

Market Rule Amendment Proposal Form

Part 1 - Market Rule Information

Identification No.:	MR-00496-R00
Subject:	Intertie Offer Guarantee
Title:	Intertie Offer Guarantee - Adjustment to Payment Conditions
Nature of Proposal:	☒ Alteration ☒ Deletion ☐ Addition
Chapter:	9
Appendix:	7.6
Sections:	App.7.6 ss.11.3-11.4 & Ch.9 ss.3.5-3.6
Sub-sections proposed for amending:	
Current Market Rules Baseline:	

Part 2 - Proposal History

Version	Reason for Issuing	Version Date
1.0	Draft for Stakeholder Review	September 16, 2026

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

Background

Discussion

Part 4 - Proposed Amendment

Chapter 7

Appendix 7.6 The Real-Time Calculation Engine Process

11.3.2 Energy Locational Marginal Prices for Intertie Metering Points

11.3.2.1 The *real-time calculation engine* shall calculate a *locational marginal price* and components for *energy* for Pass 1 and each interval $i \in I$ for *intertie zone* bus $d \in D$, where:

11.3.2.1.1 $ExtLMP_{i,d}^{PD}$ designates the *locational marginal price* for *energy* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*;

11.3.2.1.2 $ICP_{i,d}^1$ designates the Pass 1 interval i *intertie congestion price*;

11.3.2.1.3 $ICP_{i,d}^{PD}$ designates the *intertie congestion price* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*;

11.3.2.1.4 $IntLMP_{i,d}^1$ designates the Pass 1 interval i *intertie border price* for *energy*;

11.3.2.1.5 $ExtLMP_{i,d}^1$ designates the Pass 1 interval i *locational marginal price* for *energy*;

- 11.3.2.1.6 $PExtCong_{i,d}^1$ designates the Pass 1 interval i external congestion component for the *intertie congestion price*;
- 11.3.2.1.7 $PExtCong_{i,d}^{PD}$ designates the external congestion component for the *intertie congestion price* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*;
- 11.3.2.1.8 $PIntCong_{i,d}^1$ designates the Pass 1 interval i internal congestion component for *energy*;
- 11.3.2.1.9 $PLoss_{i,d}^1$ designates the Pass 1 interval i loss component;
- 11.3.2.1.10 $PNISL_{i,d}^1$ designates the Pass 1 interval i net interchange scheduling limit congestion component for the *intertie congestion price*;
- 11.3.2.1.11 $PNISL_{i,d}^{PD}$ designates the net interchange scheduling limit congestion component for the *intertie congestion price* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*; and

11.3.2.2 The *real-time calculation engine* shall calculate an *intertie border price for energy*, a *locational marginal price for energy* for the *reference bus*, a loss component and a congestion component for *energy* for Pass 1 at *intertie zone bus* $d \in D_a$ in *intertie zone* $a \in A$ in interval $i \in I$, subject to section 11.3.2.11, as follows:

$$InitIntLMP_{i,d}^1 = InitPRef_i^1 + InitPLoss_{i,d}^1 + InitPIntCong_{i,d}^1$$

where

$$InitPRef_i^1 = SPL_i^1;$$

$$InitPLoss_{i,d}^1 = MglLoss_{i,d} \cdot SPL_i^1;$$

and

$$\begin{aligned} InitPIntCong_{i,d}^1 &= \sum_{f \in F_i} PreConSF_{i,f,d} \cdot SPNormT_{i,f}^1 \\ &+ \sum_{c \in C} \sum_{f \in F_{i,c}} SF_{i,c,f,d} \cdot SPEmT_{i,c,f}^1 \end{aligned}$$

- 11.3.2.3 ~~[Intentionally left blank – section deleted]~~ If there is import congestion in pre-dispatch such that $ICP_{i,d}^{PD} < 0$, the ~~real-time calculation engine~~ shall calculate an initial *locational marginal price*, an *intertie congestion price*, and the net interchange scheduling limit congestion component for the *intertie congestion price* for energy for Pass 1 at *intertie zone* bus $d \in D$ in interval $i \in I$ as follows:

$$\del{InitExtLMP_{i,d}^1 = \min(InitIntLMP_{i,d}^1, ExtLMP_{i,d}^{PD})}$$

$$InitICP_{i,d}^1 = InitExtLMP_{i,d}^1 - InitIntLMP_{i,d}^1;$$

where:

$$\del{\text{If } InitExtLMP_{i,d}^1 = InitIntLMP_{i,d}^1, \text{ then } InitICP_{i,d}^1 = 0 \text{ and } InitPNISL_{i,d}^1 = 0;}$$

and

~~If $InitExtLMP_{i,d}^1 = ExtLMP_{i,d}^{PD}$, then $InitICP_{i,d}^1$ and $InitPNISL_{i,d}^1$ shall be prorated based on their pre-dispatch magnitudes so that their sum equals the effective real-time *intertie congestion price*.~~

- 11.3.2.4 If ~~there is export congestion in pre-dispatch such that $ICP_{i,d}^{PD} > 0$, an *intertie zone* is in-service in real-time, then~~ the *real-time calculation engine* shall calculate an initial *locational marginal price*, an *intertie congestion price*, and the net interchange scheduling limit congestion component for the *intertie congestion price* for energy for Pass 1 at *intertie zone* bus $d \in D$ in interval $i \in I$ as follows:

$$InitExtLMP_{i,d}^1 = InitIntLMP_{i,d}^1 + InitICP_{i,d}^1$$

where:

$$InitICP_{i,d}^1 = InitPExtCong_{i,d}^1 + InitPNISL_{i,d}^1;$$

$$InitPExtCong_{i,d}^1 = PExtCong_{i,d}^{PD};$$

and

$$InitPNISL_{i,d}^1 = PNISL_{i,d}^{PD}.$$

- 11.3.2.5 If ~~there is no *intertie* congestion in pre-dispatch such that $ICP_{i,d}^{PD} = 0$ or an *intertie zone* is out-of-service in real-time, then~~ the *real-time calculation engine* shall calculate an initial *locational marginal price*, an *intertie congestion price*, and the net interchange scheduling limit congestion component for the *intertie congestion price* for energy for Pass 1 at *intertie zone* bus $d \in D$ in interval $i \in I$ as follows:

$$InitExtLMP_{i,d}^1 = InitIntLMP_{i,d}^1 + InitICP_{i,d}^1$$

where

$$InitICP_{i,d}^1 = InitPExtCong_{i,d}^1 + InitPNISL_{i,d}^1 = 0$$

$$InitPExtCong_{i,d}^1 = PExtCong_{i,d}^{PD};$$

and

$$InitPNISL_{i,d}^1 = PNISL_{i,d}^{PD}.$$

11.4.2 Operating Reserve Locational Marginal Prices for Intertie Metering Points

11.4.2.1 The *real-time calculation engine* shall calculate *locational marginal prices* and components for *operating reserve* for Pass 1 and each interval $i \in I$, for *intertie zone* bus $d \in D$, where:

- 11.4.2.1.1 $ExtL30RP_{i,d}^1$ designates the Pass 1 interval i *locational marginal price* for *thirty-minute operating reserve*;
- 11.4.2.1.2 $ExtL30RP_{i,d}^{PD}$ designates the *locational marginal price* for *thirty-minute operating reserve* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*;
- 11.4.2.1.3 $P30RExtCong_{i,d}^1$ designates the Pass 1 interval i congestion component for *thirty-minute operating reserve*;
- 11.4.2.1.4 $P30RExtCong_{i,d}^{PD}$ designates the *intertie congestion* *intertie* component for *thirty-minute operating reserve* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*;
- 11.4.2.1.5 $ExtL10NP_{i,d}^1$ designates the Pass 1 interval i *locational marginal price* for non-synchronized *ten-minute operating reserve*;
- 11.4.2.1.6 $ExtL10NP_{i,d}^{PD}$ designates the *locational marginal price* for non-synchronized *ten-minute operating reserve* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*;
- 11.4.2.1.7 $P30RRef_i^1$ designates the Pass 1 interval i *locational marginal price* for *thirty-minute operating reserve* at the *reference bus*;

- 11.4.2.1.8 $P30RIntCong_{i,d}^1$ designates the Pass 1 interval i internal congestion component for *thirty-minute operating reserve*;
- 11.4.2.1.9 $P10NRef_i^1$ designates the Pass 1 interval i *locational marginal price* for non-synchronized *ten-minute operating reserve* at the *reference bus*;
- 11.4.2.1.10 $P10NIntCong_{i,d}^1$ designates the Pass 1 interval i internal congestion component for non-synchronized *ten-minute operating reserve*;
- 11.4.2.1.11 $P10NExtCong_{i,d}^1$ designates the Pass 1 interval i *intertie* congestion component for non-synchronized *ten-minute operating reserve*; and
- 11.4.2.1.12 $P10NExtCong_{i,d}^{PD}$ designates the *intertie* congestion component for non-synchronized *ten-minute operating reserve* for the *dispatch hour* in which interval i falls as calculated by the *pre-dispatch calculation engine*.

11.4.2.2 The *real-time calculation engine* shall calculate an initial *locational marginal price*, a *locational marginal price* at the *reference bus*, an internal congestion component and an *intertie* congestion component for Pass 1 at *intertie zone* bus $d \in D$ in interval $i \in I$, for each class of *operating reserve*, subject to section 11.4.2.8, as follows:

$$InitIntL30RP_{i,d}^1 = InitP30RRef_i^1 + InitP30RIntCong_{i,d}^1$$

where:

$$InitP30RRef_i^1 = SP30R_i^1$$

and

$$\begin{aligned} InitP30RIntCong_{i,d}^1 &= \sum_{r \in ORREG_d} SPREGMin30R_{i,r}^1 \\ &+ \sum_{r \in ORREG_d} SPREGMax30R_{i,r}^1 \end{aligned}$$

$$InitIntL10NP_{i,d}^1 = InitP10NRef_i^1 + InitP10NIntCong_{i,d}^1$$

where:

$$InitP10NRef_i^1 = SP10R_i^1 + SP30R_i^1$$

and

$$\begin{aligned} InitP10NIntCong_{i,d}^1 &= \sum_{r \in ORREG_d} (SPREGMin10R_{i,r}^1 \\ &+ SPREGMin30R_{i,r}^1) \\ &+ \sum_{r \in ORREG_d} (SPREGMax10R_{i,r}^1 \\ &+ SPREGMax30R_{i,r}^1) \end{aligned}$$

11.4.2.3 ~~[Intentionally left blank – section deleted]~~ The *real-time calculation engine* shall calculate initial *locational marginal prices*, and its components for Pass 1 at *intertie zone bus* $d \in D$ in interval $i \in I$ for each class of *operating reserve* as follows:

11.4.2.3.1 ~~—— If the *intertie* is import congested in pre-dispatch ($P30RExtCong_{i,d}^{PD} < 0$ or $P10NExtCong_{i,d}^{PD} < 0$), then the prices and components are determined in accordance with section 11.4.2.4;~~

11.4.2.3.2 ~~—— If the *intertie* is not import congestion in pre-dispatch ($P30RExtCong_{i,d}^{PD} \geq 0$ or $P10NExtCong_{i,d}^{PD} \geq 0$) or if an *intertie zone* is out of service, then the prices and components are determined in accordance with section 11.4.2.5.~~

11.4.2.4 If an *intertie zone* is in-service in real-time, then ~~T~~ the *real-time calculation engine* shall calculate an initial *locational marginal price* and an external congestion component for the *intertie congestion price* for each class of *operating reserve* for Pass 1 at *intertie zone bus* $d \in D$ in interval $i \in I$ as follows:

$$InitExtL30RP_{i,d}^1 = InitIntL30RP_{i,d}^1 + P30RExtCong_{i,d}^{PD} ;$$

and

$$InitP30RExtCong_{i,d}^1 = P30RExtCong_{i,d}^{PD} .$$

$$InitExtL10NP_{i,d}^1 = InitIntL10NP_{i,d}^1 + P10NExtCong_{i,d}^{PD} ;$$

and

$$InitP10ExtCong_{i,d}^1 = P10ExtCong_{i,d}^{PD}.$$

$$\cancel{InitExtL30RP_{i,d}^1 = \min(InitIntL30RP_{i,d}^1, ExtL30RP_{i,d}^{PD});}$$

and

$$\cancel{InitP30ExtCong_{i,d}^1 = InitExtL30RP_{i,d}^1 - InitIntL30RP_{i,d}^1.}$$

$$\cancel{InitExtL10NP_{i,d}^1 = \min(InitIntL10NP_{i,d}^1, ExtL10NP_{i,d}^{PD});}$$

and

$$\cancel{InitP10ExtCong_{i,d}^1 = InitExtL10NP_{i,d}^1 - InitIntL10NP_{i,d}^1.}$$

- 11.4.2.5 If an *intertie zone* is out-of-service in real-time, then $\forall$ the real-time calculation engine shall calculate an initial *locational marginal price* and an external congestion component for the *intertie congestion price* for each class of *operating reserve* for Pass 1 at *intertie zone* bus $d \in D$ in interval $i \in I$ as follows:

$$InitExtL30RP_{i,d}^1 = InitIntL30RP_{i,d}^1;$$

and

$$InitP30ExtCong_{i,d}^1 = 0.$$

$$InitExtL10NP_{i,d}^1 = InitIntL10NP_{i,d}^1;$$

and

$$InitP10ExtCong_{i,d}^1 = 0.$$

- 11.4.2.6 If the initial *locational marginal price* ($InitExtL30RP_{i,b}^1$) is not within the *settlement* bounds ($ORPrcFlr$, $ORPrcCeil$), then the *real-time calculation engine* shall modify the *locational marginal price*, the *locational marginal price* at the *reference bus*, and the congestion components for *thirty-minute operating reserve* as follows:

$$IntL30R = InitP30RRef_i^1 + InitP30RIntCong_{i,d}^1$$

If $InitP30RRef_i^1 > ORPrcCeil$, set $P30RRef_i^1 = ORPrcCeil$;

If $InitP30RRef_i^1 < ORPrcFlr$, set $P30RRef_i^1 = ORPrcFlr$;

Otherwise, set $P30RRef_i^1 = InitP30RRef_i^1$;

Set $P30RIntCong_{i,d}^1 = ExtL30RP_{i,b}^1 - P30RRef_i^1$;

If $InitExtL30RP_{i,b}^1 > ORPrcCeil$, set $ExtL30RP_{i,b}^1 = ORPrcCeil$;

If $InitExtL30RP_{i,b}^1 < ORPrcFlr$, set $ExtL30RP_{i,b}^1 = ORPrcFlr$;

Otherwise, $ExtL30RP_{i,b}^1 = InitExtL30RP_{i,b}^1$; and

Set $P30RExtCong_{i,d}^1 = ExtL30RP_{i,b}^1 - P30RRef_i^1 - P30RIntCong_{i,d}^1$

- 11.4.2.7 If the initial *locational marginal price* ($InitExtL10NP_{i,d}^1$) is not within the *settlement bounds* ($ORPrcFlr, ORPrcCeil$), then the *real-time calculation engine* shall modify the *locational marginal price*, the *locational marginal price* at the *reference bus*, and the congestion components for *ten-minute operating reserve* as follows:

$$IntL10N = InitP10NRef_i^1 + InitP10NIntCong_{i,d}^1$$

If $InitP10NRef_i^1 > ORPrcCeil$, set $P10NRef_i^1 = ORPrcCeil$;

If $InitP10NRef_i^1 < ORPrcFlr$, set $P10NRef_i^1 = ORPrcFlr$;

Otherwise, $P10NRef_i^1 = InitP10NRef_i^1$; and

Set $P10NIntCong_{i,d}^1 = L10NP_{i,b}^1 - P10NRef_i^1$

If $InitExtL10NP_{i,b}^1 > ORPrcCeil$, set $ExtL10NP_{i,b}^1 = ORPrcCeil$;

If $InitExtL10NP_{i,b}^1 < ORPrcFlr$, set $ExtL10NP_{i,b}^1 = ORPrcFlr$;

Otherwise, $ExtL30RP_{i,b}^1 = InitExtL10NP_{i,b}^1$; and

Set $P10NExtCong_{i,d}^1 = ExtL10NP_{i,b}^1 - P10NRef_i^1 - P10NIntCong_{i,d}^1$

- 11.4.2.8 The *locational marginal price* calculated by the *real-time calculation engine* shall be the same for all *boundary entity resource* buses at the same *intertie zone*. Reserve imports associated with the same *boundary entity resource* bus, but specified as occurring at a different *intertie zone*, subject to phase shifter operation, shall be modelled as flowing across independent paths. Pricing of these reserve imports shall utilize shadow prices associated with *intertie* limits and regional minimum and maximum *operating reserve* requirements applicable to the path associated to the relevant *intertie zone*.

Chapter 9

3.5 Real-Time Make-Whole Payment

3.5.1 Subject to section 3.5.2, section 3.5.3, and the mitigation process described in section 5 and Appendix 9.4, the real-time make-whole payment *settlement amount* for *market participant 'k'* in *metering interval 't'* of *settlement hour 'h'* (" $RT_MWP^{m,t,k,h}$ ") shall be calculated and disbursed to the *market participants* for *dispatchable loads*, *energy traders* participating with *boundary entity resources*, *dispatchable electricity storage resources*, or *dispatchable generation resources* for each *settlement hour* where such *resource*:

- 3.5.1.1 has a *real-time schedule* for *energy* that was issued by the *IESO* due to a manual constraint or that was determined to be uneconomic upon completion of the *real-time calculation engine*, and the *resource* injects or withdraws, as the case may be, *energy* into the *IESO-controlled grid* in accordance with such *real-time schedule*; or
- 3.5.1.2 has a *real-time schedule* for *operating reserve* that was issued by the *IESO* due to a manual constraint or that was determined to be uneconomic upon completion of the *real-time calculation engine*, and the *resource* provides *operating reserve* into the *IESO-controlled grid* in accordance with such *real-time schedule*.

The real-time make-whole payment *settlement amount* shall be disbursed to the *market participants* for such *resources* in accordance with the eligibility and equations set out in this section 3.5 and the operating profit function described in section 10 of Appendix 9.2. The real-time make-whole payment *settlement amount* consists of the following components, where applicable:

- a. *Energy* lost cost component ("ELC") is the shortfall in payment on the *real-time schedule* for *energy*, as determined in accordance with sections 3.5.6(a), 3.5.7(a), 3.5.8(a), 3.5.8.1(a), 3.5.8.2(a), [3.5.8.3\(a\)](#), [3.5.8.4\(a\)](#), 3.5.9(a) or 3.5.10(a), as applicable;
- b. *Operating reserve* lost cost component ("OLC") is the shortfall in payment on the *real-time schedule* for *operating reserve*, as determined in accordance with sections 3.5.6(b), 3.5.7(b), 3.5.8.1(b), 3.5.8.2(b), 3.5.8.3([b](#)), [3.5.8.4\(b\)](#), 3.5.9(b) or 3.5.10(b), as applicable;
- c. *Energy* lost opportunity cost component ("ELOC") is the compensation for the lost opportunity for *energy* based on the *resource's* *RT_LOC_EOP* and *real-time schedule*, as determined in accordance with sections 3.5.6(c), 3.5.7(c), 3.5.9(c) or 3.5.10(c), as applicable; and
- d. *Operating reserve* lost opportunity cost component ("OLOC") is the compensation for the lost opportunity for *operating reserve* based on the *resource's* *RT_OR_LOC_EOP* and *real-time schedule*, as determined in accordance with sections 3.5.6(d), 3.5.7(d), 3.5.9(d) or 3.5.10(d), as applicable.

Real-Time Make-Whole Payment - Ineligibilities

3.5.2 Notwithstanding this section 3.5 but subject to section 3.5.3, a real-time make-whole payment *settlement amount* shall not be paid for:

- a. a *called capacity export*;
- b. an import or export transaction during any *settlement hours* in which the associated *energy trader* has a *real-time schedule* for any *linked wheeling through transactions*;
- c. a *resource* for any *settlement hour* for which it was *dispatched*, on request from the *market participant*, to prevent endangering the safety of any person, equipment damage, or violation of any *applicable law*, and the constraint resulting from such request is binding in the *real-time market*;
- d. a *resource* that is not a *pseudo-unit* and that is a *GOG-eligible resource* or has a primary fuel type of uranium, for any *settlement hour* in which its *real-time schedule* is less than its *minimum loading point*;
- e. a combustion turbine *resource* associated with a *pseudo-unit* and that is a *GOG-eligible resource* or has a primary fuel type of uranium, for any *settlement hour* in which its *real-time schedule* is less than its *minimum loading point*;
- f. a steam turbine *resource* associated with a *pseudo-unit* and that is a *GOG-eligible resource* or has a primary fuel type of uranium, for any *settlement hour* where none of the combustion turbine *resource* associated with the steam turbine *resource* have a *real-time schedule* greater than its *minimum loading point*;
- g. a *variable generation resource* for any *settlement hour* in which it is subject to a *release notification*;
- h. an *energy trader* participating with a *boundary entity resource* for an export transaction *dispatched* with a reason code associated with a pre-dispatch pricing discrepancy, as set out in the applicable *market manual*, when the applicable *locational marginal price* in either the most recent run of the *pre-dispatch calculation engine* or the *real-time market* does not exceed the export transaction *bid costs* for the last scheduled *price-quantity pair bid* lamination;~~or~~
- i. a dispatchable electricity storage resource for such settlement hours for which such resource is ineligible to receive a real-time make-whole payment in accordance with MR Ch.7 s.21.4.3; ~~or~~
- i.j. an energy trader participating with a boundary entity resource for an import transaction dispatched with a reason code associated with a pre-dispatch pricing discrepancy when: (i) real-time inertia offer guarantee eligibility has not been declared, as set out in the applicable market manual; and (ii) the

applicable locational marginal price in either the most recent run of the pre-dispatch calculation engine or the real-time market exceeds the import transaction offer costs for the last scheduled price-quantity pair offer lamination.

3.5.3 Notwithstanding sections 3.5.2(a), (b), (c), (g), (h), ~~and (i)~~, and (j) a real-time make-whole payment *settlement amount*, shall be determined for any *settlement hour* where a *resource* receives a *real-time schedule* resulting from a *reliability* constraint.

3.5.4 Notwithstanding this section 3.5, the following *resources* shall be ineligible for the following components of the real-time make-whole payment *settlement amount*:

3.5.4.1 The following *resources* shall be ineligible for ELC and ELOC:

- a. *dispatchable loads* and *dispatchable electricity storage resources* that are registered to withdraw for any quantity of *energy* that they *bid* at the *maximum market clearing price* and which was scheduled in the *real-time market*;
- b. combustion turbine *resources* or steam turbine *resources* that are registered as a *pseudo-unit* but not operating as a *pseudo-unit* for *metering intervals* in which they have a minimum constraint applied for combined cycle operation consistent with combustion turbine commitment;
- c. hydroelectric *generation resources*:
 - i. for any *settlement hour* for which the hydroelectric *generation resource* receives an *hourly must run* binding constraint;
 - ii. that are registered to the same *forebay* as one or more other hydroelectric *generation resources*, for a *trading day*, except for any *metering intervals* for which it receives a *reliability* constraint, if the sum of the quantity of *energy* scheduled in the *real-time market* for all *settlement hours* of the *trading day* for all *resources* that are registered to the same *forebay* is less than or equal to the *minimum daily energy limit* of such *forebay*; or
 - iii. that are not registered to the same *forebay* as one or more other hydroelectric *generation resources*, for a *trading day*, except for any *metering intervals* for which it receives a *reliability* constraint, if the sum of the quantity of *energy* scheduled in the *real-time market* for all *settlement hours* of the *trading day* for such *resources* is less than or equal to its *minimum daily energy limit*;

3.5.4.2 *energy traders* participating with *boundary entity resources* shall be ineligible for ~~ELC~~, ELOC, and OLOC for import transactions;

- 3.5.4.3 *energy traders* participating with *boundary entity resources* shall be ineligible for ELOC and OLOC for export transactions;
- 3.5.4.4 *dispatchable load resources* and *dispatchable electricity storage resources* that are registered to withdraw shall be ineligible for ELOC where the *price-quantity pairs* contained in its *energy bid* for a *settlement hour* are not the same as the *price-quantity pairs* contained in its *energy bid* for the immediately preceding and next *settlement hour* and such change results in the ramping of the *resource* described in the applicable *market manual*;
- 3.5.4.5 *resources* shall be ineligible for ELC when it is injecting or withdrawing energy below its RT_LC_EOP;
- 3.5.4.6 *resources* shall be ineligible for ELOC when it is injecting or withdrawing energy above RT_LOC_EOP;
- 3.5.4.7 *resources* shall be ineligible for OLC when its *real-time schedule* for *operating reserve* is less than its RT_OR_LC_EOP;
- 3.5.4.8 *resources* shall be ineligible for OLOC when its *real-time schedule* for *operating reserve* is greater than its RT_OR_LOC_EOP;
- 3.5.4.9 *non-quick start resources* shall be ineligible for ELOC and OLOC when its *real-time schedule* is less than its *minimum loading point*; and
- 3.5.4.10 Subject to section 3.5.4.10.1, *dispatchable loads* and *dispatchable electricity storage resources* that are registered to withdraw shall be ineligible for ELOC when (i) its RT_LOC_EOP is greater than its *real-time schedule*; (ii) its RT_LOC_EOP is greater than its actual quantity of *energy* withdrawn; and (iii) any of the following conditions exists:
 - a. its *real-time schedule* exceeds its actual quantity of *energy* withdrawn in the previous *metering interval* plus 2.5 minutes of ramping unless it is ramping up or down as specified in the applicable *market manual*; or
 - b. the *resource* has desynchronized from the *IESO-controlled grid* or is unable to follow its *dispatch instruction*.
- 3.5.4.10.1 Notwithstanding section 3.5.4.10, *dispatchable loads* and *dispatchable electricity storage resources* that are registered to withdraw shall be eligible for ELOC in the circumstances described in section 3.5.4.10 in any of the following circumstances:
 - a. the applicable *real-time market locational marginal price* for the relevant *metering interval* is greater than or equal to the

resource's bid price for the last scheduled price-quantity pair for the current, next or previous metering interval;

- b. the *metering interval* is part of an activation for *operating reserves* as specified in the applicable *market manual*; or
- c. the *resource* was *dispatched* by the *IESO* to maintain the *reliability* of the *IESO-controlled grid*.

Real-Time Make-Whole Payment for Boundary Entity Resources

3.5.8 For a transaction at an *intertie metering point* 'i' associated with an *energy trader* participating with a *boundary entity resource*, the real-time make-whole payment *settlement amount* is calculated in accordance with the following:

3.5.8.1 For an export transaction *dispatched* with a reason code associated with manual *dispatch* out-of-merit, as set out in the applicable *market manual*:

$$|RT_MWP_{k,h}^i = \sum^T \text{Max}(0, RT_ELC_{k,h}^{i,t} + RT_OLC_{k,h}^{i,t})$$

Where:

- a. $RT_ELC_{k,h}^{i,t} = \{OP(RT_LMP_h^{i,t}, \text{Max}(SQEW_{k,h}^{i,t}, DAM_QSW_{k,h}^i), BL_{k,h}^{i,t}) - OP(RT_LMP_h^{i,t}, \text{Max}(RT_LC_EOP_{k,h}^{i,t}, DAM_QSW_{k,h}^i), BL_{k,h}^{i,t})\} / 12$
- b. $RT_OLC_{k,h}^{i,t} = \sum_R [-1 \times \{OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_QSOR_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t}) - OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_OR_LC_EOP_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t})\} / 12]$

3.5.8.2 For an export transaction *dispatched* with a reason code associated with a pre-dispatch pricing discrepancy, as set out in the applicable *market manual*:

$$RT_MWP_{k,h}^i = \sum^T \text{Max}(0, RT_ELC_{k,h}^{i,t} + RT_OLC_{k,h}^{i,t})$$

Where:

- a. $RT_ELC_{k,h}^{i,t} = \{OP(\text{Min}(RT_LMP_h^{i,t}, PD_LMP_h^i), \text{Max}(SQEW_{k,h}^{i,t}, DAM_QSW_{k,h}^i), BL_{k,h}^{i,t}) - OP(\text{Min}(RT_LMP_h^{i,t}, PD_LMP_h^i), \text{Max}(RT_LC_EOP_{k,h}^{i,t}, DAM_QSW_{k,h}^i), BL_{k,h}^{i,t})\} / 12$
- b. $RT_OLC_{k,h}^{i,t} = \sum_R \{-1 \times [OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_QSOR_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t}) - OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_OR_LC_EOP_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t})] / 12\}$

3.5.8.3 For an import transaction dispatched with a reason code associated with manual dispatch out-of-merit, or dispatched with a reason code associated with a pre-dispatch pricing discrepancy when real-time *intertie* offer guarantee eligibility has been declared as set out in the applicable market manual:

$$RT_MWP_{k,h}^i = \sum^T \text{Max}(0, RT_ELC_{k,h}^{i,t} + RT_OLC_{k,h}^{i,t})$$

Where:

a. $RT_ELC_{k,h}^{i,t} = \{-1 \times [OP(RT_LMP_h^{i,t}, \text{Max}(SQEW_{k,h}^{i,t}, DAM_QSW_{k,h}^i), BE_{k,h}^{i,t}) - OP(RT_LMP_h^{i,t}, \text{Max}(RT_LC_EOP_{k,h}^{i,t}, DAM_QSW_{k,h}^i), BE_{k,h}^{i,t})] / 12\}$

b. $RT_OLC_{k,h}^{i,t} = \sum_R \{-1 \times [OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_QSOR_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t}) - OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_OR_LC_EOP_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t})] / 12\}$

[NTD - Proposed Deletion Below:]

$$RT_MWP_{k,h}^i = \sum^T \text{Max}(0, RT_OLC_{k,h}^{i,t})$$

Where:

a. $RT_OLC_{k,h}^{i,t} = \sum_R \{-1 \times [OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_QSOR_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t}) - OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_OR_LC_EOP_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t})] / 12\}$

3.5.8.4 For an import transaction *dispatched* with a reason code associated with a pre-dispatch pricing discrepancy when real-time *intertie offer* guarantee eligibility has not been declared as set out in the applicable *market manual*:

$$RT_MWP_{k,h} = \sum^T \text{Max}(0, RT_ELC_{k,h}^{i,t} + RT_OLC_{k,h}^{i,t})$$

Where:

a. $RT_ELC_{k,h}^{i,t} = \{-1 \times [OP$
 $(\text{Max}(RT_LMP_{h,PD}^{i,t}, PD_LMP_h) \text{Max}(SQEI_{k,h}^{i,t}, DAM_QSI_{k,h}^i), BE_{k,h}^{i,t}) -$
 $OP(\text{Max}(RT_LMP_{h,PD}^{i,t}, PD_LMP_h), \text{Max}(RT_LC_EOP_{k,h}^{i,t}, DAM_QSI_{k,h}^i), BE_{k,h}^{i,t})] / 12\}$

b.

$$RT_OLC_{k,h}^{i,t} = \sum^R \{-1 \times$$

$$[OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_QSOR_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t}) -$$

$$OP(RT_PROR_{r,h}^{i,t}, \text{Max}(RT_OR_LC_EOP_{r,k,h}^{i,t}, DAM_QSOR_{r,k,h}^i), BOR_{r,k,h}^{i,t})] / 12\}$$

3.6 Real-Time Intertie Offer Guarantee

- 3.6.1 Subject to section 3.6.2, the real-time *intertie offer* guarantee *settlement amount* shall be calculated and disbursed to the *energy trader* participating with a *boundary entity resource* in accordance with this section 3.6 for each *settlement hour* that eligibility for the real-time *intertie offer* guarantee is declared by the IESO in accordance with the applicable *market manual*, and in which such *energy trader* participating with *boundary entity resource* has either an *energy* import transaction scheduled in the *real-time market* that is incremental to its *day-ahead schedule* for the same *settlement hour* or an *energy* import transaction scheduled in the *real-time market* for a *settlement hour* in which the *energy trader* participating with a *boundary entity resource* does not have a *day-ahead schedule*.
- 3.6.2 *Energy* import transactions which form part of a *linked wheeling through transaction* shall not be eligible to receive a real-time *intertie offer* guarantee *settlement amount*.
- 3.6.3 The real-time *intertie offer* guarantee *settlement amount* for *market participant 'k'* in *settlement hour 'h'* in respect of *intertie metering point 'i'* (" $RT_IOG_{k,h}^i$ ") shall be determined for each eligible *energy* import transaction scheduled in the *real-time market*, and determined by the following equation and the operating profit function described in section 10 of Appendix 9.2:

$$RT_IOG_{k,h}^i = \text{Max}[Potential_IOG_{k,h}^i - IOG_Offset_{k,h}^i, 0]$$

Where:

- a. $IOG_Offset_{k,h}^i$ is the real-time *intertie offer guarantee settlement amount* offset for market participant 'k' in settlement hour 'h' in respect of *intertie metering point 'i'*, as determined in accordance with section 3.6.4; and

$$b. \text{Potential } IOG_{k,h}^i = (-1) \times \text{Min} [0, \sum^T OP (RT_LMP_{k,h}^{i,t}, \text{Min} (RT_LC_EOP_{k,h}^{i,t}, SQEI_{k,h}^{i,t}), BE_{k,h}^{i,t}) - \sum^T OP (RT_LMP_{k,h}^{i,t}, \text{Min} [\text{Min} (RT_LC_EOP_{k,h}^{i,t}, SQEI_{k,h}^{i,t}), DAM_QSI_{k,h}^i], BE_{k,h}^{i,t})] / 12$$

[NTD - Proposed Deletion Below:]

$$RT_IOG_{k,h}^i = \text{Max}[Potential_IOG_{k,h}^i - IOG_Offset_{k,h}^i, 0]$$

Where:

- a. $IOG_Offset_{k,h}^i$ is the real-time *intertie offer guarantee settlement amount* offset for market participant 'k' in settlement hour 'h' in respect of *intertie metering point 'i'*, as determined in accordance with section 3.6.4; and
- b. $Potential_IOG_{k,h}^i = (-1) \times \text{Min} [0, \sum^T OP (RT_LMP_{k,h}^{i,t}, SQEI_{k,h}^{i,t}, BE_{k,h}^{i,t}) - \sum^T OP (RT_LMP_{k,h}^{i,t}, \text{Min} [SQEI_{k,h}^{i,t}, DAM_QSI_{k,h}^i], BE_{k,h}^{i,t})] / 12$

3.6.4 The real-time *intertie offer guarantee* offset for market participant 'k' in settlement hour 'h' in respect of *intertie metering point 'i'* (" $IOG_Offset_{k,h}^i$ ") is determined by the following equation:

$$IOG_Offset_{k,h}^i = OFFSET_MW_{k,h}^i \times IOG_RATE_{k,h}^i$$

Where:

- a. $IOG_RATE_{k,h}^i = \text{Potential } IOG_{k,h}^i / (\sum^T \text{Min} (RT_LC_EOP_{k,h}^{i,t}, SQEI_{k,h}^{i,t}) - DAM_QSI_{k,h}^i) / 12$
- b. $IOG_RATE_{k,h}^i$ shall be zero if $DAM_QSI_{k,h}^i$ is greater than or equal to $\text{Min} (RT_LC_EOP_{k,h}^{i,t}, SQEI_{k,h}^{i,t})$
- c. $OFFSET_MW_{k,h}^i$ is the offset quantity of an eligible *energy* import transaction scheduled in the *real-time market*, as determined in accordance with section 3.6.5.

[NTD - Proposed Deletion Below:]

$$IOG_Offset_{k,h}^i = OFFSET_MW_{k,h}^i \times IOG_RATE_{k,h}^i$$

Where:

a. $IOG_RATE_{k,h}^i = \frac{Potential_IOG_{k,h}^i}{(\sum^T SQEI_{k,h}^{i,t} - DAM_QSI_{k,h}^i)/12}$

b. $IOG_RATE_{k,h}^i$ shall be zero if $DAM_QSI_{k,h}^i$ is greater than or equal to $SQEI_{k,h}^i$; and

c. $OFFSET_MW_{k,h}^i$ is the offset quantity of an eligible *energy* import transaction scheduled in the *real-time market*, as determined in accordance with section 3.6.5.

3.6.5 The offset quantity of *energy* of an eligible *energy* import transaction scheduled in the *real-time market* ($OFFSET_MW_{k,h}^i$) shall be:

3.6.5.1 determined for each eligible *energy* import transaction scheduled in the *real-time market* with a $IOG_Rate_{k,h}^i$ that is greater than \$0/MW. For greater certainty, those eligible *energy* import transactions scheduled in the *real-time market* with an $IOG_Rate_{k,h}^i$ that is equal to \$0/MW shall not receive any real-time *intertie offer guarantee settlement amount*;

3.6.5.2 equal to the total value of all *energy* quantities offset against such transaction which shall be determined in accordance with the following:

a. the offsetting process will produce an $OFFSET_MW_{k,h}^i$ value for each eligible *energy* import transaction scheduled in the *real-time market* with a non-zero $IOG_Rate_{k,h}^i$, and it shall not exceed the scheduled *energy* quantity of such import transaction;

a. the offsetting process will include all import and export transactions scheduled in the *real-time market* and the *day-ahead market* which were scheduled to occur during the same *settlement hour* but shall not include any transactions that form part of a *linked wheeling through transaction*;

b. the calculation of the $OFFSET_MW_{k,h}^i$ for an *energy* import transaction scheduled in the *real-time market* is cumulative. Each amount may only be offset or applied to offset once during the offsetting process and any amount specified during a step of the offsetting process is a reference to such amounts remaining following the application of the previous steps. For greater certainty, partial offsets are permitted;

c. within each step of the offsetting process, an eligible *energy* import transaction scheduled in the *real-time market* will be offset in ascending order of their respective $IOG_Rate_{k,h}^i$ from those with the

lowest $IOG_Rate_{k,h}^j$ to those with the highest $IOG_Rate_{k,h}^j$. Once $OFFSET_MW_{k,h}^j$ equals the *energy* quantity of the applicable eligible *energy* import transaction scheduled in the *real-time market*, the process shall restart in respect of the next eligible *energy* import transaction scheduled in the *real-time market* scheduled during the same *settlement hour*;

- d. where the *IESO* determines that the *market participant* has an agreement or arrangement to share the real-time *intertie offer* guarantee *settlement amount* with one or more other *market participants*, the offsetting process shall include the applicable transactions of all such *market participants* as part of the same process; and
- e. the offsetting process shall be conducted in accordance with the process outlined in the applicable *market manual*, which will, in the following order:
 - i. offset export transaction quantities scheduled in the *real-time market* by the amount of *day-ahead market energy* export transaction quantities scheduled in the *day-ahead market* for the same *boundary entity resource* and *energy trader*;
 - ii. for each *intertie*:
 - a. offset eligible *energy* import transaction quantities scheduled in the *real-time market* by *day-ahead market energy* import transaction quantities on the same *intertie* that were not scheduled in the *real-time market*; and
 - b. offset eligible *energy* import transaction quantities scheduled in the *real-time market* by *energy* export transaction quantities scheduled in the *real-time market* on the same *intertie*;
 - iii. for each *neighbouring electricity system*:
 - a. offset *energy* import transaction quantities scheduled in the *real-time market* by *day-ahead market energy* import transaction quantities relating to the same *neighbouring electricity system* that were not scheduled in the *real-time market*; and
 - b. offset *energy* import transaction quantities scheduled in the *real-time market* by *energy* export transaction quantities scheduled in the *real-time market* relating to the same *neighbouring electricity system*; and

- iv. for the *IESO control area*:
 - a. offset *energy* import transaction quantities scheduled in the *real-time market* by any other *day-ahead market energy* import transaction quantities not scheduled in the *real-time market*; and
 - b. offset *energy* import transaction quantities scheduled in the *real-time market* by any other *energy* export transaction quantities scheduled in the *real-time market*.