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:	☒ Alteration ☒ Deletion ☒ Addition
Chapter:	7, 9 and 11
Appendix:	N/A
Sections:	Chapter 7 section 18 Chapter 9 sections 3, 4 & 6 Chapter 11: Definitions
Sub-sections proposed for amending:	Chapter 7 sub-section 18.2A, 19.4.21 Chapter 9 sub-sections 3.1, 4.7J & 6.3 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
2.0	Draft issued for Technical Panel review	July 4, 2023
3.0	Draft issued for Technical Panel review	September 5, 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.

19.4.21 – updated numbering to sub-section.

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.7 – Removed cross references to sub-sections that have been deleted.

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.

6.3.13 – The cross reference used in this sub-section was corrected to "6.3.2".

6.3.17 – The cross reference used in this sub-section was corrected to "6.3.2".

Chapter 11

Updated and/or added the following defined terms:

performance adjustment factor

final recalculated settlement statement

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:

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

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

UCAP = ICAP x *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 a *generator-backed import resource* 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 × availability de-rating factor*~~

UCAP = (exU*CAP* + esfICAP × *availability de-rating factor*) x *performance adjustment factor*

Where:

(a) 'exU*CAP'* is the total equivalent capacity (in MW) 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* (in MW) 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 x *performance adjustment factor*

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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 resources* on the date specified in accordance with section 18.5.4.1A.

……………………

19.4.~~16~~21   A *capacity market participant* satisfying a *capacity obligation* using an *hourly demand response resource* shall be entitled to compensation for an activation leading up to or during an *emergency operating state* pursuant to section 2.3 of Chapter 5, and in accordance with the applicable *market manuals*.

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 $/MWh) 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 the relevant *trading day* within the *obligation period.*

$CAEO^m_{h,k}$ = the quantity of *auction capacity* for *settlement hour* 'h' (in MW~h~) 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* (in MW) submitted in the day-ahead commitment process, pre-dispatch, and *real-time energy market*, as applicable.

$CARC_k^m$ = 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 $DREBQ^m_{k,h}$ shall equal such $CARC_k{}^m$.

$CICAP^m_k$ = 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*.

$DRSQty^m_{k,h}$ = 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 all *real-time schedules* for such *settlement hour*.

$HDRBP^m_{k,h}$ = The price component (in $/MWh) 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*.

$HDRDC^m_{k,h}$ = 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:

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

Where:

(a) "Curtailed $MW^m_{k,h}$" 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$^m_{k,h}$" 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 \$/MWh), 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^m_k = 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*:

RAC^m_k = MIN(DREBQ$^m_{k,h}$, (1.15* CCO$^m_{k,h}$), CICAP^m_k, 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*:

RAC^m_k = MIN(CAEO$^m_{h,k}$, (1.15* CCO$^m_{k,h}$), CICAP^m_k)

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^m_k") 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:

$$CAAP^m_k = \Sigma^H CCO^m_{k,h} \text{ x } CACP^z_h$$

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:

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

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*, $DREBQ^m_{k,h}$ shall be equal to the lesser of the two *demand response energy bids*; and

(e)   Notwithstanding any of the foregoing, $DREBQ^m_{k,h}$ shall not exceed the $CARC^m_k$ 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~~For 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:

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

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', $CAEO^m_{h,k} = 0$;

(c) If the *energy offer* submitted in the day-ahead commitment process for *settlement hour* 'h' is not equal to the *energy offers* submitted in *pre-dispatch* or the *real-time market* for the same *settlement hour*, the $CAEO^m_{h,k}$ shall be equal to the lesser of any such *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* in which they receive 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:

$$CADC^m_{k,h} = (-1) \times DRSQty^m_{k,h} \times CACP^z_h \times CNPF_{tm}$$

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:

$$C\&I\_HDR\_BL^{m,t}_{k,h} - HDR\_AC^{m,t}_{k,h} < 85\% \times (TBQ^{m,t}_{k,h} - DQSW_{k,h}^{m,t})$$

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:

$$CAADM^{m}_{k} = (-1) \times CAAP^{m}_{k}$$

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:

$$CACC^m_k = (-1) \times CAAP^m_k$$

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.*

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^m_k") 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:

$$CACIF^m_k = (-1) \times CAAP^m_k$$

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 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^i_k") 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:

$$CACD^i_k = \sum^H (-1.5) \times OCMW^i_k \times CACP^z_h$$

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 *intertie metering point* 'm' ("$CABOC^m_k$") which shall be calculated as follows:

$$CABOC^m_k = 50\% \times \Sigma^H CBOC^m_k \times CACP^z_h \times (1 - CNPF_{tm})$$

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 Dispatch Test Activation and Capacity Obligation 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:

$$CATAP^m_{k,h} = HDRTAPR \text{ X } HDRDC^m_{k,h}$$

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:

$$CAEOP^m_{k,h} = Max(0, HDRBP^m_{k,h} - Max(0,HOEP_h)) \text{ X } HDRDC^m_{k,h}$$

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 Obligation Capacity Auction Charges True-up Payment

4.7J.7   The *capacity obligation* charge true-up *settlement amount* for *capacity market participant* 'k' at *delivery point* 'm' in the relevant *obligation period* ("CACT^m_k") shall be calculated and disbursed to such *capacity market participant* for each *obligation period* in which the *capacity market participant* has a *capacity obligation*. The *capacity obligation* charge true-up *settlement amount* shall be calculated as follows*:*

$$CACT^m_k = -1 \times Min\ (0,\ (\textstyle\sum_H TD_{C,k,h}{}^m + \sum_H TD_{P,k,h}{}^m))$$

Where:

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

     a.   'C' is the set of the *settlement amounts* applied in accordance with MR Ch. 9 ss. 4.7J.2.1, 4.7J.2.1A, 4.7J.2.3, 4.7J.2.4, ~~4.7J.2.5, 4.7J.2.6,~~ 4.7J.2.7, 4.7J.2.8, and 4.7J.2.9.

(b) $TD_{P\,k,h}{}^m$ is the total dollar value of all *settlement amounts* 'P' for *capacity market participant* 'k' at *delivery point* 'm' in *settlement hour* 'h' in the relevant *obligation period*, where:

     a.   'P' is the set of the *settlement amounts* applied in accordance with MR Ch. 9 ss. 4.7J.1 and 4.7J.6

(c) 'H' is the set of all *settlement hours* 'h' within the *availability window* of the relevant *obligation period*.

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, as defined in *Ontario Regulation 429/04*, 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, as defined in *Ontario Regulation 429/04*, in accordance with *applicable law,* the *capacity auction* uplift *settlement amount* for such load facility shall be calculated as follows:

$$CAU^m_k = \Sigma_{H,M} (TD_{C,k,h}{}^m * PDF_k)$$

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, as defined in *Ontario Regulation 429/04,* in accordance with *applicable law,* the *capacity auction* uplift *settlement amount* for such load facility shall be calculated in accordance with the following:

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

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

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*:

$$CAU^{m}_{k} = (\Sigma_{H,M} TD_{C,k,h}^{m} - TD_{C1350,k,h}^{m}) \times MAX((\Sigma_{H}^{M,T} AQEW_{k,h}^{m,t} + EGEI_{k} - GA\_AQEW_{g,k,h,M}^{m,t} - PGS_{h,M}),0) /$$
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.*

Real-Time Markets

6.3.13   The *preliminary settlement statement* for each *trading day* in the *real-time markets* and in the *TR market*, other than in respect of the element referred to in section 6.3.2, shall be issued ten business days after the *trading day*.

6.3.17   Where an adjustment is required pursuant to sections 6.8.9.2(b), 6.8.9.2(c), 6.9.1.2(b), 6.9.1.2(c), or 6.10.4.1(a), or as otherwise required, *recalculated settlement statements* for each *trading day* in the *real-time markets* and in the *TR market*, other than in respect of the element referred to in section 6.3.12, shall be issued at the following times:

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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;*

final recalculated settlement statement means the *recalculated settlement statement* issued by the *IESO* in accordance with either section 6.3.~~5~~6(~~g~~b) or section 6.3.~~16~~17(g) of Chapter 9;