

**TOP-003-5 — Operational Reliability Data**

---

**A. Introduction**

1. **Title: Operational Reliability Data**
2. **Number: TOP-003-5**
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
  - 4.1. Transmission Operator
  - 4.2. Balancing Authority
  - 4.3. Generator Owner
  - 4.4. Generator Operator
  - 4.5. Transmission Owner
  - 4.6. Distribution Provider
5. **Effective Date\*:** See BC Implementation Plan for Project 2019-06.

**B. Requirements and Measures**

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to:  
*[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
  - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
  - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
  - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
    - 1.3.1. Operating limitations based on:
      - 1.3.1.1. capability and availability;
      - 1.3.1.2. fuel supply and inventory concerns;
      - 1.3.1.3. fuel switching capabilities; and
      - 1.3.1.4. environmental constraints
    - 1.3.2. Generating unit(s) minimum:
      - 1.3.2.1. design temperature; or

- Page 246 of 255

**TOP-003-5 — Operational Reliability Data**

---

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
  - 5.2.** A mutually agreeable process for resolving data conflicts
  - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

The British Columbia Utilities Commission.

- 1.2. Evidence Retention:** The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

**TOP-003-5 — Operational Reliability Data**

- 1.3. Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

**Violation Severity Levels**

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR,

**TOP-003-5 — Operational Reliability Data**

						The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
--	--	--	--	--	--	--

**TOP-003-5 — Operational Reliability Data**

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Lower	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.  OR,  The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

**TOP-003-5 — Operational Reliability Data**

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.



**TOP-003-5 — Operational Reliability Data**

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

**TOP-003-5 — Operational Reliability Data****D. Regional Variances**

None.

**E. Interpretations**

None.

**F. Associated Documents**

BC Implementation Plan for Project 2019-06.

**Version History**

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1		Modified R1.2 Modified M1  Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
4	June 11, 2021	Board approved	Project 2019-06 Cold Weather

4	August 24, 2021	FERC approved TOP –003-5 Docket No. RD21-5-000, Order	
4	August 24, 2021	April 1, 2023	Effective Date

## British Columbia Utilities Commission

### Implementation Plan for Cold Weather Associated Standards

#### Applicable Standard(s)

- EOP-011-2 – Emergency Preparedness and Operations
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

#### Requested Retirement(s)

- EOP-011-1 – Emergency Operations
- IRO-010-3 – Reliability Coordinator Data Specification and Collection
- TOP-003-4 – Operational Reliability Data

#### Applicable Entities

- See subject Reliability Standards.

#### Background

In July 2019, FERC and NERC staff released a joint report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018*.<sup>1</sup> Following the publication of the report, a Standard Authorization Request<sup>2</sup> was submitted to review and address the recommendations in the report, including:

1. Generator Owner or Generator Operator develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations, which may include:
  - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather;
  - b. Implementing freeze protection measures; and
  - c. Performing periodic maintenance and inspection of freeze protection measures.
2. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner or Generator Operator will provide its BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather.

---

<sup>1</sup> Link to report: [https://www.nerc.com/pa/rrm/ea/Documents/South\\_Central\\_Cold\\_Weather\\_Event\\_FERC-NERC-Report\\_20190718.pdf](https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf)

<sup>2</sup> Link to SAR: [https://www.nerc.com/pa/Stand/Project%20201906%20Cold%20Weather%20DL/2019-06\\_Cold\\_Weather\\_SAR\\_Clean\\_02192020.pdf](https://www.nerc.com/pa/Stand/Project%20201906%20Cold%20Weather%20DL/2019-06_Cold_Weather_SAR_Clean_02192020.pdf)

3. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in their data specifications that the Generator Owner or Generator Operator will provide a notification when local forecasted cold weather conditions are expected to limit BES generating unit capability or availability.
4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop their Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.

The Reliability Standard revisions proposed by this project will help enhance the reliability of the Bulk Power System during cold weather events, and mitigate the potential for generating unit unavailability due to lack of preparation for cold weather periods by providing increased visibility of cold weather related data to the Reliability Coordinators, Balancing Authorities, and Transmission Operators, and by requiring a baseline level of cold weather planning and preparation by Generator Owners.

### **General Considerations**

This implementation plan provides that entities shall have eighteen months to become compliant with the revised Reliability Standards. This implementation plan reflects consideration that entities will need time to develop, implement, and maintain cold weather preparedness plan(s) for its generating site(s). In addition, entities may need time identifying cold weather operating temperatures through engineering studies as permitted under Reliability Standard EOP-011-2. This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities, and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

### **Effective Dates**

#### **Reliability Standard EOP-011-2**

The Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the BCUC order approving the Reliability Standard.

#### **Reliability Standard IRO-010-4**

The Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the BCUC order approving the Reliability Standard.

#### **Reliability Standard TOP-003-5**

The Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the BCUC order approving the Reliability Standard.

### **Retirement Dates**

#### **Reliability Standard EOP-011-1**

Reliability Standard EOP-011-1 shall be retired immediately prior to the effective date of Reliability Standard EOP-011-2 in British Columbia.

#### **Reliability Standard IRO-010-3**

Reliability Standard IRO-010-3 shall be retired immediately prior to the effective date of Reliability Standard IRO-010-4 in British Columbia.

**Reliability Standard TOP-003-4**

Reliability Standard TOP-003-4 shall be retired immediately prior to the effective date of Reliability Standard TOP-003-5 in British Columbia.

**Initial Performance of Periodic Requirements**

Responsible Entities shall develop, maintain, and implement the Operating Plan(s) required by Reliability Standard EOP-011-2 by the effective date of the Reliability Standard. For the cold weather preparedness plan(s) for generating unit(s) required under EOP-011-2 Requirement R7, the Responsible Entity shall perform annual inspection and maintenance of generating unit freeze protection measures under EOP-011-2 Requirement R7 Part 7.2 and conduct generating unit specific training for its maintenance and operations personnel under EOP-011-2 Requirement R8 by the effective date of the Reliability Standard.