

# 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 **operator** of a **transmission facility**;
  - (b) the **operator** of an **electric distribution system**;
  - (c) the **operator** of a facility that provides **ancillary services**;
  - (d) the **operator** of a **generating unit** that:
    - (i) is not part of an **aggregated generating 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** 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 **operator** of an **aggregated generating 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 generating facility** situated within an industrial complex that is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat;
  - (f) the **legal owner** of a **transmission facility**;
  - (g) the **legal owner** of an **electric distribution system**;
  - (h) the **legal owner** of a facility that provides **ancillary services**;
  - (i) the **legal owner** of a **generating unit** that:
    - (i) is not part of an **aggregated generating facility**; ~~and~~
    - (ii) has a maximum authorized real power rating greater than 4.5 MW; and
    - ~~(ii)(iii)~~ is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat, including a **generating unit** situated within an industrial complex that is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat;
  - (j) the **legal owner** of an **aggregated generating facility** that:
    - (i) has a maximum authorized real power rating greater than 4.5 MW
    - (ii) is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat, including an **aggregated generating 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
- (k) the **ISO**.

# ISO Rules

## Part 300 System Reliability and Operations

### Division 304 Routine Operations

#### Section 304.8 Event Analysis

#### 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) an event analysis report is requested by the **NERC** or the **WECC**.
- (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 or an event analysis report or both from a Responsible Entity while conducting an event analysis.

##### 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 specified by the **ISO**;
  - (b) within ~~ten (10)~~ **business days** if the **ISO** requests a brief report; and
  - (c) within ~~thirty (30)~~ **business days** if the **ISO** requests an event analysis report.
- (2)** Notwithstanding subsection 4(1), a Responsible Entity may request, in writing, including all relevant supporting documentation, that the **ISO** provide an extension to the time frames indicated in subsections 4(1)(b) and 4(1)(c):
- (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 ~~three (3)~~ **business days** of receiving the request.

##### Review

- 5(1)** Upon reviewing a brief report or event analysis report provided in accordance with subsection 4, the **ISO** may 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 Rules

## Part 300 System Reliability and Operations

### Division 304 Routine Operations

#### Section 304.8 Event Analysis

#### ISO Reporting

**6(1)** 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) advise each Responsible Entity identified under subsection 7(1), in writing, of the implementation date for each recommendation applicable to that Responsible Entity.

**(3)** Subject to subsection 7(2), the **ISO** and each Responsible Entity identified under subsection 7(1) must treat a report provided under subsection 7(2)(a) as confidential.

**(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 **five (5) business days** following such implementation, or
- (b) a revised implementation date at least **five (5) business days** before the implementation date identified by the **ISO** 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.

# ISO Rules

## Part 300 System Reliability and Operations

### Division 304 Routine Operations

#### Section 304.8 Event Analysis



#### 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
<u>XXXX-XX-XX</u>	<u>Revised to add subsections 1(i)(ii) and 1(j)(i).</u> <u>Administrative amendments.</u>
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 three ~~(3)~~ or more **transmission facilities, aggregated generating facilities** or **generating units** with an aggregate generation 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 ~~fifteen (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 ~~thirty (30)~~ continuous minutes or more, including:
  - (i) loss of **operator** ability to remotely monitor or control elements of the **bulk electric system, aggregated generating facilities** or **generating units** connected to the **bulk electric system**;
  - (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 **generating units** 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 ~~thirty (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 two ~~(2)~~ or more locations); or
  - (iii) the **operator** of a **generating unit** (that controls **generating units** at two ~~(2)~~ or more locations).
- (b) Operating voltage excursions at the **point of connection** equal to or greater than 10% lasting more than ~~fifteen (15)~~ continuous minutes.
- (c) Unintended separation within the **interconnected electric system** that results in an island of 1,000 MW to 4,999 MW.

# ISO Rules

## Part 300 System Reliability and Operations

### Division 304 Routine Operations

#### Section 304.8 Event Analysis



- (d) Unintended loss of 300 MW or more of firm load for more than ~~fifteen (15)~~ minutes.
- (e) **Interconnection reliability operating limit Tv** violation.

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

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