

Market Rule Amendment Proposal Form

Part 1 - Market Rule Information

Identification No.:	MR-00477-R00
Subject:	2023 Capacity Auction Enhancements – Stream 2
Title:	2023 Capacity Auction Enhancements – Stream 2
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration <input checked="" type="checkbox"/> Deletion <input checked="" type="checkbox"/> Addition
Chapter:	7, 9 and 11
Appendix:	N/A
Sections:	Chapter 7 section 18 Chapter 9 sections 3 & 4 Chapter 11: Definitions
Sub-sections proposed for amending:	Chapter 7 sub-section 18.2A Chapter 9 sub-sections 3.1 & 4.7J Chapter 11: Definitions
Current Market Rules Baseline:	48.1 with the inclusion of amendments proposed as part of Market Rule Amendment MR-00476-R00

Part 2 - Proposal History

Version	Reason for Issuing	Version Date
1.0	Draft issued for stakeholder review	May 17, 2023

Approved Amendment Publication Date:

Approved Amendment Effective Date:

Part 3 - Explanation for Proposed Amendment

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

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

Summary

In preparation for the 2023 Capacity Auction, the IESO is proposing to amend the market rules to make a series of enhancements related to the Capacity Auction.

Background

Capacity auctions help meet Ontario's reliability needs in a cost effective manner while allowing the IESO to adjust to changing system needs. With planned enhancements over time, the capacity auction is expected to attract a broader mix of resources, enabling the IESO to further increase competition and improve resource reliability and market performance.

Additional information on the Capacity Auction can be found on the IESO's Capacity Auction [webpage](#).

Discussion

Chapter 7

18.2A – *performance adjustment factor* has been added into the UCAP calculation for all resource types.

Chapter 9

3.1.10 – Variables applicable to capacity auction settlement charges and payments have been added.

4.7J.1 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents. 4.7J.2 – Sub-section has been removed because the information previously referenced as being in the market manuals has been moved to the market rules.

4.7J.2.1 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.2.2 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.2.3 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.2.4 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.2.5 – Sub-section was consolidated into 4.7J.2.4

4.7J.2.6 – Sub-section was consolidated into 4.7J.2.4

4.7J.2.7 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.2.8 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.3 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.5 – Formatting has been adjusted to consolidate settlement information that was previously provided in market manuals and charge types and equation documents.

4.7J.8 – A new sub-section has been added for Capacity Auction Uplift. This information was previously provided in market manuals and charge types and equation documents.

Chapter 11

Updated and/or added the following defined terms:

performance adjustment factor

Part 4 - Proposed Amendment

Chapter 7

18.2A Capacity Auction - Capacity Qualification

18.2A.1 For each *obligation period* in a *capacity auction*, the *IESO* shall determine the *unforced capacity* of each *capacity auction resource* where:

18.2A.1.1 the *unforced capacity* of a *capacity auction eligible generation resource*, a *capacity auction eligible storage resource*, or a *capacity dispatchable load resource* is calculated as:

$$UCAP = ICAP \times \text{availability de-rating factor} \times \text{performance adjustment factor}$$

18.2A.1.2 the *unforced capacity* of a *system-backed capacity auction eligible import resources* is calculated as: ~~is an amount equal to its installed capacity.~~

$$UCAP = ICAP \times \text{performance adjustment factor}$$

18.2A.1.3 ~~the unforced capacity of a generator backed import resource is the sum of the unforced capacities of all generator backed import contributors that~~

~~make up such generator backed import resource. The unforced capacity of generator backed import contributors is determined in accordance with the following: The unforced capacity of generator-backed import resources is calculated as:~~

~~18.2A.1.3.1 the unforced capacity of a generator backed import contributor that is a generation facility is the equivalent capacity qualification determined by the applicable control area operator and provided to the IESO in accordance with the applicable market manual; and~~

~~18.2A.1.3.2 the unforced capacity of a generator backed import contributor that is an electricity storage facility is calculated as:~~

$$~~UCAP = ICAP \times \text{availability de-rating factor}~~$$

$$~~UCAP = (\text{exUCAP} + \text{esfICAP} \times \text{availability de-rating factor}) \times \text{performance adjustment factor}~~$$

~~Where:~~

~~(a) 'exUCAP' is the total equivalent capacity for all generator-backed import contributors that are generation facilities, as determined by the applicable control area operator and provided to the IESO in accordance with the applicable market manual;~~

~~(b) 'esfICAP' is the total ICAP of all generator-backed import contributors that are electricity storage facilities, as provided to the IESO in accordance with the applicable market manual. that are electricity storage facilities~~

18.2A.1.4 the unforced capacity of an hourly demand response resource is calculated as an amount equal to its installed capacity.

$$UCAP = ICAP \times \text{performance adjustment factor}$$

18.2A.2 No capacity auction resource may participate in a capacity auction, nor receive a capacity obligation, in respect of any obligation period in relation to which the capacity auction resource has an unforced capacity of less than one MW.

18.2A.3 The IESO shall notify each capacity auction participant of the unforced capacity for each of the capacity auction participant's capacity auction resource on the date specified in accordance with section 18.5.4.1A.

Chapter 9

3.1.10 The IESO shall provide the following capacity auction information and provide them directly to the *settlement process*:

CACP^z = The *capacity auction clearing price* (in \$/MW per -day) for the relevant *trading day* in electrical zone ‘z’.

CACP^z_h = the *capacity auction clearing price* for *settlement hour* ‘h’ (in \$/MW per hour) within the *availability window* in electrical zone ‘z’, determined by taking the *capacity auction clearing price* for the applicable *obligation period* and electrical zone and dividing by the number of *settlement hours* within the *availability window* of all *trading days* within the *obligation period*.

CAEO^m_{h,k} = the *quantity of auction capacity* for *settlement hour* ‘h’ (in MW) made available by *capacity auction resource* for *capacity market participant* ‘k’ at *delivery point* or *intertie metering point* ‘m’ in the relevant *settlement hour* of the *availability window* determined as the lesser of the *resource’s energy offers* submitted in the *day-ahead commitment process*, *pre-dispatch*, and *real-time energy market*, as applicable.

CARC^m_k = the *quantity* (in MW) of the *hourly demand response resource’s demand response contributors* total registered capability for *capacity market participant* ‘k’ at *delivery point* ‘m’, as registered with the IESO in accordance with the applicable *market manual*;

CBOC^m_k = The *buy-out capacity* is an amount (in MW) by which the *capacity obligation* for the *obligation period* for *capacity auction resource* for *capacity market participant* ‘k’ at *delivery point* or *intertie metering point* ‘m’ is being reduced as per the *capacity market participant’s election* pursuant to section 4.7J.3 of Chapter 9.

CCO^m_{k,h} = the *capacity obligation* (in MW) for the *obligation period* per *capacity auction resource* for *capacity market participant* ‘k’ at *delivery point* or *intertie metering point* ‘m’ in the relevant *settlement hour* ‘h’, as may be adjusted pursuant to the *market rules*.

CNPF_{tm} = for a given *energy market billing period* ‘tm’, the *non-performance factor* as listed in Section 7.1 of Market Manual 12.

DREBQ^m_{k,h} = the *quantity* (in MW) of *auction capacity* made available by an *hourly demand response resource* or *capacity dispatchable load resource* for *capacity market participant* ‘k’ at *delivery point* ‘m’ in *settlement hour* ‘h’ of the *availability window*, determined as the lesser of the *resource’s energy bids* submitted in the *day-ahead commitment process*, *pre-dispatch*, and *real-time energy market*, as

applicable, and where such value exceeds the $CARC_k^m$ for the resource in the relevant energy market billing period, the $DREBQ_{k,h}^m$ shall equal such $CARC_k^m$.

$CICAP_k^m$ = the Cleared ICAP (in MW) for capacity auction resource at delivery point or intertie metering point 'm' for capacity market participant 'k' in the applicable obligation period, as determined in accordance with the applicable market manual.

$DRSQ_{k,h}^m$ = The quantity of energy (in MW) scheduled for withdrawal in the real time market by market participant 'k' at delivery point 'm' for an hourly demand response resource in settlement hour 'h' of the availability window, as described in the real time schedule.

$HDRBP_{k,h}^m$ = The price component (in \$) of the energy bid submitted in the real time market for hourly demand response resource by capacity market participant 'k' at delivery point 'm' for settlement hour 'h' within the availability window.

$HDRDC_{k,h}^m$ = The delivered capacity (in MWh) by hourly demand response resource for capacity market participant 'k' at delivery point 'm' in settlement hour 'h' within the activation window of the applicable test activation, calculated as follows:

$$\text{Min}(\text{Curtailed MW}_{k,h}^m, \sum_{t=1}^{12} \left(\frac{\text{Min}(\text{TBQ}_{k,h}^m, \text{CARC}_k^m, \text{CCO}_{k,h}^m)}{12} - \text{DQSW}_{k,h}^{m,t} \right))$$

Where:

(a) "Curtailed $MW_{k,h}^m$ " is the difference (in MWh) between baseline value, calculated in accordance with the applicable market manual, and actual consumption measurement data by capacity market participant 'k' at delivery point 'm' for an hourly demand response resource for settlement hour 'h', as calculated in accordance with the applicable market manual.

(b) " $TBQ_{k,h}^m$ " is the offered quantity of energy (in MW) contained in the last lamination of the price quantity pair of the energy bid submitted in the real time market by capacity market participant 'k' at delivery point 'm' for an hourly demand response resource in settlement hour 'h'.

$HDRTAPR$ = The out of market test activation rate (in \$), as set out in the applicable market manual.

$OCMW_i_k$ = The over committed capacity (in MW) of a generator-backed capacity import resource for capacity market participant 'k' at intertie metering point 'i', as determined by the IESO.

RAC_k^m = the available capacity (in MW) of a capacity auction resource at delivery point or intertie metering point 'm' for capacity market participant 'k' in the applicable obligation period, and is determined in accordance with the following:

(a) For capacity dispatchable load resources and hourly demand response resources:

$$\text{RAC}_k^m = \text{MIN}(\text{DREBQ}_{k,h}^m, (1.15 * \text{CCO}_{k,h}^m), \text{CICAP}_k^m, \text{CARC}_k^m)$$

Where:

(i) CARC_k^m is only applicable to virtual hourly demand response resources

(b) For capacity generation resources, system-backed capacity import resources, generator-backed capacity import resources and capacity storage resources:

$$\text{RAC}_k^m = \text{MIN}(\text{CAEO}_{h,k}^m, (1.15 * \text{CCO}_{k,h}^m), \text{CICAP}_k^m)$$

4.7J Capacity Obligations

Capacity Obligation Availability Payments

4.7J.1 ~~The IESO shall remit an availability payment associated with a capacity obligation, if any, to the applicable capacity market participant, in the manner specified in the applicable market manual. The capacity auction availability payment settlement amount for capacity market participant ‘k’ at delivery point or intertie metering point ‘m’ for the relevant energy market billing period (“CAAP_k^m”) shall be calculated for each energy market billing period and disbursed to capacity market participants who have a capacity obligation during the relevant obligation period and which shall be calculated as follows:~~

$$\text{CAAP}_k^m = \sum^H \text{CCO}_{k,h}^m \times \text{CACP}_h^z$$

Where:

(a) ‘H’ is the set of all settlement hours within the availability window of all business days in the relevant energy market billing period.

4.7J.2 ~~A capacity market participant with a capacity obligation shall, in accordance with the applicable market manual, be subject to the following non performance charges if the capacity market participant does not satisfy the requirements of its capacity obligation: [Intentionally Left Blank – Section Deleted]~~

Capacity Obligation Availability Charges

4.7J.2.1 ~~A capacity market participant participating with an hourly demand response resource or a capacity dispatchable load resource shall be subject to an availability charge for every hour of the availability window it fails to submit demand response energy bids in the amount of their capacity obligation in either the day ahead commitment process or in the real time~~

energy market. The capacity auction availability charge settlement amount for capacity market participant ‘k’ at delivery point or intertie metering point ‘m’ for the relevant trading day (“CAAC^m_k”) shall be collected from such capacity market participants in accordance with the following:

4.7J.2.1A A capacity market participant participating with a capacity generation resource, system backed capacity import resource, generator backed capacity import resource, or capacity storage resource shall be subject to an availability charge for every hour of the availability window in which it fails to submit energy offers in the amount of their capacity obligation in the day ahead commitment process or in the pre dispatch hour. In regards to a capacity market participant participating with an hourly demand response resource or a capacity dispatchable load resource, the capacity auction availability charge settlement amount shall be calculated for each trading day for which it receives a standby notice and it fails for any settlement hour of the availability window during such trading day to submit a demand response energy bid in an amount that is greater than or equal to its capacity obligation in the day-ahead commitment process and maintain such energy bid through the real-time energy market. The capacity auction availability charge settlement amount is calculated as follows:

$$CAAC^m_k = \frac{\sum^H (-1) \times \text{Max}(0, CCO^m_{k,h} - DREBQ^m_{k,h}) \times CACP^z_h \times CNPF_{tm}}{CNPF_{tm}}$$

Where:

- (a) ‘H’ is the set of all settlement hours within the availability window during the relevant trading day;
- (b) If the capacity market participant did not submit a demand response energy bid for its hourly demand response resource or capacity dispatchable load resource, as the case may be, for settlement hour ‘h’ in the day-ahead commitment process or failed to maintain such energy bid through the real-time energy market, DREBQ^m_{k,h} = 0;
- (c) In regards to hourly demand response resource, if the demand response energy bids submitted for settlement hour ‘h’ does not form part of energy bids spanning at least four consecutive settlement hours, DREBQ^m_{k,h} = 0;

- (d) If the demand response energy bid submitted in the day-ahead commitment process for settlement hour ‘h’ is not equal to the demand response energy bid submitted in the real-time market for the same settlement hour, $DREBQ_{k,h}^m$ shall be equal to the lesser of the two demand response energy bids; and
- (e) Notwithstanding any of the foregoing, $DREBQ_{k,h}^m$ shall not exceed the $CARC_k^m$ for the hourly demand response resource or capacity dispatchable load resource, as the case may be.

4.7J.2.1B Subject to section 4.7J2.1B.1 and in regards to a capacity market participant participating with a capacity generation resource, system-backed capacity import resource, generator-backed capacity import resource, or capacity storage resource, the capacity auction availability charge settlement amount shall be calculated for each trading day it fails for any settlement hour of an availability window during such trading day to submit energy offer in an amount that is greater than or equal to its capacity obligation in the day-ahead commitment process and maintain such energy offer in accordance with the applicable market manual. The capacity auction availability charge settlement amount is calculated as follows:

$$CAAC_k^m = \sum^H (-1) \times \text{Max}(0, CCO_{k,h}^m - CAEO_{h,k}^m) \times CACP_h^z \times \underline{CNPF}_{tm}$$

Where:

- (a) ‘H’ is the set of all settlement hours within the availability window during the relevant trading day;
- (b) If the capacity market participant did not submit an energy offer in the day-ahead commitment process or maintain such energy offer in accordance with the applicable market manual for settlement hour ‘h’, $CAEO_{h,k}^m = 0$;
- (c) If the energy offer submitted in the day-ahead commitment process for settlement hour ‘h’ is not equal to the energy offer submitted in the pre-dispatch hour for the same settlement hour, $CAEO_{h,k}^m$ shall be equal to the lesser of the two energy offers; and
- (d) If a capacity storage resource receives a non-zero energy dispatch instruction within the relevant availability

window, the CAEO^m_{h,k} for the remaining *settlement hours* of the *availability window* after receiving such non-zero *energy dispatch instruction* shall be equal to the *energy offer* applicable to the *settlement hour* immediately prior to the receipt of such non-zero *energy dispatch instruction*.

Capacity Obligation Dispatch Charges

4.7J.2.2 ~~A capacity market participant participating with an hourly demand response resource shall be subject to a dispatch charge for failure to comply with an activation notice received under section 19.4.5 of Chapter 7. Subject to section 19.4.5 and 7.5.3 of Chapter 7, the capacity auction dispatch charge settlement amount for capacity market participant ‘k’ at delivery point ‘m’ in settlement hour ‘h’ (“CADC^m_{k,h}”) shall be calculated and collected from such capacity market participant participating with a commercial or industrial hourly demand response resource for each settlement hour of an availability window in which the hourly demand response resource fails to comply with an activation notice, as determined in accordance with -section 4.7J.2.2.1, and which shall be calculated in accordance with the following:~~

$$\text{CADC}_{k,h}^m = (-1) \times \text{DRSQ}_{ty}^m_{k,h} \times \text{CACP}_{z_h} \times \text{CNPF}_{tm}$$

Where:

- (a) ‘h’ is a settlement hour in which the hourly demand response resource failed to comply with its activation notice, as determined in accordance with the applicable market manual.
- (b) ‘tm’ is the energy market billing period that corresponds to settlement hour ‘h’.

4.7J.2.2.1 A commercial or industrial hourly demand response resource is determined to have failed to comply with an activation notice if the following condition is true:

$$\frac{\text{C\&I HDR BL}_{k,h}^{m,t} - \text{HDR AC}_{k,h}^{m,t}}{\text{DQSW}_{k,h}^{m,t}} < 85\% \times (\text{TBM}_{k,h}^{m,t} - \text{DQSW}_{k,h}^{m,t})$$

Where:

- (a) “C&I HDR BL^{m,t}_{k,h}” is the amount calculated pursuant to the applicable market manual.

- (b) “HDR AC^{m,t}_{k,h}” is the total measured quantity of energy consumed (in MWh) for capacity market participant ‘k’ at delivery point ‘m’ for the hourly demand response resource in metering interval ‘t’ of settlement hour ‘h’, as determined in accordance with the submitted measurement data and AQEW, as the case may be.
- (c) “TBQ^{m,t}_{k,h}” has the same meaning as ascribed to the same variable within the definition of HDRDC^m_{k,h} in section 3.1.10.

Capacity Obligation Administration Charges

- 4.7J.2.3 ~~A capacity market participant participating with an hourly demand response resource or a generator backed capacity import resource shall be subject to a capacity obligation administration charge for failure to provide timely, accurate and complete data, including measurement data, to the IESO. The capacity auction administration charge settlement amount for capacity market participant ‘k’ at delivery point ‘m’ in the relevant energy market billing period (“CAADM^m_k”) shall be calculated and collected from each capacity market participant participating with a virtual hourly demand response resource or a generator-backed capacity import resource for each energy market billing period in which such capacity market participant fails to provide timely, accurate and complete data, including measurement data to the IESO in accordance with the applicable market manual, and which shall be calculated as follows:~~

$$\text{CAADM}^m_k = (-1) \times \text{CAAP}^m_k$$

Where:

- (a) ‘CAAP^m_k’ is the capacity auction availability payment settlement amount, calculated in accordance with section 4.7J.1, for capacity market participant ‘k’ at delivery point or intertie metering point ‘m’ for the relevant energy market billing period.

Capacity Obligation Capacity Charges

- 4.7J.2.4 ~~Subject to section 19.4.5 of Chapter 7, a capacity market participant participating with an hourly demand response resource that fails to satisfy its capacity obligation in response to an activation test shall be subject to a capacity charge. The capacity auction capacity charge settlement amount for capacity market participant ‘k’ at delivery point or intertie metering point ‘m’ in the relevant energy market billing period (“CACC^m_k”) shall~~

be calculated and collected from each capacity market participant for each energy market billing period in which such capacity market participant fails to deliver its cleared ICAP within the applicable threshold, as set out in the applicable market manual, in response to a capacity auction capacity test, and which shall be calculated as follows:

$$\underline{CACCM_k = (-1) \times CAAP_k^m}$$

Where:

(a) ‘CAAP_k^m’ is the capacity auction availability payment settlement amount, calculated in accordance with section 4.7J.1, for capacity market participant ‘k’ at delivery point or intertie metering point ‘m’ for the relevant energy market billing period.

~~4.7J.2.5 Subject to section 7.5.3 of Chapter 7, a capacity market participant participating with either a capacity dispatchable load resource, a capacity generation resource or a capacity storage resource that fails to satisfy its capacity obligation in response to an activation test shall be subject to a capacity charge. [Intentionally Left Blank – Section Deleted]~~

~~4.7J.2.6 Subject to section 7.5.8A of Chapter 7, a capacity market participant participating with a system backed capacity import resource or a generator backed capacity import resource that fails to satisfy its capacity obligation in response to an activation test shall be subject to a capacity charge. [Intentionally Left Blank – Section Deleted]~~

Capacity Obligation Capacity Import Call Failure Charges

~~4.7J.2.7 Subject to section 7.5.8A of Chapter 7, a capacity market participant participating with a generator backed capacity import resource that fails to satisfy its capacity obligation in response to a capacity import call shall be subject to a capacity import call failure charge as specified in the applicable market manual. Subject to section 7.5.8A of Chapter 7, the capacity auction capacity import failure settlement amount for capacity market participant ‘k’ participating with a generator-backed capacity import resource at delivery point or intertie metering point ‘m’ for the relevant energy market billing period (“CACIF_k^m”) shall be calculated and collected from such capacity market participant for each energy market billing period in which such capacity market participant fails to satisfy its capacity obligation in response to a capacity import call, as determined in accordance with the applicable market manual, and which shall be calculated as follows:~~

$$\text{CACIF}_k^m = (-1) \times \text{CAAP}_k^m$$

Where:

- (a) 'CAAP_k^m' is the capacity auction availability payment settlement amount, calculated in accordance with section 4.7J.1, for capacity market participant 'k' at delivery point or intertie metering point 'm' for the relevant energy market billing period.

Capacity Obligation Capacity Deficiency Charges

- 4.7J.2.8 ~~Where the IESO has determined that all or a portion of a capacity market participant's capacity obligation is over committed capacity it shall be subject to a capacity deficiency charge and the IESO shall revoke the portion of the capacity obligation that is over committed capacity. The capacity auction capacity deficiency settlement amount for capacity market participant 'k' at intertie metering point 'i' for the relevant energy market billing period ("CACD_kⁱ") shall be calculated and collected from such capacity market participant for each energy market billing period in which the IESO has determined that all or a portion of the capacity market participant's capacity obligation is over committed capacity, and which shall be calculated and collected for the entire obligation period in accordance with the following:~~

$$\text{CACD}_k^i = \sum^H (-1.5) \times \text{OCMW}_k^i \times \text{CACP}_h^z$$

Where:

- (a) 'H' is the set of all settlement hours within the availability window of all trading days within the relevant energy market billing period.

- 4.7J.2.8.1 ~~If the IESO determines that all or a portion of the capacity market participant's capacity obligation is over committed capacity, the capacity market participant's capacity obligation shall be reduced by the amount of over committed capacity effective as of the first trading day of the subsequent energy market billing period. If such reduction in the capacity market participant's capacity obligation for such resource results in such capacity obligation being less than one MW, the remainder of the capacity market participant's capacity obligation for such resource is forfeited effective as of the first trading day of the subsequent energy market billing period.~~

Capacity Obligation Buy-Out Charges

4.7J.3

~~A capacity market participant or a capacity auction participant may elect to be subject to a buy-out charge for all, or a portion of, their capacity obligation in accordance with the applicable market manual, if they are unable to fulfill a capacity obligation for the remaining portion of an obligation period. A capacity market participant or a capacity auction participant may elect to be subject to a capacity obligation buy-out charge settlement amount for all, or a portion of, their capacity obligation in accordance with the applicable market manual. Upon the IESO's acceptance of a buy-out request, the capacity market participant's capacity obligation shall be reduced to reflect the approved buy-out and the IESO shall calculate the capacity obligation buy-out settlement amount for such capacity market participant 'k' at delivery point or inertia metering point 'm' ("CABOC_k^m") which shall be calculated as follows:~~

$$\text{CABOC}_{k}^{m} = 50\% \times \sum^{H} \text{CBOC}_{k}^{m} \times \text{CACP}_{h}^{z} \times (1 - \text{CNPF}_{tm})$$

Where:

- (a) 'H' is the set of all settlement hours within the availability window of all trading days from the buy-out effective date to the end of the commitment period.
- (b) 'tm' is the energy market billing period that corresponds to the relevant settlement hour.

Measurement Data Audit

4.7J.4 At any time, the IESO may audit any submitted measurement data and supporting information and a capacity market participant shall provide such information in the time and manner specified by the IESO. If, as a result of such an audit, the IESO determines that actual measurement data and supporting information differed from the submitted measurement data and supporting information, the IESO shall recover from or distribute to a capacity market participant any resulting over or under payment, as applicable.

Capacity Obligation Test Activation and Emergency Activation Payment

4.7J.5 ~~The IESO shall remit a test activation payment or emergency activation payment for a valid test activation or emergency activation, respectively, of an hourly demand response resource, associated with a capacity obligation, if any, to the applicable capacity market participant, in the manner specified in the applicable market manuals. Subject to section 4.7J.5.3, the IESO shall calculate and disburse a capacity auction dispatch test payment settlement amount or capacity auction emergency activation payment settlement amount for a valid capacity auction dispatch test or emergency activation, respectively, of an hourly demand response resource to the applicable capacity market participant, in accordance with the following:~~

4.7J.5.1 in regards to *capacity auction dispatch tests*, the *capacity auction dispatch test payment settlement amount* for *capacity market participant ‘k’* participating with an *hourly demand response resource* at *delivery point ‘m’* in *settlement hour ‘h’* (“CATAP^{m_{k,h}”}) shall be determined for each applicable *settlement hour* within the activation window as follows:

$$\text{CATAP}_{k,h}^m = \text{HDRTAPR} \times \text{HDRDC}_{k,h}^m$$

4.7J.5.2 in regards to *emergency operating state activation*, the *capacity auction emergency operating state activation payment settlement amount* for *capacity market participant ‘k’* participating with an *hourly demand response resource* at *delivery point ‘m’* in *settlement hour ‘h’* (“CAEOP^{m_{k,h}”}) shall be determined for each applicable *settlement hour* within the activation window as follows:

$$\text{CAEOP}_{k,h}^m = \text{Max}(0, \text{HDRBP}_{k,h}^m - \text{Max}(0, \text{HOEP}_h)) \times \text{HDRDC}_{k,h}^m$$

4.7J.5.3 If measurement data for any *metering interval* within a *settlement hour* was not submitted to the IESO in accordance with the applicable *market manual*, the *capacity market participant* shall not be eligible to receive a *capacity auction test activation payment settlement amount* or a *capacity auction emergency operating state activation payment settlement amount* for such *settlement hour*.

Capacity Auction Uplift

4.7J.8 The *capacity auction uplift settlement amount* for *market participant ‘k’* at *delivery point ‘m’* in the *energy market billing period* (“CAU^{m_k”}) will be calculated and collected from or disbursed to market participants for load facilities for each *energy market billing period*. The *capacity auction uplift settlement amount* shall be determined in accordance with sections 4.7J.8.1 and 4.7J.8.2. In calculating the *capacity auction uplift settlement amount* in this section 4.7J.8, the following subscripts and superscripts shall have the following meanings unless otherwise specified:

- (a) ‘H’ is the set of all settlement hours ‘h’ in the relevant energy market billing period;
- (b) ‘M’ is the set of all delivery points ‘m’ of market participant ‘k’;
- (c) ‘Class B Load’ as defined in the applicable market manual;
- (d) ‘EGEI_k’ as defined in the applicable market manual.

4.7J.8.1 for *market participants* that are classified as a *‘Class A Market Participants’* in respect of the relevant *load facility* in accordance with

applicable law, the capacity auction uplift settlement amount for such load facility shall be calculated as follows:

$$CAU_k^m = \sum_{H,M} (TD_{C,k,h}^m * PDF_k)$$

Where:

(a) 'TD_{C,k,h}^m' is total dollar value of all settlement amounts 'C' for capacity market participant 'k' at delivery point 'm' in settlement hour 'h' in the relevant energy market billing period, where:

(i) 'C' is the set of the settlement amounts applied in accordance with MR Ch. 9 ss. 4.7J.1, 4.7J.2, 4.7J.3, 4.7J.5, 4.7J.6, and 4.7J.7.

(b) 'PDF_k' is the Peak Demand Factor for 'Class A Market Participant' or Distributor 'k' for the relevant energy market billing period, as determined in accordance with applicable law, where if the 'Class A Market Participant' or Distributor 'k' ceases to be a 'Class A Market Participant' in respect of the relevant load facility during the relevant energy market billing period, the PDF_k shall be pro-rated accordingly.

4.7J.8.2 for market participants that are classified as 'Class B Market Participants' in respect of the relevant load facility in accordance with applicable law, the capacity auction uplift settlement amount shall for such load facility shall be calculated in accordance with the following:

(a) for Fort Frances Power Corporation Distribution Inc.:

$$CAU_k^m = (\sum_{H,M} TD_{C,k,h}^m - TD_{C1350,k,h}^m) \times \text{MAX}((\sum_{H,M,T} AQEW_{k,h}^{m,t} + EGEI_k - EEQ), 0) / \text{Class B Load}$$

Where:

(i) 'TD_{C,k,h}^m' is total dollar value of all settlement amounts 'C' for capacity market participant 'k' at delivery point 'm' in settlement hour 'h' in the relevant energy market billing period, where 'C' is the set of the settlement amounts applied in accordance with MR Ch. 9 ss. 4.7J.1, 4.7J.2, 4.7J.3, 4.7J.5, 4.7J.6, and 4.7J.7.

(ii) 'TD_{C1350,k,h}^m' is total dollar value of settlement amounts applied pursuant to section 4.7J.8.1 for capacity market participant 'k' at delivery point 'm' in settlement hour 'h' in the relevant energy market billing period;

(iii) 'EEQ' as defined in the applicable market manual;

(b) market participants that are classified as 'Class B Market Participants' in respect of the relevant load facility in accordance with applicable law:

$$\text{CAU}_k^m = (\sum_{H,M} \text{TD}_{C,k,h}^m - \text{TD}_{C1350,k,h}^m) \times \text{MAX}((\sum_H \text{M.T} \text{AQEW}_{k,h}^{m,t} + \text{EGEI}_k - \text{GA_AQEW}_{g,k,h,M}^{m,t} - \text{PGS}_{h,M}), 0) / \text{Class B Load}$$

Where:

(i) 'TD_{C,k,h}^m' is total dollar value of all settlement amounts 'C' for capacity market participant 'k' at delivery point 'm' in settlement hour 'h' in the relevant energy market billing period, where 'C' is the set of the settlement amounts applied in accordance with MR Ch. 9 ss. 4.7J.1, 4.7J.2, 4.7J.3, 4.7J.5, 4.7J.6, and 4.7J.7.

(ii) 'TD_{C1350,k,h}^m' is total dollar value of settlement amounts applied pursuant to section 4.7J.8.1 for capacity market participant 'k' at delivery point 'm' in settlement hour 'h' in the relevant energy market billing period;

(iii) 'GA AQEW_{g,k,h,M}^{m,t}' as defined in the applicable market manual.

(iv) 'PGS_{h,M}' as defined in the applicable market manual.

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performance adjustment factor means a value assigned to a *capacity auction resource* based on its historical performance during a *capacity auction capacity test* activation in the relevant summer or winter *obligation period* and is calculated in accordance with the process set out in the applicable *market manual*;