

## A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-4
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
  - 4.1. Reliability Coordinator
  - 4.2. Balancing Authority
  - 4.3. Generator Owner
  - 4.4. Generator Operator
  - 4.5. Transmission Operator
  - 4.6. Transmission Owner
  - 4.7. Distribution Provider
5. **Effective Date\*:** See BC Implementation Plan for Project 2019-06.

## B. Requirements

- R1. The Reliability Coordinator 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: Low) (Time Horizon: Operations Planning)*
  - 1.1. A list of data and information needed by the Reliability Coordinator 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 Reliability Coordinator.
  - 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**1.3.2.2.** historical operating temperature; or**1.3.2.3.** current cold weather performance temperature determined by an engineering analysis.**1.4.** A periodicity for providing data.**1.5.** The deadline by which the respondent is to provide the indicated data.

**M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.

**R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)

**M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This 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.

**R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)

**3.1.** A mutually agreeable format**3.2.** A mutually agreeable process for resolving data conflicts**3.3.** A mutually agreeable security protocol

**M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. 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 CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each 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:

The Reliability Coordinator 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 for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

#### 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	Moderate	High	Severe
<b>R1</b>	Operations Planning	Low	The Reliability Coordinator 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 Reliability Coordinator 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 Reliability Coordinator 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 Reliability Coordinator 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, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
For the Requirement R2 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.						
<b>R2</b>	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 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 Reliability Coordinator's Operational Planning Analyses, and Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 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 Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Real-time Assessments.	Real-time Assessments.	Real-time Assessments.
<b>R3</b>	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

**IRO-010-3 — Reliability Coordinator Data Specification and Collection****D. Regional Variances**

None

**E. Interpretations**

None

**F. Associated Documents**

BC Implementation Plan for Project 2019-06.

**Version History**

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06 Cold Weather
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	
4	June 11, 2021	Adopted by NERC Board of Trustees	Revisions under Project 2019-06
4	August 24, 2021	FERC approved IRO-010-4 Docket No. RD21-5-000	
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.

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<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.