portal.

4.1. Submitting Prudential Support Information for Virtual Transactions

As part of the Authorization and Participation process described in Market Manual 1: Connecting to Ontario's Power System Part 1.5: Market Registration Procedures, all *market participants* must submit their *prudential support* information using Online IESO. To do this, each *market participant* must first assign a Prudential Requirements Contact, who will be granted permissions in Online IESO to submit information required to establish the *market participant's prudential support obligation.* The Prudential Requirements Contact is also the *IESO's* point of contact for matters relating to *prudential support*.

After authorization, *market participants* must keep the *IESO* informed of circumstances that could change their *prudential support obligation* for *virtual transactions* by using Online IESO. *Market participants* must confirm that all amounts of *prudential support* continue to satisfy the *market participants' prudential support obligation*. Notably, this is likely to occur in the circumstances that include but are not limited to:

- if there has been a change to the *market participant's* credit ratings; or
- if an event of default occurs.

Market participants authorized (or requesting authorization) to conduct *virtual transactions* shall provide, using Online IESO, their *maximum daily trading limit.* This limit represents the maximum quantity a *virtual trader* may *bid* or *offer* in a given *trading day* and is the absolute value in MWh that can be submitted by a *virtual trader*. The *maximum daily trading limit* is the input by which *market participants* may adjust the amount of their *trading limits* for *virtual transactions*, and accordingly, their *prudential support obligations for virtual transactions*. In addition, *market participants* should review their *maximum daily trading limit* prior to the start of each *billing period* and submit a revised *maximum daily trading limit*, as appropriate.

The maximum daily *trading limit* is applicable for all *energy market billing periods* until a revised maximum daily *trading limit* is submitted by *market participants*. If *market participants* submit a revised maximum daily *trading limit*, this maximum daily *trading limit* will supersede any previous maximum daily *trading limit* once approved by the *IESO*. If the revised maximum daily *trading limit* results in an increase in the *market participants' prudential support obligations* for its *virtual transactions*, the *market participant* must provide the *IESO* with additional *prudential support* before the *IESO* authorizes the increase in the maximum daily *trading limit*.

4.2. Determining the Prudential Support Obligation for Virtual Transactions

The *prudential support obligations* for *virtual transactions* represents an amount that is distinct from a *prudential support obligation* for *physical transactions*, and is determined using a different methodology. Notable differences between the calculation of a *prudential* *support obligation* for *physical transactions* and a *prudential support obligation* for *virtual transactions* include the following:

- the no *margin call* option is unavailable to *market participants* authorized to conduct *virtual transactions*, and
- *prudential support obligations* for *virtual transactions* are not eligible for the same reductions available for *prudential support obligations* for *physical transactions.*

The *IESO* undertakes the following five-step process to establish the *prudential support obligation* for *virtual transactions*:

1. Establish the price delta quantity applicable to all *market participants* authorized to conduct *virtual transactions.*
2. Calculate the *minimum trading limit* (in dollars) for the *market participant.*
3. Calculate the *default protection amount* (in dollars) for the *market participant.*
4. Apply a reduction to the *prudential support obligation* for *virtual transactions* based on credit received for *physical transactions,* if applicable.
5. Determine the prudential support obligation for the market participant (in dollars).

Figure 4-1 provides an illustration of how a *market participant's virtual transaction prudential support obligation* is determined.

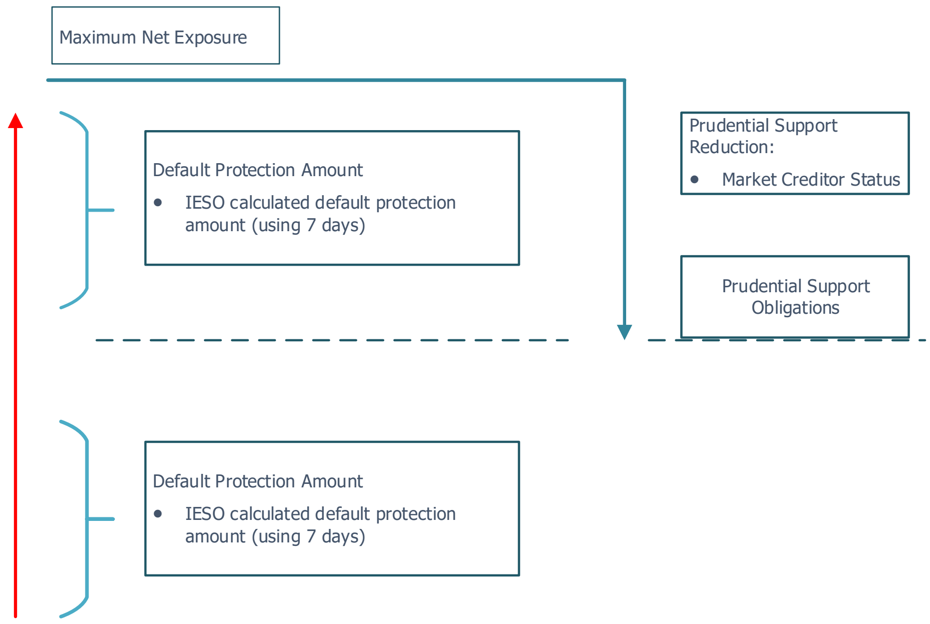

Figure 4-1: Margin Call Option for Virtual Transactions

4.2.1. Determining the Price Delta for Prudential Support Obligation for Virtual Transactions

(Market Rules: Chapter 2, section 5C.1.9)

To determine *market participants' prudential support obligations* for *virtual transactions*, the *IESO* uses various inputs. One of these inputs is a price delta that is applicable to all *virtual traders* at a given time. The *IESO* calculates a single price delta for an interim period and an enduring period using historical data. The price delta for the interim period will be calculated using historical data based on outcomes from the day-ahead commitment prices and shadow prices. After the *IESO* accumulates *day-ahead market* and *real-time market* historical price data for the period mentioned in the section below, the *IESO* will calculate an enduring price delta. The circumstances where the *IESO* is required to review the interim price delta are the same as the circumstances used for the enduring price delta.

4.2.1.1 Enduring Price Delta for Prudential Support Obligation for Virtual Transactions

The *IESO* determines a price delta between the *day-ahead market* and the *real-time market* applicable to *virtual traders.* A single price delta applies to all *virtual traders* and is used as one of the inputs by the *IESO* to calculate the:

- *minimum trading limit* for virtual transactions; and
- *default protection amount* for *virtual transactions*.

The price delta represents the absolute value of the difference between the day-ahead virtual zonal *energy* price and the hourly average real-time virtual zonal *energy* prices. Each year, the *IESO* determines the price delta by:

- collecting *energy* prices for all hours over the most recent three years for all *virtual transaction zonal trading entities;*
- assessing the difference between the day-ahead virtual zonal *energy* price and the applicable hourly average real-time virtual zonal *energy* price;
- identifying the 97th percentile for the data set; and
- modifying the price delta if it has increased or decreased by 15% or more from the previous delta.

The *IESO* publishes the price delta for *market participants* through the *IESO* website. The *IESO* annually updates the data used to calculate the price delta by replacing the data from the oldest year with data from the most recent year. The *IESO* also performs an annual review, and modifies the price delta if it has increased or decreased by 15% or more from the previous delta.

4.2.1.2 Interim Price Delta for Prudential Support Obligation for Virtual Transactions

The *IESO* uses an interim price delta, made up of a smaller data set, until three years of hourly day-ahead virtual zonal *energy* prices and hourly average real-time virtual zonal *energy* prices are available. Similar to the enduring price delta, the *IESO* uses the 97th percentile of interim price delta data to set the interim price delta to be used for the calculation of *prudential support obligations* for *virtual transactions*.

4.2.2. Determining the Minimum Trading Limit for Virtual Transactions

The *IESO* calculates *market participants' minimum trading limit* (in dollars) for *virtual transactions* based on the maximum daily *trading limit* quantity (in MWh) submitted by *market participants*. The *IESO*-determined *minimum trading limit* for *virtual transactions* will be the *trading limit* for *virtual transactions*.

Equation 4-1 contains the formula for calculating *the minimum trading limit* for *virtual transactions*.

Equation 4-1: Minimum Trading Limit for Virtual Transactions

$$TL_{VT\$} = [(TL_{VT} \times \Delta\, DAP_{VT}, ARTP_{VT} \times \#Days_{TL}) + (U_{VT} \times TL_{VT} \times \#Days_{TL})]$$

where:

Variable	**Description**
$TL_{VT\$}$	is the *minimum trading limit* for *virtual transactions* (in dollars);
TL_{VT}	is the *market participant* submitted absolute value of the *maximum daily trading limit* quantity (in MWh) for *virtual transactions;*
$\Delta\, DAP_{VT}, ARTP_{VT}$	is the *IESO* determined price delta calculated in accordance with section 4.2.1 of this *market manual*;
$\#Days_{TL}$	is the *minimum trading limit* assessment period for *virtual transactions* denoted as a number of calendar days assuming two calendar days of participation in the *day-ahead market* with the *IESO's* authority to increase up to and including seven calendar days if the *market participant* was subject to more than one *margin call* per *energy market billing period*; and
U_{VT}	is the *virtual transaction* uplift estimation rate in $/MWh. This is the *IESO's* estimation of *day-ahead market* reliability unit commitment uplift amounts that may be incurred by *virtual transaction offers* to provide *energy*. This rate may be updated on annual basis if it increases or decreases by 15% or more.

4.2.3. Determining the Default Protection Amount for Virtual Transactions

(Market Rules: Chapter 2, section 5C.1.7)

The *IESO* determines the *default protection amount* for *virtual transactions* using the same formula to calculate the *minimum trading limit* for *virtual transactions*. Although the formula is the same, the number of calendar days used in each calculation can differ. When calculating the *default protection amount*, the *IESO* uses seven calendar days of participation in the *day-ahead market*.

Equation 4-2 contains the formula for the *default protection amount* for *virtual transactions*.

Equation 4-2: Default Protection Amount for Virtual Transactions

$$\mathrm{DPA_{VT\$}} = [(\mathrm{TL_{VT}} \times \Delta\, \mathrm{DAP_{VT}}, \mathrm{ARTP_{VT}} \times \#\mathrm{Days_{DPA}}) + (\mathrm{U_{VT}} \times \mathrm{TL_{VT}} \times \#\mathrm{Days_{DPA}})]$$

where:

Variable	Description
$\mathrm{TL_{VT}}$	is the *market participant* submitted absolute value of the *maximum daily trading limit* quantity (in MWh) for *virtual transactions*;
$\Delta\, \mathrm{DAP_{VT}}, \mathrm{ARTP_{VT}}$	is the *IESO* determined price delta calculated in accordance with section 4.2.1 of this *market manual*;
$\#\mathrm{Days_{DPA}}$	is the *default protection amount* assessment period for *virtual transactions* for seven calendar days; and
$\mathrm{U_{VT}}$	is the *virtual transaction* uplift daily estimation rate, in \$/MWh. This is the same as the rate used for the calculation of the *minimum trading limit* for *virtual transactions*.

4.2.4. Applicable Reduction

(Market Rules: Chapter 2, section 5C.6)

Market participants may be eligible for a reduction to their *maximum net exposure* for *virtual transactions* based on their credit with the *IESO* in accordance with Chapter 2, section 5C.6.1 of the *market rules*, as expressed in Equation 4-3.

Equation 4-3: Applicable Reduction to Maximum Net Exposure for Virtual Transactions

$$PSO_{VT\$} = TL_{VT\$} + DPA_{VT\$} - (0.75 \times AIS_{VT\$})$$

where:

Variable	Description
$PSO_{VT\$}$	is the market participant's prudential support obligation for virtual transactions (in dollars)
$TL_{VT\$}$	is the *minimum trading limit* for *virtual transactions* (in dollars)
$DPA_{VT\$}$	is the default protection amount for virtual transactions (in dollars)
$AIS_{VT\$}$	is the average of its most recent six consecutive *invoices* where a *market participant* conducts *physical transactions* using a *generation unit* and is eligible for market creditor status (in dollars)

4.3. Posting of Prudential Support for Virtual Transactions

(Market Rules: Chapter 2, section 5C.5**)**

Market participants may satisfy their *prudential support obligations* for *virtual transactions* by submitting a guarantee or an irrevocable commercial letter of credit, which in both cases must be in a form acceptable to the *IESO* and provided by (Chapter 2, section 5C.5.2 of the *market rules*):

- 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* approved credit rating agency; or
- a credit union licensed by the Financial Services Commission of Ontario with a minimum long-term credit rating of "A" from an *IESO* approved credit rating agency.

Market participants that are authorized to conduct both *physical transactions* and *virtual transactions* must post an authorized form of *prudential support* for each of their *prudential support obligations* for *physical transactions* and *virtual transactions*. The *IESO* may draw upon both physical forms of *prudential support* and virtual forms of *prudential support* in the *event of default* by *market participants* engaging in both *physical transactions* and *virtual transactions*.

4.4. Updating the Prudential Support Obligation for Virtual Transactions

(Market Rules: Chapter 2, section 5C.1.12)

The IESO will, on an ongoing basis, review a market participant's minimum trading limit, trading limit, default protection amount and maximum net exposure, for virtual transactions in circumstances that include:

- prior to the start of each *energy market billing period*;
- within two business days after a market participant's actual exposure for virtual transactions exceeds the market participant's trading limit for virtual transactions;
- 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 *virtual 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*~~;~~ for *virtual transactions* (e.g., change in the market creditor status of a *market participant* conducting *virtual transactions*);
- ~~when the~~ *IESO* has adjusted a *market participant's minimum trading limit* ~~(Chapter 2, section 5.3.4.3 of the *market rules*); and~~
- ~~when the *IESO* has adjusted its price basis under Chapter 2, section 5.3.10B of the *market rules*).~~

~~*Market participants* must submit an initial *self-assessed trading limit* (with the exception of *market participants* under the *no margin call option)* as part of the authorization process. *Market participants* should review this *self-assessed trading limit* prior to the start of each *billing period* and submit a revised *self-assessed trading limit*, as necessary at least seven *business days* prior to the start of the next *billing period* (Chapter 2, section 5.3.2 of the *market rules*). Once a *market participant's trading limit* has been established (Chapter 2, Section 5.3.7 of the *market rules*), that *market participant* is not permitted to change or request a change to that *trading limit* during the upcoming *energy market billing period*. If a revision is not required, the previously submitted *self-assessed trading limit* is treated as a standing *self-assessed trading limit* by the *IESO* (Chapter 2, section 5.3.3 of the *market rules*).~~

~~The *IESO* undertakes a three-stage process in assessing the *prudential support obligation* that a *market participant* must satisfy. This consists of:~~

- ~~assessing a minimum dollar *trading limit* (with the exception of *market participants* under the *no margin call option)* and dollar *default protection amount* for the *market participant* as set out in Appendix B;~~
- ~~reviewing this *minimum trading limit* against the *self-assessed trading limit* submitted by the *market participant* (or the *trading limit* applied to the *market participant* during the previous *billing period*;~~, if the *market participant* ~~has not sought to revise its *trading limit*), selecting the greater of the two *trading limit*~~

~~amounts and establishing the *maximum net exposure* for the *market participant* as the sum of the selected *trading limit* and the *default protection amount* (with the exception of *market participants* under the *no margin call option)*; and~~was subject to more than one *margin call* per *billing period*, pursuant to (Chapter 2, section 5C.1.4 of the *market rules*);

- ~~calculating~~when the *IESO* has adjusted the price delta under (chapter 2, section 5C.1.9 of the *market rules*); and
- when the *market participant~~'s prudential support obligation~~* ~~as being equal to the~~ amends its previously submitted *maximum daily trading limit* quantity (in MWh) for *virtual transactions*.

Should a *market participant's maximum net exposure*~~, unless reduced, where appropriate to reflect the *market participant's* credit rating , the *market participant's* good payment history for the purchase of electricity in Ontario, or the LDC prudential credit.~~ for *virtual transactions* change as revealed over the course of the *IESO's* review, the *IESO* will inform the *market participant* of an updated Schedule A. In all such cases where the *prudential support obligation* increases, *market participants* must respond by providing additional *prudential support* for their *virtual transactions* within five *business days* from the effective date of the change.

~~For prudential calculation purposes, the *IESO* shall calculate a *metered market participant's minimum trading limit* and *default protection amount* using *energy* prices based on the *Ontario Energy Board's* ("*OEB's*") price forecasts for electricity in Ontario for use in setting retail prices under its regulated price plan ("RPP"). The price basis for Local Distribution Companies will be equal to the lower tier RPCMT1 as reported by the *OEB* for its tiered RPP prices. The price basis for all other *market participants* will be equal to the average RPP supply cost (RPA) adjusted for any Class A global adjustment factors as forecasted by the *OEB*. The *IESO* shall annually review each price basis referred to in Chapter 2, section 5.3.10A of the *market rules*, and shall modify the applicable price basis if it has increased or decreased by 15% or more from the price basis used by the *IESO*.~~

~~Please refer to the "Guide to Prudentials at the IESO" document for examples on how prudentials are calculated:~~
~~http://www.ieso.ca/Documents/training/UnderstandingPrudentials.pdf~~

~~The *IESO* may reduce the *market participant's prudential support obligation* from the full *maximum net exposure* amount, depending on the credit rating of the *market participant,* good payment history (if applicable), or the LDC prudential credit in accordance with Section~~

~~5 of Chapter 2 of the "Market Rules[9]." The IESO currently may accept Standard & Poors, Moody's and DBRS credit ratings.~~

~~If a *market participant's maximum net exposure*, as calculated by the *IESO* is zero or negative, the *market participant* is not required to~~ Similarly, *market participants* must keep the *IESO* informed of circumstances that could change their *prudential support obligation* for *virtual transactions* and ensure that all amounts of *prudential support* continue to satisfy the *market participants' prudential support obligations*.

There are circumstances where a *market participant* may be required to update a portion or all of its *prudential support* for *virtual transactions* to ensure that its *prudential support* obligation is satisfied. These circumstances include:

- if any part of a *market participant's prudential support* is due to expire or terminate, the *market participant* must provide the replacement at least 10 *business days* before the expiry date;
- if any ~~form of *prudential support* to the *IESO*. If a *market participant's maximum net exposure*, as calculated by the *IESO* is positive, and the allowable prudential reductions do not reduce the *market*~~ part of a *market participant's prudential support* ~~*obligation* to zero~~is otherwise no longer current or valid, the *market participant* must provide a replacement within two *business days*; and
- if the *IESO* draws or claims any part of the *market participant prudential support*, the *market participant* must provide ~~*prudential support* to~~a replacement within five *business days* of receiving notice from the *IESO*.

~~The calculated *default protection amount*,~~If a revision to the maximum daily *trading limit* is not submitted by *market participants*, the *IESO* treats the previously submitted maximum daily *trading limit* for *virtual transactions* as a standing maximum ~~*net exposure*, *trading limit* and *prudential support obligation* (where applicable) are communicated by the *IESO* and sent to the *market participant*.~~

~~Regardless of the activity that initiates the assessment of the *prudential support obligation* for a *market participant*, the *prudential support* posted by a *market participant* to satisfy this obligation must take one of the following forms~~daily *trading limit* for *virtual transactions* (Chapter 2, section ~~5.7.2~~5C.1.3 of the *market rules*~~):~~).

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

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[9] ~~Where a credit rating is available, this will take precedence over any good payment history that may be available.~~

~~(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* approved credit rating agency; 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* approved credit rating agency;~~

- ~~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 an *IESO* approved creditrating agency;~~
- ~~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; and/or~~
- ~~subject to Section 5.7.4 and 5.7.4A of Chapter 2 of the "Market Rules," a guarantee in a form acceptable to the *IESO* provided by a person that is a rated *affiliate* of the *market participant* and has a credit rating from an *IESO* approved creditrating agency;~~

~~Section 5.7.4 and 5.7.4A of Chapter 2 of the "Market Rules" states that the *IESO* shall not accept a guarantee from a person referred to in Section 5.7.2.4 where the value of the guarantee exceeds, or would bring the total value of all guarantees provided by that person to an amount that exceeds, the greater of the allowable reduction amounts referred to in the tables in Sections 5.7.4 and 5.7.4A. This section is intended to apply to guarantees provided to the *IESO* only.~~

~~2.~~5. Daily Monitoring of Prudential Support for Virtual Transactions

~~Actual Exposure of a Market Participant~~

~~The *IESO* verifies that each *market participant* has provided sufficient levels of *prudential support* to cover their financial trading activity in the *real-time market*. The *IESO* calculates the *market participant's* estimated *actual net exposure*) and compares it to the *trading limit* (with the exception of a *market participant* who has elected the *no-margin call option*) established for the *market participant*.~~

~~ESTIMATED ACTUAL NET EXPOSURE~~

~~Overview:~~

~~Each market participant can view their own daily estimated actual net exposure by logging into the IESO's online Market Participant Prudential System.~~

~~Monitoring of estimate *actual net exposure* against the *trading limit* is done on a daily basis.~~

~~The estimate *actual net exposure* calculation begins with estimates of charges for both dispatchable and non-dispatchable *market participants*. The estimated *actual net exposure* calculation will also take into account an adjustment for both dispatchable and non-dispatchable *market participants*, for an estimated level of *physical bilateral*~~

~~*contracts* based on previous participant activity.~~

~~Table 1-1 summarizes the resulting action taken by the *IESO* based on the results of this comparison between a *market participant's trading limit* and their *estimate actual net exposure* (with the exception of *market participants* under the *No margin call option).* While a *market participant* may only revise its self-assessed *trading limit* as set out in Section 1.3.1, a *market participant* may reduce the level of *its estimate actual net exposure* at any time through making a pre-payment to the *IESO*, via logging in and sending the IESO an electronic Notification of Prepayment using the Market Participant Prudential System.~~

~~**Table 1–1: Trading Limit and Actual Exposure comparisons**~~

The *IESO* monitors *market participants' virtual transaction* activity within the *IESO-administered markets* using two methods:

- the *IESO* performs the daily screening of *bids* and *offers* that have been submitted-but-not-cleared during the *day-ahead market* submission window with respect to *virtual transactions*; and
- the *IESO* performs the daily monitoring of *actual exposure* for *market participants' virtual transactions* against that *market participant's IESO*-determined *trading limit* for *virtual transactions*.

These methods require the *IESO* to determine and use *day-ahead market* to *real-time market* price deltas, which are described in greater detail in the sub-sections that follow.

5.1. Daily Screening of Virtual Transactions

(Market Rules: Chapter 2, section 5C.2.3)

Market participants that submit *bids* and *offers* related to *virtual transactions* for the *day-ahead market* during the *day-ahead market* submission window will have all of their *virtual transactions* rejected if they fail either of the following two screenings:

- daily *bid* and *offer* quantity screening; or
- daily dollar exposure screening.

If *market participants* fail one of the screenings, they will receive a rejection message through the Energy Market Interface ("EMI") and will not be able to submit *bids* or *offers* in the *day-ahead market* up until the close of the *day-ahead market* submission window for a given *trading day*. In order to avoid the rejection of the *virtual transaction bids and offers market participants* should consider using the formulae listed in Chapter 2, section 5C.2.1 of the *market rules* to calculate the potential exposure for their *virtual transaction bids* and *offers*.

5.1.1. Daily Bid and Offer Quantity Screening

The *IESO* screens the *market participants'*-submitted *virtual transaction bid* and *offer* quantities (in MWh) against their *maximum daily trading limit* quantity (in MWh) supplied by *market participants* in the EMI. The *IESO* will reject the *market participants'*-submitted *virtual transaction bid* and *offer* quantities should the *market participants' virtual transaction bids* and *offer* quantities (in MWh) exceed their *maximum daily trading limit* quantity (in MWh). The *IESO's* daily *bid* and *offer* quantity screen calculate the absolute value of the sum of all *virtual transaction bid* and *offer energy* quantities (in MWh) submitted by the *market participant* at any of the virtual zonal trading entities during the *day-ahead market* submission window.

5.1.2. Daily Exposure Screening

The *IESO* screens whether the *market participants' IESO*-estimated daily cumulative submitted-but-not-cleared dollar exposure exceeds the *market participants' IESO*-determined *virtual transaction trading limit* margins. The *IESO* determines *market participants' virtual transaction trading limit* margins by deducting the *market participants' actual exposure* for *virtual transactions* from their *trading limit* for *virtual transactions* on a daily basis.

Equation 5-1 contains the formula for the submitted-but-not-cleared dollar exposure used by the *IESO* as part of the daily dollar exposure screen.

Equation 5-1: Submitted-but-not-cleared Dollar Exposure as part of the Daily Exposure Screen

$$\mathrm{SNC}_{\mathrm{VT\$}} = \sum_{m=1}^{M} \sum_{h=1}^{24} \left[\mathrm{SNC}_{\mathrm{VT}_{m,h}} \times \Delta\left(\mathrm{DAP}_{\mathrm{VTZ}_{m,h}}, \mathrm{ARTP}_{\mathrm{VTZ}_{m,h}}\right)\right] + \left(\mathrm{U}_{\mathrm{VT}} \times \mathrm{SNC}_{\mathrm{VT}_{m,h}}\right)$$

Where:

~~**Trading Limit – AE comparison**~~**Variable**	~~**Action**~~**Description**
~~*Actual exposure* < 70 % *trading limit*~~	~~None~~
~~70% *trading limit* <= AE < 100 % *trading limit*~~ $\mathrm{SNC}_{\mathrm{VT\$}}$	~~*IESO* issues a notice of *margin call* warning (with the exception of *market participants* under the *no margin call option*)~~ is the *IESO*-estimated daily cumulative submitted-but-not-cleared dollar exposure. This dollar value will be $0 for each trade date at the start of the *day-ahead market* submission window;

M	is the set of all virtual zonal trading entities
~~*Actual exposure >= 100 % trading limit*~~ $SNC_{VT_{m,h}}$	~~A *margin call* is issued to the *market participant* (with the exception of *market participants* under the *no margin call option*)~~ is the absolute sum of submitted quantities of *bids* and *offers* submitted in respect of *virtual transactions* (in MWh) by *market participant* for *settlement* hour h at the virtual zonal trading entity m. The quantity (in MWh) will be zero for each trade date at the start of the *day-ahead market* submission window;
$DAP_{VTZ_{m,h}}$, $ARTP_{VTZ_{m,h}}$	is the *IESO*-determined price deltas calculated in accordance with section 5.3 of this *market manual*; and
U_{VT}	is the *virtual transaction* uplift estimation rate, in $/MWh. This is the *IESO's* estimation of *day-ahead market* reliability unit commitment uplift amounts that may be incurred by *virtual transaction offers* to provide *energy*.

~~Where a *market participant's estimate actual net exposure* reaches the level of 70% of their *trading limit* but remains less than 100% of their *trading limit*, as identified in Table 1-1, the *IESO* issues a "Notice of Margin Call Warning" to the *market participant* (with the exception of *market participants* under the *no margin call option*). The *market participant* may make a cash payment to reduce a portion of any amounts payable to the *IESO* at this time to reduce their *estimate actual net exposure*, or take other appropriate action to ensure that *its estimate actual net exposure* does not reach its *trading limit*[10] (Chapter 2, section 5.4.1 of the *market rules*).~~

~~Where a *market participant's estimate actual net exposure* equals or exceeds its *trading limit*, as identified in table 1-1, the *IESO* issues a *margin call* to the *market participant* (with the exception of *market participants* under the *no margin call option*). The *market participant* is required to satisfy this *margin call* through paying a portion of the amount payable by cash sufficient to reduce the *market participant's estimate actual net exposure* to no more than 75% of the *market participant's trading limit* (Chapter 2, section 5.6.1 and 5.6.2 of the *market rules*).~~

~~If a *margin call* is not satisfied by 4pm on the second *business day* after the *margin call* is issued, an *event of default* is declared, and a default notice (or *notice of intent to suspend*) may be issued. The *market participant* is given a period of time to remedy the *event of*~~

~~[10] This could include entering in to a physical bilateral contract with another *market participant*. See "Part 5.3: Submission of Physical Bilateral Contract Data" for more information on this process.~~

~~*default*. This can be done by the *market participant* paying all monies due for payment, together with any *default interest* and other costs or expenses established by the *IESO*.~~

~~If the *event of default* is not rectified within the timeframe specified in the default notice, the *IESO* may begin the process to draw upon part or all of the *market participant's* prudential support, or impose a lower trading limit, more frequent schedule of payments, or more stringent prudential support requirements.~~

~~For further information on *events of default*, please refer to "Market Manual 2: Market Administration, Part 2.6: Treatment of Compliance Issues."~~

~~Credit Warnings~~

~~Where the *IESO* determines that there is a credit watch negative warning on a *market participant* (i.e. a movement of the *market participant* to a negative credit watch status by any of the major bond rating agencies) there is an automatic one-notch reduction in the *market participant's* credit rating (for example, from BBB+ to BBB), as set out in Appendix C (Chapter 2, section 5.8.2 of the *market rules*). The *IESO* will reassess the *market participant's prudential support obligation*, on this basis, and/or review the acceptability of any Prudential Guarantees received as *prudential support*, based on the revised credit rating of the guarantor.~~

~~1.1.2 No Margin Call Option~~

~~Subject to *IESO* approval, a *market participant* may elect the *no-margin call option*, which would exempt a *market participant* from receiving a *margin call*, regardless of the level of its *estimate actual net exposure* (Chapter 2, sections 5.6.4, 5.6.5 and 5.6.6 of the market rules). The *IESO* will set the *maximum net exposure* for a *market participant* that has elected this option, to be equal to 70 days of market activity and assuming all of the participant's energy injected or withdrawn is transacted through the *real-time market*, or 100% of the *market participant's* net settlement amount for non-*metered market participants*. A *market participant* under the *no margin call option* will not have a *trading limit*. This participant would not be subject to *margin calls*, and would only receive the regular monthly *invoice* from the *IESO*. This *market participant* would not be able to claim any allowed reductions in *prudential support obligations* (i.e. good payment history, credit rating, or LDC prudential credit reduction) with the exception of the *small distributor*. The price basis used in the calculation of the *prudential support obligation* for *metered market participants* under the *no-margin call option* will be consistent with Chapter 2, section 5.3.10A.1, 5.3.10A.2, and 5.3.10B of the *market rules*.~~

~~1.1.3 Small Distributor~~

~~A *small distributor* is defined as a *distributor* with a projected energy consumption less than or equivalent to 0.25% of projected total system *energy* on an annual basis. A *small distributor* would be able to elect the *no margin call option* and still be able to claim allowed~~

~~reductions in its *prudential support obligation* (i.e. good payment history, LDC prudential credit). A *small distributor* may make a rough determination from their forecast annual energy consumption for the upcoming year as provided in their submission divided by the sum of the monthly total system energy forecasts for the year. Final determination as to whether a *market participant* qualifies as a *small distributor* will be made by the *IESO*.~~

~~1.1.4 LDC Prudential Credit~~

~~There are three allowed reductions that may be used by *market participants* (if applicable) in order to reduce their *prudential support obligation* (Chapter 2, section 5.8 of the *market rules*):~~

1. ~~Reduction for credit rating~~
2. ~~Good payment history reduction~~
3. ~~LDC prudential credit~~

~~LDC Prudential Credit~~

~~The Retail Settlement Code authorizes *distributors* to collect *prudential support* from its customers, be they retailers or retail end-use customers. This can result in instances where there is *prudential support* posted by both the (wholesale) *distributor* participant and its retail customer for the very same MWhs (i.e. *prudential support* posted by retail customer with the *distributor*, in addition to prudential support posted by the *distributor* with the *IESO* for the same MWhs).~~

5.2. ~~In order to eliminate this over-collateralization, and to provide greater flexibility for *distributors* to meet their *prudential support obligation*,the *distributors* are permitted to have a sixty cent reduction in their wholesale market *prudential support obligation* of the "tangible" *prudential support* for every dollar collected in retail *prudential support* they have collected from their customers (Chapter 2, section 5.8.8 of the market rules). Tangible *prudential support* includes cash, Government of Canada T-Bills, irrevocable commercial letters of credit from a Schedule Bank in Canada and~~

Daily Monitoring of Virtual Transaction Actual Exposure and Trading Limit

(Market Rules: Chapter 2, section 5C.3.1**)**

Actual exposure for *virtual transactions* consists of all financially unsettled and settled *day-ahead market* transactions attributable to *market participants' virtual transactions*. The *IESO* calculates and accrues *market participants' actual exposure* for their *virtual transactions* from the start of a given *billing period* up to and including three *business days* prior to *invoice* issuance, net of any prepayments made after the issuance of the previous month's *invoice* and up to one *business day* prior to the issuance of the current month's *invoice*. The *IESO* monitors *market participants' actual exposure* for their *virtual transactions* against the *market participants' IESO*-determined *virtual transaction trading limit* on a daily basis. The amounts of *actual exposure* and *trading limit* for *virtual transactions* used for the daily monitoring by the *IESO* are available on the **Prudential Manager**.

The *IESO* takes into account *market participants' virtual transaction day-ahead market* activity when determining the components of *actual exposure* for *market participant*. The components of *actual exposure* for *virtual transactions* include:

- cleared-but-not-settled;
- settled-but-not-invoiced; and
- prepayments.

Similar to *physical transactions*, prepayment allows for the reduction in *actual exposure*. These prepayments can be either voluntary prepayments or *margin call* prepayments.

5.2.1. Cleared-but-Not-Settled Component for Virtual Transactions

The cleared-but-not-settled component includes the sum of a *market participant's bids* and *offers* submitted with respect to their *virtual transaction*s for the previous six consecutive rolling calendar days that have cleared the *day-ahead market* and the *real-time market* but have not yet been settled. The six calendar days of cleared-but-not-settled can be further broken down into the following two categories:

- *day-ahead market* cleared-but-not-settled; and
- *real-time market* cleared-but-not-settled.

5.2.1.1 Day-Ahead Market Cleared-but-Not-Settled Calculation for Virtual Transactions

A *market participant's day-ahead market* cleared-but-not-settled amount for *virtual transactions*, includes *virtual transaction day-ahead market* schedules and *IESO*-estimated virtual zonal trading entity price deltas as described in section 5.3 this *market manual*.

The *IESO* considers *market participants' bids* and *offers* for their *virtual transactions* to be cleared-but-not-settled in the *day-ahead market* until the virtual zonal *energy* prices become available from the *real-time market*.

5.2.1.2 Real-Time Market Cleared-but-Not-Settled Calculation for Virtual Transactions

A *market participant's real-time market* cleared-but-not-settled amount for *virtual transactions* is based on *virtual transaction day-ahead market schedules*, day-ahead virtual zonal *energy* price and hourly average real-time virtual zonal *energy* price.

The *IESO* calculates the cleared-but-not-settled amount for the *real-time market* once virtual zonal *energy* prices become available in the *real-time market*. For the cleared-but-not-settled calculation for the *real-time market*, the *IESO*-estimated price deltas are no longer required as the actual price deltas become available for the same location, day and hour as the *bid* and/or *offer.*

5.2.2. Settled-but-Not-Invoiced for Virtual Transactions

The settled-but-not-invoiced component includes the settled value of *virtual transactions* plus any associated *day-ahead market* reliability unit commitment uplift.

The *IESO* determines the amount of the settled-but-not-invoiced component of the *actual exposure* for *virtual transactions* for a *market participant* on a daily basis, based on that *market participant's* activity in the *day-ahead market* and *real-time market* covering any amount that has been settled but has not yet appeared on an *invoice*. The settled-but-not-invoiced amount includes:

- all *settlement amounts* used in the settled-but-not-invoiced component are hourly and non-hourly charges from the *market participants' preliminary settlement statements* and *final settlement statements*; and
- all amounts calculated from the time they are no longer cleared-but-not-settled to the time the amounts appear on a *preliminary settlement statement*.

The *IESO* calculates the settled-but-not-invoiced component of *actual exposure* using the following *settlement amounts*:

- Hourly Virtual Transaction Settlement Amount; and
- Day-Ahead Market Reliability Unit Commitment Uplift, which applies to *virtual transactions* to sell *energy* only.

For details on physical market *settlement statements*, refer to Market Manual 5: Settlements Part 5.5: Physical Markets Settlement Statements.

5.3. Price Delta for Daily Cumulative Submitted-but-Not-Cleared Dollar Exposure and Cleared-but-Not-Settled for Virtual Transactions

The *IESO* determines a price delta to calculate:

- the daily cumulative submitted-but-not-cleared dollar exposure; and
- the daily cleared-but-not-settled component of *actual exposure.*

Determining a price delta will include calculating a price delta for an interim period then calculating a price delta for an enduring period.

5.3.1. Enduring Price Delta for Daily Cumulative Submitted-but-Not-Cleared Dollar Exposure and Cleared-but-Not-Settled

The enduring price delta is used in the *IESO's* daily dollar exposure screening and is distinct from the price delta discussed at section 4.2.1 of this *market manual.* It is based on the absolute value of the difference between the day-ahead virtual zonal *energy* price and the hourly average real-time virtual zonal *energy* price calculated to the 97th percentile. This enduring price delta is observed for the 30 calendar days prior to the given *trading day* of the current year and 30 calendar days prior and after the same *trading day* and month for the prior 24 months for each of the virtual zones.

The *IESO* modifies the applicable enduring price delta if the price delta is not within 15% of the actual price differences within a *virtual transaction* zonal trading entity.

5.3.2. Interim Price Delta for Daily Cumulative Submitted-but-Not-Cleared Dollar Exposure and Cleared-but-Not-Settled

The *IESO* uses an interim price delta, until 25 months of hourly day-ahead virtual zonal *energy* prices and hourly average real-time virtual zonal *energy* prices are available for all virtual zones.

Similar to the enduring price delta noted above, the *IESO* uses the 97th percentile of interim price delta data to set the interim price delta for each of the virtual zones. The rolling data set used also corresponds to the same timelines as mentioned in the enduring price delta sub-section above. The circumstances where the *IESO* is required to review the interim price delta are the same as the circumstances used for the enduring price delta.

5.4. Margin Call Warnings and Margin Calls for Virtual Transactions

(Market Rules: Chapter 2, sections 5C.2.1, 5C.2.2 and 5C.4)

Table 5-1 summarizes the actions taken by the *IESO* based on a comparison of *market participants' trading limit* for *virtual transactions* and their *actual exposure* for *virtual transactions.*

Table 5-1: Actions Taken as a Result of Daily Monitoring of Virtual Transactions

Trading Limit – AE comparison	**IESO Action**	**Market Participant Action**
Actual exposure< 70 % *virtual transaction trading limit*	None	None
70% *trading limit* <= *actual exposure*< 100 % *trading limit*	The *IESO* issues a "Notice of Margin Call Warning" to *market participants* for their *virtual transactions* for the *day-ahead market* via a generic e-mail.	*Market participants* may make a cash payment to reduce a portion of any amounts payable to the *IESO* to reduce their *actual exposure* for *virtual transactions*, or take other appropriate actions to ensure that their *actual exposure* for *virtual transactions* does not reach their *trading limit* for *virtual transactions* (Chapter 2, section 5C.2.1 of the *market rules*).
Actual exposure >= 100 % *trading limit*	The *IESO* issues a *margin call* via a generic e-mail to *market participants* when their *actual exposure* for their *virtual transactions* reaches or exceeds 100% of its *IESO*-determined *virtual transaction trading limit* The *IESO* will reject a *market participant's* subsequent bids and offers for the *market participant's virtual transactions.*	*Market participants* are required to satisfy a *margin call* by paying cash in an amount sufficient to reduce their *actual exposure* for *physical transactions* to no more than 75% of the *market participant's trading limit* for *physical transactions* (Chapter 2, section 5C.4.1 and 5C.4.2 of the *market rules*). Note, payment must be made by 4:00 pm eastern prevailing time ("EPT") on the second business day following the date of the *margin call* by a *market participant.* The *market participant's* ability to conduct *virtual transactions* will be reinstated after it brings its *actual exposure* for *virtual transactions* to at least the dollar equivalent of 75% of its *trading limit.*

Note, *market participants* can log on to the **Prudential Manager** located on the *IESO* portal to view *margin call* warnings and *margin call* details.

– End of Section –

6. Consolidated Process for Monitoring Physical Transactions and Virtual Transactions

(Market Rules: Chapter 2, section 5D)

Where a *market participant* is authorized to conduct both *physical transactions* and *virtual transactions*, the *IESO* monitors *market participants'* consolidated *actual exposure* against that *market participants'* consolidated *trading limit* (in dollars).

Market participants' consolidated *actual exposure* is determined as the sum of:

- *actual exposure* for *virtual transactions*; and
- *actual exposure* for *physical transactions*.

Market participants' consolidated *trading limit* is determined as the sum of the:

- *trading limit* for *virtual transactions*; and
- *trading limit* for *physical transactions*.

The *IESO* issues a Notice of Margin Call Warning to *market participants* via a generic e-mail, when a *market participant's* consolidated *actual exposure* reaches or exceeds 70% of its *IESO*-determined consolidated *trading limit* (in dollars).

The *IESO* issues a *margin call* to *market participants* when their consolidated *actual exposure* reaches or exceeds 100% of the sum of their consolidated *trading limit* (in dollars). *Market participants* that are authorized to conduct both *physical transactions* and *virtual transactions* will have their prepayment applied to their consolidated *actual exposure*. In addition, *market participants* that are authorized to conduct both *physical transactions* and *virtual transactions* will have their *bids* and *offers* in respect of their *virtual transactions* rejected in the event their consolidated *actual exposure* exceeds their consolidated *trading limit* (in dollars). Table 6-1 summarizes comparisons of daily monitoring of *actual exposure* and *trading limit* between *market participants* that are solely authorized to conduct *physical transactions* or solely authorized to conduct *virtual transactions* against *market participants* that are authorized to conduct both *physical transactions* and *virtual transactions*.

Table 6-1: Comparison of Monitoring Activities between Market Participants Authorized to Conduct Physical Transactions, Virtual Transactions, or Both

Activity	**Authorized to Conduct either Physical Transactions or Virtual Transactions**	**Authorized to Conduct both Physical Transactions and Virtual Transactions**
"Margin Call Warning Notification" and Margin Call	"Notice of Margin Call Warning" and *margin call* issued for *physical transactions* or *virtual transactions*	Consolidated "Notice of Margin Call Warning" and *margin call* issued for the sum of *actual exposure* for *physical transactions* and *actual exposure* for *virtual transactions* (Chapter 2, section 5D.2 of the *market rules*).
Margin Call Warning and Margin Call Thresholds	"Notice of Margin Call Warning" issued when *actual exposure* for *physical transaction* or *actual exposure* for *virtual transactions* reaches 70% and is less than 100% of the *market participant*'s respective *trading limit* (in dollars). *Margin call* issued when *actual exposure* for *physical transactions* or *virtual transactions* equals or exceeds the *market participant's* respective *trading limit* (in dollars)	"Notice of Margin Call Warning" issued when consolidated *actual exposure* for *physical transaction* and *virtual transactions* reaches 70% and is less than 100% of the *market participant's* consolidated *trading limit* (in dollars) (Chapter 2, section 5D.3.1 of the *market rules*) *Margin call* issued when consolidated *actual*
Prepayment	Prepayments applied to *actual exposure* for *physical transactions* or to *actual exposure* for *virtual transactions*	Prepayment applied collectively to the consolidated *actual exposure* for *physical transactions* and *virtual transactions* (Chapter 2, section 5D.3.2 of the *market rules*)

Activity	**Authorized to Conduct either Physical Transactions or Virtual Transactions**	**Authorized to Conduct both Physical Transactions and Virtual Transactions**
Virtual Trading Privileges	The *IESO* will reject bids and offers from a *market participant* in respect of its *virtual transactions* when the *actual exposure* for a *market participant's virtual transactions* equals or exceeds its *virtual transaction trading limit* (in dollars).	The *IESO* will reject *bids* and *offers* from a *market participant* in respect of its *virtual transactions* when the consolidated *actual exposure* for a *market participant* equals or exceeds its consolidated *trading limit* (in dollars) (Chapter 2, section 5D.3.3 of the *market rules*)

– End of Section –

~~guarantees by a third person or affiliate. To qualify for this reduction in *prudential support obligation* in the market, a *distributor* would need to provide proof for the *prudential support* it has collected from its customers. This proof would be in the form of completion of "Affidavit Regarding Reduction in Prudential Support Obligations" – IMO_AFF_0001, which is an affidavit attesting to the amount of tangible *prudential support* being held by the *distributor* from its customers, and copies of the irrevocable letters of credit and bank statements detailing cash deposits held for such a purpose as requested by the *IESO*.~~

~~For example, if an LDC has a *maximum net exposure* of $25 million, but the LDC has collected prudentials in the amount of $10 million from its own customers, and can provide verifiable proof (i.e. an affidavit) of said prudentials to the *IESO*, then its outstanding *prudential support obligation* would be $19 million [$25M – ($10M * 0.6)]. Any outstanding prudential obligation would have to be met from one or a combination of the other instruments listed in Chapter 2. Under this option *distributors* would also be able to claim good payment history or credit rating reduction pursuant to Chapter 2, Section 5.8.5 or 5.8.1A of the "*Market Rules*" to meet its *prudential support obligation*. The LDC prudential credit will be deducted first before other applicable deductions could be utilized.~~

~~A *market participant* claiming the LDC prudential credit reduction, *market participants* must submit the required documentation.~~

~~3.~~7. Event of Default

(Market Rules: Chapter 2, section 8)

Where the *IESO* issues a default notice~~,~~ or a *notice of intent to suspend*, it ~~will~~ also:

- ~~deem~~deems any *physical bilateral contract quantities* to be zero for the period from the date the *event of default* occurs until it is remedied if that *market participant* is the *selling market participant*; or
- ~~rescind~~rescinds or ~~refuse~~refuses to accept any initial or revised *physical bilateral contract* data relating to a *dispatch day* after the date of the *event of default* if that *market participant* is the *buying market participant.*

The process of default is addressed in ~~"Part 5.9: Payment Methods and Schedule",~~Market Manual 5: Settlements Part 5.9: Payment Methods and Schedule, where this relates to non-payment of an *invoice* and in ~~"Market Manual 2: Market Administration, Part 2.6: Treatment~~

~~of Compliance Issues",~~Market Manual 2: Market Administration Part 2.6: Treatment of Compliance Issues, where it relates to a compliance issue.

~~See "Part 5.3: *Submission of Phys*ical Bilateral Contract Data"~~Refer to Market Manual 5: Settlements Part 5.3: Submission of Physical Bilateral Contract Data for more information on the Physical Bilateral Contract process.

~~1.1.5 [Intentionally Left Blank]~~

7.1. Default Levy

If the *IESO* is unable to remedy an *event of default* using the posted *prudential support* by a defaulting *market participant*, the *IESO* is entitled to issue a *default levy* to all *non-defaulting market participants* that were participating in the *energy* markets at the time of the failure of payment of a *defaulting market participant* irrespective of whether the *event of default* occurred in the context of *physical transactions* or *virtual transactions*.

Following an *event of default*, the *IESO* has the authority to draw upon *market participants' prudential support* for both *physical transactions* and *virtual transactions* if a *market participant* has posted *prudential support* for both.

– End of Section –

~~4.~~8. Capacity Prudential Requirements

The *IESO* determines the *capacity prudential support* obligation for each ~~market participant or~~ *capacity market participant* for each *obligation period* based on a percentage of the monthly availability payment, less any allowable reductions.

The *IESO* calculates the *capacity prudential support* obligation as follows:

- [Monthly Availability Payment ($) × 50%] – Allowable Reductions

~~Where;~~

where:

- Monthly Availability Payment = Σ (*Capacity obligation(s)* for the *obligation* period × Zonal Clearing Price × 23 days).

All *capacity auction participants* with a *capacity obligation* are encouraged to post *prudential support* for the *obligation period*, at least 60 days prior to the *obligation period*.

The Prudential Requirements Contact ~~will have~~has a task in Online IESO to submit the *capacity prudential support* information.

The *capacity prudential support* posted by ~~a~~ *market* ~~participant/~~*participants* or *capacity market* ~~*participant*~~*participants* to satisfy this obligation must be in the following ~~form~~format (Chapter 2, section 5.B.4.2 of the *market rules*):

- a guarantee or irrevocable commercial letter of credit, which ~~in both cases must be~~is in a form acceptable to the *IESO* and provided by:
    - a bank named in a Schedule to the Bank Act, S.C. 1991, c.46 with a minimum Standard and Poor's long-term credit rating of "A" or equivalent from an *IESO* acceptable major bond rating agency; or
    - a credit union licensed by the Financial Services Commission of Ontario with a minimum Standard and Poor's long-term credit rating of "A" or equivalent from an *IESO* acceptable major bond rating agency.

There are two allowed reductions that may be used by *market participants* (if applicable) in order to reduce their *prudential support obligation* (Chapter 2, section 5B.5 of the *market rules*):

- ~~1. Reduction~~reduction for credit rating~~.~~; and

- ~~2. Good~~good payment history reduction.

If ~~reductions~~*market participants* are currently ~~being utilized by a participant~~utilizing reductions in the *physical market*, the reductions will be adjusted accordingly to not exceed the maximum allowable under the *market rules*.

The *capacity prudential support obligation* amount may increase depending on poor creditworthiness~~-~~/ history in the *IESO* market.

In the case where a full or partial *capacity obligation transfer* is being requested~~;~~:

- ~~The~~the *capacity transferee* must satisfy its *capacity prudential support obligation*, including any additional *capacity prudential support obligation* that may be required as a result of a transfer request, within 5 *business days* of receiving a notification from the *IESO* or within such longer period of time as may have been agreed to with the *IESO*.
- ~~After~~after the *capacity transferee* has satisfied the *capacity prudential support obligation* or revised *capacity prudential support obligation*, as applicable, ~~has been satisfied by the *capacity transferee*,~~ the *IESO* will notify the *capacity transferor* of its approval or rejection of the transfer request~~ and, upon~~. Upon receiving an approval notification, the *capacity transferor* may request the *IESO* to reassess its *capacity prudential support obligation*.

~~4.1.1.1.~~ ~~Roles and Responsibilities~~

~~Responsibility for *prudential support* is shared among:~~

- ~~***Market participants***, who are responsible for:~~
  - ~~Submitting the required prudential support information via Appian tool and/or Market Participant Prudential System;~~
  - ~~notifying the *IESO* that they wish to adjust its *self-assessed trading limit*, as necessary at least seven *business days* prior to the start of a *billing period*, to reflect its expected trading activity during that *billing period* ; (with the exception of *market participants* under the *no margin call option)*~~
  - ~~providing *prudential support* that satisfies their *prudential support obligation*;~~
  - ~~for *metered market participants* with a credit rating of BBB- or higher, and who have requested their *minimum trading limit* and *default protection amount* be calculated removing the *energy* quantities associated with the participant's *physical bilateral contracts* registered with the *IESO*, submit to the *IESO* the quantity and duration of the applicable *physical bilateral contracts* and notify the *IESO* immediately upon a change in the quantity or duration of the *physical bilateral contract* including the termination of the contracts;~~
  - ~~receiving a notice of *margin call* warning and/or a *margin call* and taking appropriate corrective action (with the exception of *market participants* under the no *margin call option)*;~~

- ~~receiving a default notice, or a *notice of intent to suspend*, and taking appropriate action to remedy the *event of default*; and~~
- ~~re-establishing *prudential support*, if drawn on by the *IESO*, in order to retain market participation – If *prudential support* is due to expire or terminate, at least ten *business days* prior to expiration ("Market Rules," Chapter 2, Section 5.2.5); Where a participant's credit rating or good payment history had been revised, resulting in additional *prudential support* requirements, participants must provide any additional *prudential support* within five *business days* ("Market Rules," Chapter 2, Section 5.2.6); Where any part of the *prudential support* provided by a participant otherwise ceases to be current or valid for any reason, the participant must immediately notify the *IESO* and provide to the *IESO* within two *business days*, a replacement *prudential support* ("Market Rules," Chapter 2, Section 5.2.7).~~

- ~~The ***IESO***, which is responsible for:~~
  - ~~assessing (and reassessing) the minimum trading limit, trading limit, and default protection amount of each market participant (or applicant seeking authorization) as applicable;~~
  - ~~annually reviewing each price basis used in the calculation of a metered market participant's minimum trading limit and default protection amount, and modification if the applicable price basis has increased or decreased by 15% or more from the price basis used by the IESO;~~
  - ~~assessing (and reassessing) the maximum net exposure and prudential support obligation of each market participant (or applicant seeking authorization);~~
    - ~~determining whether adequate *prudential support* has been provided by the *market participant*, according to the *market rules*;~~
  - ~~checking for credit rating watch warnings against *market participants*;~~
  - ~~determining if the *estimated actual net exposure* is within the *trading limit*, and warning *market participants* of potential *margin calls* or issuing *margin calls*, as appropriate (with the exception of *market participants* under the *no margin call option*);~~
    - ~~taking appropriate action in response to an *event of default*; and~~
    - ~~drawing on a *market participant's prudential support*, as necessary, and verifying that *prudential support* is re-established within a specified timeframe.~~

~~4.2.1.1. Contact Information~~

~~As part of the participant authorization and registration process, *market participants* required to identify a contact for prudential matters. If a *market participant* has not identified a specific contact, the *IESO* will seek to contact the Main Contact for prudential matters. The *IESO* will seek to contact these individuals for activities within this procedure, unless alternative arrangements have been established between the *IESO* and the *market*~~

~~*participant*. If the *market participant* wishes to contact the *IESO*, the *market participant* can contact *IESO* Customer Relations via email at IESOCustomerRelations@ieso.ca, or by the phone number provided on the *IESO's* website (www.ieso.ca), on the "Contact Us" page.~~

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– End of Section –

9. Prudential Security Reports

The *IESO* will publish two reports, described in Table 9-1, for *market participants* authorized to conduct *virtual transactions*.

Table 9-1: Virtual Transaction Price Delta Reports Description

Report Name	Publication Frequency	Audience	Report Description
Annual Virtual Transaction Price Delta Report	Annual	Public	One price calculated annually to the 97th percentile based on the day-ahead and real-time price differences of all the nine virtual zonal trading entities.
Daily Virtual Transaction Price Delta Report	Daily	Public	Nine price deltas (one for each virtual zonal trading entity) calculated daily to the 97th percentile using the differences between the corresponding day-ahead prices and real-time prices for each of the nine virtual zonal trading entities

– End of Section –

Appendix A: Acronyms

Acronym	Meaning
AQEI	Allocated Quantity of Energy Injected
AQEW	Allocated Quantity of Energy Withdrawn
EMI	Energy Market Interface
EPT	Eastern Prevailing Time

– End of Section –

Appendix B: Forms

This appendix contains a list of forms associated with the *prudential support* ~~procedure~~*market manual*, which are available on the *IESO*'s Web site (http://www.ieso.ca/). The forms included are ~~as follows~~listed in table A-1 below:

Table B-1: Forms

Form Name	Form Number	Description
Prudential Guarantee	IMP_GRNT_0001	Guarantee agreement to provide *prudential support* by the guarantor to the *IESO*. Only applicable to a *market participant's physical transactions.*
Affidavit Regarding Reduction in Prudential Support Obligations	~~IMO~~IESO_AFF_0001	Affidavit provided by a *market participant* that is a *distributor*, in respect of a claim of reduction to its *prudential support obligation* for it *physical transactions*.
Pledge of Cash and Treasury Bills	IESO_AGR_0013	Pledge of Cash and Treasury bill as a form of *prudential support* between the pledger and the *IESO* to cover a *market participant's prudential support obligation* for its *physical transactions.*

– End of Section –

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~~B.1 Introduction~~

~~With the exception of a *market participant* who has elected the *no-margin call option*, the *maximum net exposure* for a *market participant* is equal to the sum of its *trading limit* and *default protection amount* (Chapter 2, section 5.3.1 of the market rules).~~

~~B.2 Default Protection Amount~~

~~The *IESO* shall establish a *default protection amount* for each *market participant* as follows (Chapter 2 section 5.3.8 of the market rules):~~

- ~~For a *metered market participant*, its *default protection amount* shall be equal to the *IESO*'s estimate of the *metered market participant*'s net *settlement* amounts for that *energy market billing period*, excluding estimated *settlement amounts* associated with the *energy forward market* and estimated *settlement amounts* associated with a *transmission right*, assuming 21 days of participation in the *real-time market* and assuming all *energy* injected or withdrawn is transacted through the *real-time market* (i.e. ignoring the impact of *physical bilateral contracts*);~~
- ~~For a *market participant* that is not a *metered market participant*, 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 Chapter 2, section 5.3.4.2 or section 5.3.4.3, as applicable..~~

~~Adjusting the Default Protection Amount for Physical Bilateral Contracts~~

- ~~A *metered market participant* with a credit rating of BBB- or higher, subject to any adjustment under section 5.8.2, may request its *default protection amount* be calculated removing the *energy* quantities associated with the 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.~~
- ~~If the above conditions are met (Chapter 2, section 5.3.8A of the *market rules*), the *IESO* shall determine the *metered market participant's default protection amount* assuming all *energy* injected or withdrawn is transacted through the *real-time market* net of *energy* quantities associated with those *physical bilateral contracts*.~~

~~B.3 Minimum Trading Limit~~

~~The *IESO* shall establish a *minimum trading limit* amount for each *market participant* as follows (with the exception of *market participants* under the *no margin call option)* (Chapter 2, section 5.3.4 of the *market rules*):~~

- ~~The *minimum trading limit* for a *metered market participant* shall be equal to the *IESO*'s estimate of the *metered market participant's* net *settlement amounts*, excluding estimated *settlement amounts* associated with the *energy forward market* and estimated *settlement amounts* associated with a *transmission right*, assuming 7 days of participation in the *real-time market* and assuming all *energy* injected or withdrawn is transacted through the *real-time market* (i.e. ignoring the impact of *physical bilateral contracts*). The *IESO* may use a greater number, up to and including 49 days of participation in the *real-time market* for the determination of a *metered market participant*'s minimum *trading limit* if that *metered market participant* was subject to more than one *margin call* per *energy market billing period*, provided that any such *margin call* is not the result of a price spike.~~
- ~~The *minimum trading limit* for a *market participant* that is not a *metered market participant*, 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*. In estimating this net *settlement amount*, the *IESO* shall, subject to section 5.3.4.3, use an average of actual net *settlement amounts* for the 3 most recent *energy market billing periods* in which that *market participant* has transacted in the *real-time market*. 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* if that *market participant* was subject to more than one *margin call* per *energy market billing period,* provided that any such *margin call* is not caused by a price spike; and~~
- ~~The *minimum trading limit* for a *market participant* that is not a *metered market participant* who has not transacted for at least 3 months in the *real-time market* shall be equal to 25% 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* at least 7 *business days* prior to the start of the applicable *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.~~

~~Adjusting the Minimum Trading Limit for Physical Bilateral Contracts~~

- ~~A *metered market participant* with a credit rating of BBB- or higher, subject to any adjustment under section 5.8.2, may request its *minimum trading limit* be calculated removing the *energy* quantities associated with the 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.~~

- ~~If the above conditions are met (Chapter 2, section 5.3.8A of the *market rules*), the *IESO* shall determine the *metered market participant's minimum trading limit* assuming all *energy* injected or withdrawn is transacted through the *real-time market* net of *energy* quantities associated with those *physical bilateral contracts*.~~

~~– End of Section –~~

Appendix C: Credit Ratings

The reduction in the level of *prudential support obligation* relative to the *market* ~~*participant's*~~ *participant's maximum net exposure* that can be applied by the *IESO* based on a *market participant's* credit rating is set out in the following tables (Chapter 2, section 5.8.1 and 5.8.1A of the *market rules*):

Table C-~~-~~1: Credit Rating Reductions for Non-Distributors

Credit Rating with Standard and Poor's Rating Terminology	Maximum allowable reduction in ***Prudential Support*** **($)**
AA- and above or equivalent	100% of maximum net exposure
A-, A, A+ or equivalent	Greater of 90% of *maximum net exposure* or $37,500,000
BBB-, BBB, BBB+ or equivalent	Greater of 65% of *maximum net exposure* or $15,000,000
BB-, BB, BB+ or equivalent	Greater of 30% of *maximum net exposure* or $4,500,000
Below BB- or equivalent	0

Table C–-2: Credit Rating Reductions for Distributors

Credit Rating with Standard and Poor's Rating Terminology	**Maximum allowable reduction in *Prudential Support* ($)**
AA- and above or equivalent	100% of maximum net exposure
A-, A, A+ or equivalent	Greater of 95% of *maximum net exposure* or $45,000,000
BBB-, BBB, BBB+ or equivalent	Greater of 80% of *maximum net exposure* or $22,500,000
BB-, BB, BB+ or equivalent	Greater of 55% of *maximum net exposure* or $7,500,000
Below BB- or equivalent	0

– End of Section –

Appendix D: Good Payment History

Table D-1: Good Payment History Reductions for Non-Distributors

Good Payment History	**Allowable Reduction in Prudential Support Obligation (for non-distributors)**
Six years or more	The lesser of $12,000,000 or 50% of *maximum net exposure*
Five or more years but less than six years	The lesser of $7,500,000 or 30% of *maximum net exposure*
Four or more years but less than five years	The lesser of $6,000,000 or 25% of *maximum net exposure*
Three or more years but less than four years	The lesser of $4,500,000 or 20% of *maximum net exposure*
Two or more years but less than three years	The lesser of $3,000,000 or 15 % of *maximum net exposure*
Less than two years	$0

Table D-2: Good Payment History Reductions for Distributors

Good Payment History	**Allowable Reduction in Prudential Support Obligation (for distributors)**
Six or more years	The lesser of $14,000,000 or 80% of *maximum net exposure*
Five or more years but less than six years	The lesser of $9,000,000 or 65% of *maximum net exposure*
Four or more years but less than five years	The lesser of $7,500,000 or 45% of *maximum net exposure*
Three or more years but less than four years	The lesser of $6,000,000 or 35% of *maximum net exposure*
Two or more years but less than three years	The lesser of $4,500,000 or 25% of *maximum net exposure*
Less than two years	$0

– End of Section –

Appendix E: Global Adjustment Calculation for Minimum Trading Limit and Default Protection Amount

The *IESO* estimates global adjustment for *market participants* that are not *energy traders*. The global adjustment estimate is included as part of their *physical transaction minimum trading limit* and *default protection amount* calculation for the *IESO-administered markets*.

The *IESO* calculates the global adjustment 'Class B' estimate for a *market participant* that is not an *energy trader* as follows for its *prudential support obligation*:

> Global Adjustment (Class B) Minimum Trading Limit and Default Protection Amount calculation = Global Adjustment (Class B) price per MWh provided by the OEB x *Market participant*-provided daily quantity (in MWh) x # of days for Minimum Trading Limit or Default Protection Amount

The global adjustment price for a *market participant* that is not an *energy trader* stays static until the daily quantity of MWh injected or withdrawn for that *market participant* is changed or after conducting the annual review for global adjustment.

The *IESO* calculates the global adjustment 'Class A' estimate for a *market participant* that is not an *energy trader* as follows for its *prudential support obligation*:

> Global Adjustment (Class A) Minimum Trading Limit and Default Protection Amount calculation = (PDF[11] x Total Global Adjustment Dollars Forecasted by the OEB)/(*Market participant* provided Daily Maximum withdrawals in MWh x 365 days)

– End of Section –

[11] PDF is the Peak Demand Factor assigned to each 'Class A' market participant based on their five coincident peak demands during a predetermined base period.

References

Document ID	Document Title
IMO_LST_0001	List of Financial Institutions Eligible to Provide Prudential Support
N/A	The Bank Act, S.C. 1991

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