

5. RELIABILITY ASSESSMENT AND SCHEDULED GENERATOR OUTAGE CANCELLATION

1. Applicability

Section 5 applies to:

- (1) the **ISO**;
- (2) a **pool participant** registered under Section 1 of the **ISO rules** to exchange or transact with respect to one or more **generating units**;
- (3) an **owner** of a **generating unit**; and
- (4) **market participants**.

2. Requirements

5.1 Reliability and Adequacy Assessments

- (1) The **ISO** will, on an as required basis, apply all **reliability standards** and operating policies and procedures criteria for the purpose of assessing **reliability**.
- (2) For the purpose of assessing **adequacy** the **ISO** will:
 - (a) complete a supply and demand forecast using the peak demand hour for every **day** for the next successive two (2) year period, incorporating or addressing the following:
 - (i) the sum of the **maximum capability** from all **generating units** in Alberta with a **maximum capability** equal to or greater than 5 **MW**, plus
 - (ii) an estimate of the output from wind **generating units**, plus
 - (iii) import **available transfer capability** on the British Columbia and Saskatchewan **interconnections** with **import remedial action scheme**, or any similar scheme, minus
 - (iv) declared **generating unit** deratings, minus
 - (v) any capacity of **generating units** which are affected by **transmission constraints**, minus
 - (vi) anticipated **generating unit** derates, minus
 - (vii) the daily forecast Alberta internal **load** demand, minus
 - (viii) **operating reserves** requirements, plus
 - (ix) price responsive **load**, plus
 - (x) aggregate **outage** records for **load**, plus
 - (xi) **load** for **demand opportunity service**.
 - (b) complete a real time **adequacy** assessment for each **settlement interval** for the **trading day** and for the six (6) remaining **days** of the **forecast scheduling period** on the **day** preceding that **trading day**, and which assessment will incorporate or address the following:

- (i) the sum of the **available capability** of all **generating units** in Alberta with a **maximum capability** equal to or greater than five (5) **MW**, and with a start up time either:
 - (A) less than or equal to one (1) hour, or
 - (B) at or before the period being assessed, plus
- (ii) an estimate of the output from all wind **generating units**, plus
- (iii) an estimate of the amount of price responsive **load** that will reduce **demand**; plus
- (iv) an estimate of **load** for **demand opportunity service** that will be curtailed; plus
- (v) an estimate of the amount of on site generation that supplies behind the fence **load** and submits **available capacity** as net-to-grid value; minus
- (vi) an estimate of the amount of anticipated **generating unit** derates, plus
- (vii) import to forecast **available transfer capability** on the British Columbia and Saskatchewan **interconnections**, plus
- (viii) reducing exports on the Alberta –British Columbia and Alberta-Saskatchewan **interconnections** to zero (0) **MW**, plus
- (ix) all **supplemental reserves** and excess **spinning reserves** delivered, plus
- (x) **generating unit** or import **available transfer capacity** that can be obtained by canceling **transmission system** maintenance, minus
- (xi) unavailable energy from **generating units** due to **transmission constraints**.

5.2 Generating Unit Scheduled Generator Outage Reporting

For any **generating unit** with:

- (a) installed capacities of five (5) **MW** or higher; or
- (b) derate changes of plus or minus five (5) **MW** or greater;

the **owner** of the **generating unit**, or the designated **pool participant** if different from the **owner**, must comply with the **scheduled generator outage** reporting requirements for the **generating unit** as set forth in the **ISO rules** below.

5.2.1 Timely Information From Owner to Pool Participant

The **owner** of a **generating unit** must provide to a designated **pool participant** such timely and complete information so as to enable the **pool participant** to comply with its obligations set out under this section 5.2.

5.2.2 Specific Scheduled Generator Outage and Forced Outage Reporting Requirements

- (1) Subject to subsection (2), each designated **pool participant** must use the outage scheduling entry in the **Energy Trading System** to provide to the **ISO** the dates, times, durations, and impact to **MW** capability for any **scheduled generator outage** and the specific nature of the **scheduled generator outage** work to be done as well as designate the outage as “Derate-Planned” or “Outage-Planned”
- (2) The designated **pool participant** must comply with the following specific requirements when submitting either **forced outage** or **scheduled generator outage** information to the **ISO**:
 - (a) by the first (1st) **day** of every month subsequent to the date of **commissioning**, submit **scheduled generator outages** that are planned to occur at any time within the next twenty four (24) months after that **day**, with any subsequent revisions to the plans submitted to the **ISO** as soon as reasonably practical after the decision is made by the **owner** of the **generating unit** to change the plans, but in any event no later than three (3) months prior to the first **day** the **scheduled generator outage** is planned to commence;
 - (b) for **scheduled generator outages** that are planned to be required within the next three (3) months after the first (1st) day of a month, submit the plan as soon as reasonably practical after that planning decision is made by the **owner** of the **generating unit** if the plan is different from the one referred to in Subsection (2) (a) above, which submission must include a statement setting out the reasons that any new plan for the **scheduled generator outage** was not included in, or must vary from, the original Subsection (2) (a) submission;
 - (c) for a **forced outage**:
 - (i) inform the **system controller** on a telephone line designated by the **ISO** which will contain a voice recording system; and
 - (ii) use the outage scheduling entry in the **Energy Trading System** to provide to the **ISO** the dates, times, durations, and impact to **MW** capability for the **forced outage** and designate the outage as “Derate-Forced” or “Outage-Forced”.
- (3) The designated **pool participant** must provide to the **ISO** in writing a list of contact persons who will be involved in the planning of **scheduled generator outages** and be in a position of authority to resolve with the **ISO** any issues or concerns regarding **scheduled generator outages** and **forced outages**.

5.2.3 Generating Unit Outage Information Confidentiality

Subject to Section 5.2.4 below, **scheduled generator outage** and related information submitted to the **ISO** under these **ISO rules** will be kept confidential by the **ISO** in accordance with **ISO rules** and the related **ISO** policies and procedures, except as otherwise required to be made public under any legislation, regulation or any other provision of the **ISO rules**, or to **WECC** under any applicable agreement provisions.

5.2.4 Aggregate Information Posting

The **ISO** will post on its website and on an aggregate basis the **scheduled generator outage** information for all **generating units**, in a manner that seeks to preserve the confidential nature of the subject matter and precludes the identification of any **owners**, the designated **pool participant** or other directly affected **pool participants**.

5.3 Authority to Issue a Scheduled Generator Outage Cancellation Directive

- (1) Pursuant to subsection 18(1) of the **transmission regulation**, the **ISO** may issue a **directive** to an **owner** of a **generating unit**, or the designated **pool participant**, or both if different persons, to cancel a **scheduled generator outage** planned for that **generating unit** based on the **reliability** and **adequacy assessments** conducted under the provisions of Section 5.1 and under the specific circumstances and in accordance with the procedures set out in these **ISO rules**.
- (2) No **directive** canceling a **scheduled generator outage** will be issued by the **ISO** without the authorization of the Chief Executive Officer of the **ISO** or his designee.

5.3.1 Scheduled Generator Outage Cancellation Procedure

Prior to issuing a **directive** canceling a **scheduled generator outage**, the **ISO** must comply with the following procedures, in the following sequence:

- (1) The **ISO** will consider and analyze the results of the assessments undertaken in accordance with Section 5.1 above, and perform a further assessment of the status of all **generating units** in Alberta based on all **scheduled generator outage** plans submitted by all designated **pool participants** under Section 5.2.2 above.
- (2) After completing the assessments, and taking in to account the total amount of all **generating unit** capacity in Alberta which is planned for **scheduled generator outages**, if the **ISO** determines that there is a high probability of an **adequacy** or **reliability** shortfall then the **ISO** will notify **market participants** on the **AESO** website of its determination.
- (3) The **ISO** will continue to conduct further situational analysis to seek to alleviate the potential **adequacy** or **reliability** shortfall and avoid the cancellation of any **scheduled generator outages**.
- (4) The **ISO** will post the determination referred to in subsection (2) above for a minimum period of one (1) calendar week, and in anticipation that certain **owners** of **generating units** may have flexibility to voluntarily amend plans for **scheduled generator outages** to assist in the alleviation of the **adequacy** or **reliability** shortfall situation.
- (5) If the **ISO** notification and any resulting voluntary actions referred to in subsection (4) above do not result in a reduction in the total amount of **generating unit** capacity planned for **scheduled generator outages** such that the forecast **adequacy** or **reliability** shortfall will be alleviated, then the **ISO** will contact the individual **owners** to request that **scheduled generator outage** plans be further reviewed.

- (6) If after completing the assessments and procedures set out in subsections (1) through (5) above the **ISO** determines that there remains:
- (a) an immediate need on a short term basis for services provided by certain **generating units** to maintain the necessary level of **reliability** or **adequacy**, as the case may be; and
 - (b) a high probability that the situation will not be alleviated in a voluntary manner:
 - (i) by any **owners** of **generating units** amending or revising **scheduled generator outage** plans; or
 - (ii) through the ordinary course operation of the market;
- then the **ISO**, after also taking in to account the factors set out in subsection (7) below, may issue a **directive** to cancel a **scheduled generator outage** planned for that **generating unit**, which cancellation must be on a date no sooner than ninety (90) **days** in advance of the first **day** of the period which has been determined to be the commencement of the **reliability** or **adequacy** shortfall.
- (7) The **ISO** must consider all of the following factors in its determination as to whether or not to issue a **directive** canceling a **scheduled generator outage** as contemplated in this Section 5.3.1:
- (a) The economic and operational consequences for the **owner** of the **generating unit** and for any designated **pool participant**, if a different **person**;
 - (b) The operational and functional impact on the **generating unit** if the subject **scheduled generator outage** is cancelled;
 - (c) The effectiveness of canceling the subject **scheduled generator outage** in alleviating the **reliability** or **adequacy** shortfall;
 - (d) The historical frequency that a given **generating unit** has been the subject of **scheduled generator outage** cancellations, relative to other **generating units** in Alberta;
 - (e) The length of time of, and reasons for, any **scheduled generator outage** the designated **pool participant** has previously submitted to the **ISO** under the reporting requirements set out in these **ISO rules**;
 - (f) The extent to which the **scheduled generator outage** will begin or end during the period of the forecast **reliability** or **adequacy** shortfall;
 - (g) Any requirements or material implications under or related to any applicable municipal, provincial or federal legislation or regulations if the **ISO** proceeds to issue a **directive** to cancel a given **scheduled generator outage**;
 - (h) The practicality and effectiveness of market-based solutions to alleviate the **reliability** or **adequacy** shortfall, including a consideration of **load curtailment** options.

5.3.2 Scheduled Generator Outage Planned Costs and Work Submission

- (1) The **owner** of a **generating unit** who has received a **directive** for the cancellation of a **scheduled generator outage** for the **generating unit** must use all reasonable efforts to submit to the **ISO** in advance of the period when the outage would have occurred:
 - (a) a detailed description and estimation of the work, which are to be carried out during the **scheduled generator outage**, including an itemization of the specific plant, machinery and equipment which are the subject of the work during the that period; and
 - (b) an estimate of any known or anticipated **incremental generation costs** that may be the basis for a claim for compensation under these **ISO rules**.
- (2) The submissions set out in subsection (1) do not limit compensation claims for other reasonable demonstrable costs.

5.3.3 Time Constrained Scheduled Generator Outage Cancellation

Notwithstanding the provisions of section 5.3.1, if in the opinion of the **ISO** it is evident that immediate **reliability** or **adequacy** circumstances will not allow sufficient time to permit the **ISO** to comply with any or all of the procedures set out in that section 5.3.1, then the **ISO** may dispense with any such procedures and proceed to issue a **directive** to cancel a **scheduled generator outage**.

5.3.4 Scheduled Generator Outage Cancellation Report

If the **ISO** issues a **directive** under this Section 5.3 to cancel a **scheduled generator outage** then the **ISO** must prepare a report and post it on the **ISO** website, which report will contain:

- (a) an explanation of the circumstances, background and chronological events that caused and are related to the issuance of the **directive** cancelling the **scheduled generator outage**;
- (b) the particulars of the **scheduled generator outage** that was cancelled, including date of cancellation, duration, and quantities (**MW**) affected;
- (c) any material market impacts known to the **ISO**;
- (d) whether the cancellation was a time and procedurally constrained one under Section 5.3.3, and the reasons for a decision to depart from any prescribed procedures set out in Section 5.3.1; and
- (e) any other matters that, in the **ISO's** opinion, will provide a full and complete explanation to all **market participants** of the decision taken.

5.4 Payment Eligibility for Incremental Generation Costs, and Claim Limitations

- (1) The designated **pool participant** or the **owner** of the **generating unit**, or both of them if different **persons**, that has had a **scheduled generator outage** cancelled by a **directive** under these **ISO rules** is eligible as a claimant for an **incremental generation costs** payment in accordance with the provisions and procedures of this section 5.4.
- (2) Subject to subsection (9) below, the **ISO** must pay any **incremental generation costs** payment to the designated **pool participant** or the **owner** of the **generating unit**, or both if different **persons**, whose **scheduled generator outage** has been canceled by a **directive** from the **ISO** pursuant to section 5.3.
- (3) Within forty days after the end of the **settlement period** related to the period during which the **directive** was effective, the claimant under this Section 5.4 must provide the **ISO** with a written statement which contains the detailed information of the claim and calculation of **incremental generation costs** as incurred and caused by the cancellation, to the extent those details and calculations are known or estimable as of the date of delivery of the statement to the **ISO**.
- (4) If any detailed information or calculations are not known or estimable as of the date of delivery of the statement, then in the statement the claimant must provide an estimate of the date by which any of the outstanding information or calculations will be finally determined and delivered to the **ISO**.
- (5) The claimant must provide the **ISO** with a supplementary written statement setting out all outstanding information or calculations as soon as reasonably practicable after the delivery of the original statement, but in any event no later than one (1) year after the end of the settlement period related to the period during which the cancellation **directive** was effective.
- (6) The claimant must provide to the **ISO** any and all of the claimant's own and third party supporting data, records, invoices, formulas, calculations, third party contract claims and related terms and conditions, and any other information or materials used to calculate or determine the amounts claimed in the statement or any supplementary statement, plus any other detail and information as may be reasonably requested by the **ISO** in order to verify the subject **incremental generation costs**, claims, calculations and particulars.
- (7) Once the submission and related materials are filed with the **ISO** and any information deficiencies have been met by the claimant, the **ISO** approval of the compensation and settlement in respect of any **incremental generation costs** will occur on or before the fortieth (40th) **day** following the **day** of the receipt by the **ISO** of the last of the initial statement, supplementary statement, or deficiency materials.
- (8) If there is any dispute between a claimant and the **ISO**, in respect of an **incremental generation cost** claim for compensation then the matter will be resolved in accordance with the provisions of applicable **ISO rules**.
- (9) If the claimant has been issued a **directive** to cancel a **scheduled generator outage** but is eligible for compensation for such cancellation pursuant to the provisions of a **transmission must run** contract with the **ISO**, then the claimant will not be eligible for **incremental generation cost** claims under this Section 5.4.
- (10) No incremental generation cost claim by any claimant may include:

- (a) any costs or claims associated with or related to the claimant's market or hedging portfolio, other than those allowed under subsection (iv) (B) of the definition of incremental generation costs which limits such costs and claims to the generating unit which is the subject of the directive;
- (b) any form of lost opportunity costs, or other form of loss of profits, revenue, earnings or revenue not specifically provided for in the definition of **incremental generation costs**;
- (c) any raw material, fuel, processing, production, manufacturing or industrial costs of any nature which are not directly related to the generating unit's participation in the energy market;
- (d) any fixed costs; or
- (e) any costs or claims that otherwise could have been mitigated by the claimant through all reasonable efforts.

5.5 Payment and Cost Recovery

- (1) The calculation by the **ISO** of the payment for **incremental generation costs** incurred due to the cancellation of a **scheduled generator outage** of a **generating unit** will be based on the information provided to the **ISO** by the claimant in accordance with the provisions of Section 5.4.
- (2) The **incremental generation costs** paid to a claimant for an approved claim by a **pool participant** who has been issued a **directive** to cancel a **scheduled generator outage** will be an **ancillary service** cost.

5.6 Forecast Dispatch Price

The **ISO** will use reasonable efforts to publish a **forecast dispatch price** for each **settlement interval** no later than seventy (70) minutes prior to the start of such **settlement interval**.

5.6.1 Determination of Forecast Dispatch Price

The **forecast dispatch price** for a **settlement interval** is the highest **forecast asset marginal price** of all **assets** forecast to be required to meet the forecast **load** requirement, using the expected **energy market merit order** for the **settlement interval** including **importer operating blocks** and the **ISO** expected import **available transfer capacity** for the **interconnections** for the **settlement interval**.

5.6.2 Determination of Forecast Asset Marginal Price

The **forecast asset marginal price** for a **pool participant's asset** for each **settlement interval** will be set at the price specified for the **price block** in the **pool participant's offer** or **bid** from the **pool participant** which corresponds to the forecast **energy market dispatch** level of the **asset** to meet the forecast **load** requirement.