

ISO Rules

Part 300 System Reliability and Operations

Division 304 Routine Operations

Section 304.8 Event Analysis



Applicability

- 1 Section 304.8 applies to:
 - (a) the **legal owner** and **operator** of a **transmission facility**;
 - (b) the **legal owner** and **operator** of an **electric distribution system**;
 - (c) the **legal owner** and **operator** of a facility that provides **ancillary services**;
 - (d) the **legal owner** and **operator** of a **generating unit** or **energy storage resource** that:
 - (i) is not part of an **aggregated facility**;
 - (ii) has a **maximum authorized real power** rating greater than 4.5 MW; and
 - (iii) is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat, including a **generating unit** or **energy storage resource** situated within an industrial complex that is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat;
 - (e) the **legal owner** or **operator** of an **aggregated facility** that:
 - (i) has a **maximum authorized real power** rating greater than 4.5 MW; and
 - (ii) is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat, including an **aggregated facility** situated within an industrial complex that is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat;(collectively referred to as the "Responsible Entities")and
- (f) the **ISO**.

Requirements

Requirements to Perform Event Analysis

- 2(1) The **ISO** may conduct an event analysis of an event listed in Appendix 1.
- (2) The **ISO** may conduct an event analysis for an event that is not listed in Appendix 1 where:
 - (a) the **ISO** determines that an analysis is necessary to evaluate the impact of an event on the reliable operation of the **interconnected electric system**; or
 - (b) the **NERC** or the **WECC** request an event analysis report.
- (3) The **ISO** may categorize the event using the highest applicable category in Appendix 1 where Category 1 is the lowest and Category 5 is the highest.

Event Analysis Requests

- 3 The **ISO** may request a brief report, an event analysis report, or both from a Responsible Entity while conducting an event analysis.

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Responsible Entity Reporting

- 4(1)** A Responsible Entity must provide the **ISO** with a report requested in accordance with subsection 3:
- (a) in a manner the **ISO** specifies; and
 - (b) within 10 **business days** if the **ISO** requests a brief report; and
 - (c) within 30 **business days** if the **ISO** requests an event analysis report or within the time the **ISO** specifies if the **ISO** provides an extension pursuant to subsection 4(2).
- (2)** A Responsible Entity may make written request, including all relevant supporting documentation, that the **ISO** provide an extension to the time frames indicated in subsection 4(1)
- (a) to allow for system restoration; or
 - (b) to allow the Responsible Entity to obtain accurate and complete information regarding the event.
- (3)** The **ISO** must respond, in writing, to an extension request made in accordance with subsection 4(2) within 3 **business days** of receiving the request.

Review

- 5(1)** The **ISO** may, upon reviewing a brief report or event analysis report provided in accordance with subsection 4, request that the Responsible Entity provide additional information as required to complete the event analysis within a specified time frame.
- (2)** A Responsible Entity must, upon receiving a request from the **ISO** under subsection 5(1) and within the time frame specified in the request:
- (a) provide the **ISO** with the requested information; or
 - (b) notify the **ISO**, in writing, of the reasons for which the requested information is not available or the specified time frame cannot be met.

ISO Reporting

- 6** The **ISO** may, after reviewing the reports provided in accordance with subsection 4 and subsection 5, decide to author additional reports.

Event Analysis Recommendations

- 7(1)** The **ISO** may, after completing a report under subsection 6, identify:
- (a) the Responsible Entity required to implement each recommendation in the report; and
 - (b) an implementation date for each recommendation in the report.
- (2)** The **ISO** may:
- (a) provide a copy of a report issued under subsection 6 to each Responsible Entity identified under subsection 7(1); and
 - (b) notify each Responsible Entity identified under subsection 7(1), in writing, of the implementation date for each recommendation applicable to that Responsible Entity.
- (3)** The **ISO** and each Responsible Entity identified under subsection 7(1) must, subject to subsection 7(2), treat a report provided under subsection 7(2)(a) as confidential.

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- (4) Each Responsible Entity identified under subsection 7(1) must implement each applicable recommendation by resolving the outstanding issues associated with each recommendation on or before the implementation date.
- (5) Each Responsible Entity identified in subsection 7(1) must provide the **ISO** with:
- (a) notification that the recommendation has been implemented in accordance with subsection 7(4) within 5 **business days** following such implementation, or
 - (b) a revised implementation date at least 5 **business days** before the implementation date the **ISO** identifies in subsection 7(2)(b), if the recommendation cannot be implemented in accordance with subsection 7(4).

Lessons Learned

- 8(1) The **ISO** may complete a “Lessons Learned” document which includes the following information:
- (a) high level details of the event;
 - (b) corrective actions for possible future events; and
 - (c) a list of lessons learned from the event.
- (2) A “Lessons Learned” document must not contain any of the following information:
- (a) names of **market participants**;
 - (b) names of facilities;
 - (c) the date on which the event occurred; and
 - (d) to the extent practicable, any other information that would otherwise permit the identification of a **market participant** or facilities.
- (3) The **ISO** may publish the “Lessons Learned” document on the AESO website.

Requirement to Report to the NERC and the WECC

9 The **ISO** may forward the reports and documents described in this Section 304.8 to the **NERC** and the **WECC**.

Appendices

Appendix 1 – Event Categories

Revision History

| Date | Description |
|------------|--|
| 2024-04-01 | Amended, as approved in Commission Decision 28176-D01-2023 issued on June 13, 2023. |
| 2020-09-16 | Revised to add subsections 1(i)(ii) and 1(j)(i). Administrative amendments. |
| 2018-04-30 | Initial release |

Appendix 1
Event Categories

Category 1: An event that results in one or more of the following:

- (a) An unexpected sustained outage caused by a common **disturbance** and contrary to design of any combination of 3 or more **transmission facilities, aggregated facilities, generating units, or energy storage resources** with an aggregate supply of 500 MW to 1,999 MW at the time of the outage.
- (b) Failure or **misoperation** of a **remedial action scheme**.
- (c) A system wide voltage reduction of 3% or more that lasts more than 15 continuous minutes due to an emergency on the **interconnected electric system**.
- (d) Unintended separation within the **interconnected electric system** that results in an island of 100 MW to 999 MW. Excludes **transmission system** radial connections, and **electric distribution system** level islanding.
- (e) The loss of monitoring or control that significantly affects a Responsible Entity's ability to make operating decisions for 30 continuous minutes or more, including:
 - (i) loss of **operator** ability to remotely monitor or control;
 - (A) elements of the **bulk electric system**;
 - (B) an **aggregated facility, generating unit, or energy storage resource** that is directly connected to the **transmission system** energized at 100 kV or higher;
 - (ii) loss of communications from supervisory and data acquisition remote terminal units for a substation rated 69 kV and above;
 - (iii) unavailability of inter-**control centre** protocol links reducing **bulk electric system** visibility
 - (iv) loss of the ability to remotely monitor and control an **aggregated facility, generating unit, or energy storage resource** providing **regulating reserves**; or
 - (v) state estimator or **contingency** analysis failing to solve at a **control centre** for:
 - (A) the **ISO**; or
 - (B) the **operator** of a **transmission facility**.

Category 2: An event that results in one or more of the following:

- (a) Complete loss, for 30 minutes or more, of all voice communication systems for a **control centre** including a **control centre** for:
 - (i) the **ISO**;
 - (ii) the **operator** of a **transmission facility** (that controls **transmission facilities** at 2 or more locations); or
 - (iii) the **operator** of either one or both of a **generating unit** and **energy storage resource** (that controls either one or both of **generating units** and **energy storage resources** at 2 or more locations).

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- (b) Operating voltage excursions at the **point of connection** equal to or greater than 10% lasting more than 15 continuous minutes.
- (c) Unintended separation within the **interconnected electric system** that results in an island of 1,000 MW to 4,999 MW.
- (d) Unintended loss of 300 MW or more of **firm load** for more than 15 minutes.
- (e) Interconnection reliability operating limit T_v violation.

Category 3: An event that results in one or more of the following:

- (a) Unintended loss of supply or demand of **real power** within the **interconnected electric system** of 2,000 MW to 5,000 MW.
- (b) Unintended separation within the **interconnected electric system** that results in an island of 5,000 to 10,000 MW. Excludes the loss of **interconnections**.

Category 4: An event that results in one or more of the following:

- (a) Unintended loss of supply or demand of **real power** within the **interconnected electric system** of 5,001 MW to 9,999 MW.
- (b) Unintended separation within the **interconnected electric system** that results in an island of more than 10,000 MW. Excludes the loss of **interconnections**.

Category 5: An event that results in one or more of the following:

- (a) Unintended loss of demand within the **interconnected electric system** of 10,000 MW or more.
- (b) Unintended loss of supply within the **interconnected electric system** of 10,000 MW or more.