

### A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-2
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. Load-Serving Entity.
  - 4.6. Transmission Operator.
  - 4.7. Transmission Owner.
  - 4.8. Distribution Provider.
5. **Proposed Effective Date:**

See Implementation Plan.
6. **Background**

See Project 2014-03 [project page](#).

### 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 Special Protection System status or degradation that impacts System reliability.
  - 1.3. A periodicity for providing data.
  - 1.4. 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, Load-Serving Entity, 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, Load-Serving Entity, 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**

As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

#### **1.2 Compliance Monitoring and Assessment Processes**

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” 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.

**1.3. Data Retention**

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, 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, Interchange Authority, Load-Serving Entity, 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.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

**1.4. Additional Compliance Information**

None.

Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
<b>R1</b>	Operations Planning	Low	The Reliability Coordinator did not include one of the parts (Part 1.1 through Part 1.4) 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 two of the parts (Part 1.1 through Part 1.4) 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 1.4) 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 1.4) 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.
<p>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.</p>						
<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 Real-time	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	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 Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Assessments.	monitoring, and Real-time Assessments.	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.

**D. Regional Variances**

None

**E. Interpretations**

None

**F. Associated Documents**

None

**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

### Guidelines and Technical Basis

#### **Rationale:**

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

#### **Rationale for Definitions:**

Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

#### **Rationale for Applicability Changes:**

Changes were made to applicability based on IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.

The Interchange Authority was removed because activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.

The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard.

#### **Rationale:**

#### **Proposed Requirement R1, Part 1.1:**

Is in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.

#### **Proposed Requirement R1, Part 1.2:**

Is in response to NOPR paragraph 78 on relay data.

#### **Proposed Requirement R3, Part 3.3:**



Is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.

Corresponding changes have been made to proposed TOP-003-3.

**\* FOR INFORMATIONAL PURPOSES ONLY \***

**Enforcement Dates: Standard IRO-010-2 — Reliability Coordinator Data Specification and Collection**

**United States**

Standard	Requirement	Enforcement Date	Inactive Date
IRO-010-2	All		

This standard has not yet been approved by the applicable regulatory authority.

## Appendix QC-IRO-010-2 Provisions specific to the standard IRO-010-2 applicable in Québec

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This appendix establishes specific provisions for the application of the standard in Québec. Provisions of the standard and of its appendix must be read together for the purposes of understanding and interpretation. Where the standard and appendix differ, the appendix shall prevail.

### A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection

2. **Number:** IRO-010-2

3. **Purpose:** No specific provision

4. **Applicability :**

#### Functions

No specific provision

#### Facilities

The data specification in this standard can specify data requirements for RTP facilities and non-RTP facilities designated in accordance with R1 and meeting at least one of the following criteria:

- Facility with a voltage of 44 kV or more connected to a Transmission System ;
- Production facility with a capacity of 50 MVA or more connected to a Transmission System ;
- Distribution facilities with a peak capacity of over 25 MW connected to a Transmission System.

5. **Effective Date :**

5.1. Adoption of the standard by the Régie de l'énergie: Month xx, 201x

5.2. Adoption of the appendix by the Régie de l'énergie: Month xx, 201x

5.3. Effective date of the standard and its appendix in Québec:

Requirements	Effective date in Québec
R1 and R2	April 1st 2017
R3	July 1st 2017

This standard must be effective at the same time as the modification of the glossary terms Operational Planning Analysis and Real-time Assessment.

6. **Background :**

No specific provision

### B. Requirements

No specific provision

### C. Compliance

1. **Compliance Monitoring Process**

Appendix QC-IRO-010-2

Provisions specific to the standard IRO-010-2 applicable in Québec

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**1.1. Compliance Enforcement Authority**

The Régie de l'énergie is responsible, in Québec, for compliance enforcement with respect to the reliability standard and its appendix that it adopts.

**1.2. Compliance Monitoring and Assessment Processes**

No specific provision

**1.3. Data Retention**

No specific provision

**1.4. Additional Compliance Information**

No specific provision

**2. Table of Compliance Elements**

No specific provision

**D. Regional Variances**

No specific provision

**E. Interpretations**

No specific provision

**F. Associated Documents**

No specific provision

**Version History**

Revision	Adoption Date	Action	Change Tracking
0	Month xx, 201x	New appendix	New