Section 203.5 Energy Market Mitigation

Draft Version
Posted January 2019

Applicability

1 Section 203.5 applies to:

(a) a **pool participant** that submits **offers** in the energy market for a **source asset**;

(b) the **legal owner** of a generating **source asset**; and

(c) the **ISO**.

2(1) Notwithstanding subsection 1, this section 203.5 is not applicable to a **pool participant** that submits **offers** in the energy market for a **source asset** with a portfolio size less than 250 MW as determined in the most current version of the market share offer control report published on the **Market Surveillance Administrator**'s website pursuant to subsection 5 of the *Fair Efficient and Open Competition Regulation.*

(2) Notwithstanding subsection 1, subsections 3, 5, 6, 7, 8, 9, and 10 are not applicable until November 1, 2021.

(3) The **ISO** must remove subsections 2(2) and 2(3) after November 1, 2021.

Requirements

Expected Supply Cushion

3(1) The **ISO** must calculate the expected supply cushion for each **settlement interval** in accordance with the following formula:

$$expected\ supply\ cushion_t =$$

$$expected\ supply\ in\ merit\ order_t - expected\ demand\ met\ by\ merit\ order_t$$

where:

(a) *expected supply in merit order*$_t$ is the sum of the available MW expected to be in the energy market **merit order** for the **settlement interval** *t*; and

(b) *expected demand met by merit order*$_t$ is the sum of the available MW expected to be dispatched from the energy market **merit order** to meet the best available forecast of demand, as determined by the **ISO**, for the **settlement interval** *t*.

(2) The **ISO** must:

(a) publish the expected supply cushion calculated in accordance with subsection 3(1) on the AESO website no later than 2 hours prior to the **settlement interval**; and

(b) update the expected supply cushion as soon as reasonably practicable upon a change to 1 or more of the inputs to the calculation of the expected supply cushion.

(3) The **ISO** must select the value of the expected supply cushion calculated in accordance with subsection 3(1) as close as reasonably practicable to the **settlement interval**, but no earlier than 2 hours prior to the **settlement interval**.

(4) The **ISO** must publish the value of the expected supply cushion which is selected for each **settlement interval** under subsection 3(3) as soon as reasonably practicable after such selection is made.

Asset-Specific Cost Information for a Thermal Generating Source Asset

4(1) A **pool participant** must submit to the **ISO** the expected annual average of the following information for a thermal generating **source asset**, assuming that the thermal generating **source asset** is operating under normal conditions at **maximum capability**:

(a) heat rate in GJ/MWh;

(b) fuel price in $/GJ if the thermal generating **source asset** is not fueled by natural gas; and

(c) greenhouse gas exposure to a carbon price levied by a public authority in tonnes CO_2-equivalent/MWh.

(2) A **pool participant** must:

(a) submit the information in subsection 4(1) to the **ISO**:

(i) on the effective date of this section 203.5, for a thermal generating **source asset** that has energized and commissioned; or

(ii) before the energization and **commissioning** of a thermal generating **source asset**, where the thermal generating **source asset** has not completed energization and **commissioning**;

(b) where **the pool participant** becomes aware of more recent information that results in a difference of 10% relative to the information provided in accordance with subsection 4(1), re-submit the information in accordance with subsection 4(1) to the **ISO** as soon as reasonably practicable; and

(c) submit an attestation to the **ISO** by a corporate officer of the **legal owner** the thermal generating **source asset** that the information provided in accordance with subsection 4(1) is complete and accurate.

(3) The **ISO** must, as soon as reasonably practicable, confirm whether the information received pursuant to subsection 4(1) is reasonable.

(4) The **ISO** must request additional information from the **pool participant** concerning the information provided in accordance with subsection 4(1) where such information, in the **ISO**'s determination, appears unreasonable.

(5) The **ISO** must select alternate values for the information submitted pursuant to subsection 4(1) if such information is determined by the **ISO** to be unreasonable, after requesting additional information in accordance with subsection 4(4).

(6) The **ISO** must notify the **pool participant** if alternative values have been selected in accordance with subsection 4(5).

Asset-Specific Reference Price for a Generating Unit or Aggregated Generating Facility

5(1) The **ISO** must calculate a simplified short-run marginal cost, in $/MWh for each generating **source asset** for each **settlement interval** in accordance with the following formula:

$$simplified\ short\ run\ marginal\ cost_{it} =$$
$$(heat\ rate_{it}\ \times fuel\ price_{it}) + (greenhouse\ gas\ exposure_{it}\ \times carbon\ price_{t})$$
$$+\ estimated\ variable\ operations\ and\ maintenance\ costs_{it}$$

where:

(a) *heat rate* $_{it}$ in GJ/MWh for **source asset** *i* in **settlement interval** *t* is:

(i) for a thermal generating **source asset**:

(A) the heat rate provided in subsection 4(1)(a), if the **ISO** confirmed the reasonableness of the value in accordance with subsection 4(3); or

(B) the alternate heat rate selected in accordance with subsection 4(5), if such heat rate was selected.

(ii) 0, if the **generating unit** or **aggregated generating facility** is not thermal;

(b) *fuel price* $_{it}$ in $/GJ for **source asset** *i* in **settlement interval** *t* is:

(i) the natural gas price identified by the **ISO** on a day-ahead basis, or as close to a day-ahead basis as reasonably practicable, if the thermal generating **source asset** is fueled by natural gas;

(ii) for a thermal generating **source asset** that is not fueled by natural gas:

(A) the fuel price provided in accordance with subsection 4(1)(b), if the **ISO** confirmed the reasonableness of the value in accordance with subsection 4(3); or

(B) the alternate fuel price selected by the **ISO** in accordance with subsection 4(5), if such fuel price was selected.

(iii) 0, if the generating **source asset** is not thermal;

(c) *greenhouse gas exposure* $_{it}$ in tonnes CO_2-equivalent/MWh for **source asset** *i* in **settlement interval** *t* is:

(i) the value provided in accordance with subsection 4(1)(c); or

(ii) 0, if the generating **source asset** is not thermal;

(d) *carbon price* $_{t}$ in $/tonne CO_2-equivalent for **settlement interval** *i* is the most recent carbon price identified by the **ISO** from the appropriate public authority; and

(e) *estimated variable operations and maintenance costs* $_{it}$ in $/MWh for **source asset** *i* in **settlement interval** *t* is the estimated variable operations and maintenance costs determined by the **ISO** on a class-specific basis.

(2) The **ISO** must, using the simplified short-run marginal costs calculated in accordance with subsection 5(1), set the asset-specific reference price for a generating **source asset** for each **settlement interval** as an amount equal to:

(a) 3 times the simplified short run marginal cost, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is equal to or greater than 1,000 MW;

(b) 6 times the simplified short run marginal cost, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is equal to or greater than 250 MW or less than 1,000 MW; or

(c) the maximum permissible price for an **offer** made under Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is less than 250 MW.

Asset-Specific Reference Price for a Designated Non-Thermal Generating Source Asset Capable of Storing Fuel

6(1) The **ISO** must designate a non-thermal generating **source asset** to which this subsection 6 is applicable, provided that the generating **source asset** is capable of storing its fuel.

(2) The **ISO** must, if the **ISO** designates any generating **source assets** in accordance with subsection 6(1), publish on the AESO website a list of the designated generating **source assets**.

(3) The **ISO** must, subject to subsection 6(4), set the asset-specific reference price for a generating **source asset** designated in accordance with subsection 6(1) for each **settlement interval** as an amount equal to:

(a) 3 times the 30-day rolling average **pool price** most recently published by the **ISO** at the time the **ISO** calculates the expected supply cushion, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is equal to or greater than 1,000 MW;

(b) 6 times the 30-day rolling average **pool price** most recently published by the **ISO** at the time the **ISO** calculates the expected supply cushion, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is equal to or greater than 250 MW and less than 1,000 MW; and

(c) the maximum permissible price for an **offer** made under Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is less than 250 MW.

(4) The **ISO** must, notwithstanding subsection 6(3), set the asset-specific reference price in a **settlement interval** for a generating **source asset** designated in accordance with subsection 6(1) as an amount equal to the maximum permissible price for an **offer** made under Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, if a **pool participant** has made an **offer** for:

(a) active **regulating reserve** that is the lesser of:

(i) the **real power** quantity of the generating **source asset** qualified by the **ISO** to provide **regulating reserve** pursuant to Section 205.4 of the **ISO rules**, *Regulating Reserve Technical Requirements and Performance Standards;* or

(ii) the **available capability** of the generating **source asset** less the **minimum stable generation** in the **settlement interval** at the time the **offer** for **operating reserve** is submitted by the **pool participant** in accordance with Section 205.1 of the **ISO rules**, *Offers for Operating Reserve*;

(b) active **spinning reserve** that is the lesser of:

(i) the **real power** quantity of the generating **source asset** qualified by the **ISO** to provide **spinning reserve** pursuant to Section 205.5 of the **ISO rules**, *Spinning Reserve Technical Requirements and Performance Standards*; or

(ii) active **spinning reserve** calculated in accordance with the following formula:

$$active\ spinning\ reserve_{it} = available\ capability_{it} - minimum\ stable\ generation_{it} - active\ regulating\ reserve_{it}$$

where:

(A) *available capability* $_{it}$ is the **available capability** of generating **source asset** *i* in **settlement interval** *t* at the time the **offer** for **operating reserve** is submitted by the **pool participant** in accordance with Section 205.1 of the **ISO rules**, *Offers for Operating Reserve*;

(B) *minimum stable generation* $_{it}$ is the **minimum stable generation** for generating **source asset** *i* in **settlement interval** *t* at the time the **offer** for **operating reserve** is submitted by the **pool participant** in accordance with Section 205.1 of the **ISO rules**, *Offers for Operating Reserve*; and

(C) *active regulating reserve* $_{it}$ is the volume of active **regulating reserve** that was procured by the **ISO** from generating **source asset** *i* in **settlement interval** *t*;

and

(c) active **supplemental reserve** that is the lesser of:

(i) the **real power** quantity of the generating **source asset** qualified by the **ISO** to provide **supplemental reserve** pursuant to Section 205.6 of the **ISO rules**, *Supplemental Reserve Technical Requirements and Performance Standards*; or

(ii) active **supplemental reserve** calculated in accordance with the following formula:

$$active\ supplemental\ reserve_{it} = available\ capability_{it} - minimum\ stable\ generation_{it} - active\ regulating\ reserve_{it} - active\ spinning\ reserve_{it}$$

where:

(A) *available capability* $_{it}$ is the **available capability** of generating **source asset** *i* in **settlement interval** *t* at the time the **offer** for **operating reserve** is submitted by the **pool participant** in accordance with Section 205.1 of the **ISO rules**, *Offers for Operating Reserve*;

(B) *minimum stable generation* $_{it}$ is the **minimum stable generation** for generating **source asset** *i* in **settlement interval** *t* at the time the **offer** for **operating reserve** is submitted by the **pool participant** in accordance with Section 205.1 of the **ISO rules**, *Offers for Operating Reserve*; and

(C) *active regulating reserve* $_{it}$ is the volume of active **regulating reserve** that was procured by the **ISO** from generating **source asset** *i* in **settlement interval** *t*

(D) *active spinning reserve* $_{it}$ is the volume of active **spinning reserve** that was procured by the **ISO** from generating **source asset** *i* in **settlement interval** *t*.

Asset-Specific Reference Price for an Import Source Asset

7 The **ISO** must set the asset-specific reference price for an import **source asset** for each **settlement interval** as follows:

(a) an amount calculated in accordance with the following formula, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is greater than 1,000 MW:

$$MidC(on\ peak) + min\{100, 3\ x\ MidC(on\ peak)\}$$

where:

(i) $MidC(on\ peak)$ is:

(A) the day-ahead, on-peak price in the Mid-Columbia market for delivery on the same **day** in the energy market in Alberta; or

(B) the most recently published on-peak price in the Mid-Columbia market if delivery in the energy market in Alberta is on a Sunday or a **NERC** holiday;

(b) an amount calculated in accordance with the following formula, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is equal to or greater than 250 MW and less than 1,000 MW:

$$MidC(on\ peak) + min\{100, 6\ x\ MidC(on\ peak)\}$$

where:

(i) $MidC(on\ peak)$ is:

(A) the day-ahead, on-peak price in the Mid-Columbia market for delivery on the same **day** in the energy market in Alberta; or

(B) the most recently published on-peak price in the Mid-Columbia market if the delivery **day** in the energy market in Alberta is a Sunday or a **NERC** holiday;

or

(c) the maximum permissible price for an **offer** made under Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is less than 250 MW.

Limitations and Exemptions for Asset-Specific Reference Price

8(1) Notwithstanding subsections 5, 6 and 7, the **ISO** must set the asset-specific reference price for a **source asset** for any **settlement interval** as an amount equal to:

(a) $25/MWh, if the asset-specific reference price calculated in accordance with subsections 5, 6 or 7, as applicable, is less than $25/MWh; or

(b) the maximum permissible price for an **offer** made under Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, if the asset-specific reference price calculated in accordance with subsections 5, 6 or 7, as applicable, is greater than the maximum permissible price for an **offer** made under Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*.

(2) A **pool participant** may request that the **ISO** vary an asset-specific reference price determined pursuant to subsections 5, 6 or 7.

(3) The **ISO** may, upon receiving a request pursuant to subsection 8(2), calculate a different asset-specific reference price than the asset-specific reference price determined pursuant to subsections 5, 6, 7 or 8, as applicable, if the **ISO** is satisfied that the **pool participant** would not be able to reasonably recover the short run marginal costs and cycling costs of the **source asset** within the scope of the asset-specific reference price determined pursuant to subsections 5, 6, 7 or 8.

(4) The **ISO** must, if it calculates a different asset-specific reference price in accordance with subsection 8(3), set the asset-specific reference price for each **source asset**, as soon as reasonably practicable, for each **settlement interval** as an amount equal to the amount calculated in accordance with 8(3) if the expected supply cushion selected for the **settlement interval** under subsection 3(3) is greater than 250 MW.

Market Power Screen

9(1) The **ISO** must identify a **person** that has offer control over 1 or more **source assets** associated with an **offer**, where the offer control of the **person**'s associates, as defined in section 5 of the *Fair, Efficient, and Open Competition Regulation*, is attributed to the **person.**

(2) A **person** identified under subsection 9(1) may submit **supply obligations** to the **ISO** equal to or less than the **person**'s actual **supply obligations** for each **settlement interval** no later than 2 hours prior to the start of the **settlement interval**.

(3) A **person** must, if the **person**'s actual **supply obligations** for a **settlement interval** change prior to 2 hours before the start of the **settlement interval** such that the **supply obligations** submitted in accordance with subsection 9(2) exceed the actual **supply obligations**, re-submit the **supply obligations** in accordance with subsection 9(2).

(4) The **ISO** must calculate the expected residual supply index for each **settlement interval** for a **person** identified under subsection 9(1) as close to as reasonably practicable to the **settlement interval**, but no earlier than 2 hours prior to the **settlement interval**, in accordance with the following formula:

$$expected\ residual\ supply\ index_{it} = \frac{expected\ supply\ in\ merit\ order_t - (expected\ supply\ in\ merit\ order_{it} - supply\ obligations_{it})}{expected\ demand\ met\ by\ merit\ order_t}$$

where:

(a) *expected supply in merit order$_t$* is the sum of the available MW expected to be in the energy market **merit order** for the **settlement interval** *t*;

(b) *expected supply in merit order$_{it}$* is the portion of the *expected supply in merit order $_t$* that **person** *i* as identified by subsection 9(1) has offer control over for **settlement interval** *t*;

(c) *supply obligations$_{it}$* are the **supply obligations** for **person** *i* for **settlement interval** *t* submitted in accordance with subsection 9(2); and

(d) *expected demand met by merit order$_t$* is the sum of the available MW expected to be dispatched from the energy market **merit order** to meet the best available forecast of demand, as determined by the **ISO**, for the **settlement interval** *t*.

(5) The **ISO** must identify a **person** with an expected residual supply index of less than 1 for a **settlement interval** as calculated in accordance with subsection 9(4).

(6) The **ISO** must not reconsider the conclusion drawn under subsection 9(5) if market conditions change at any time after the expected residual supply index is calculated for the **settlement interval** in accordance with subsection 9(4).

Mitigation of Market Power

10(1) The **ISO** must, for each **settlement interval**, identify each **operating block** associated with a **source asset** under the offer control of a **person** identified under subsection 9(5) that has an **offer** price greater than the asset-specific reference price for the **source asset** determined pursuant to subsections 5, 6, 7 or 8, as applicable.

(2) The **ISO** must, subject to subsection 10(3), change the **offer** price of an **operating block** identified under subsection 10(1) to the asset-specific reference price of the **source asset** determined pursuant to subsection 5, 6, 7 or 8, as applicable, if the **operating block** is:

(a) under the offer control of a single **person** that has been identified under subsection 9(5);

(b) under the offer control of 2 or more **persons** which have been identified under subsection 9(5); or

(c) submitted as an **inflexible block** in accordance with Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, and is under the offer control of a **person** that has been identified under subsection 9(5) and a **person** that has not been identified under subsection 9(5).

(3) The **ISO** must, if an **operating block** identified under subsection 10(1) is submitted as a **flexible block** in accordance with Section 203.1 of the **ISO rules**, *Offers and Bids for Energy*, and is under the offer control of a **person** that has been identified under subsection 9(5) and a **person** that has not been identified under subsection 9(5), split the existing **operating block** into 2 **operating blocks** as follows:

(a) create a new **operating block** that contains the quantity of the existing **operating block** that is under the offer control of a **person** identified under subsection 9(5) and an **offer** price equal to the asset-specific reference price for the **source asset** determined pursuant to subsection 5, 6, 7 or 8, as applicable; and

(b) reduce the quantity of the existing **operating block** by the quantity of the **operating block** created in subsection 10(3)(a), with no associated change to the **offer** price of the existing **operating block**.

Timely Information from Legal Owner

11 A **legal owner** of a generating **source asset** must, if such **legal owner** is not the **pool participant** for that generating **source asset**:

(a) provide timely and complete information to the **pool participant** upon the request of the **pool participant** for the **source asset** to enable the **pool participant** to comply with its obligations under subsection 4; and

(b) provide an attestation to the **pool participant** from a corporate officer of the **legal owner** of the generating **source asset** upon the request of the **pool participant** to enable the **pool participant** to comply with its obligations under subsection 4(2)(d).

Revision History

Date	Description
yyyy-mm-dd	Initial release.