

Preliminary assessment of the relevance and impact of the standards:**IRO-008-1 – Reliability Coordinator Operational Analyses and Real-time Assessments****IRO-009-1 – Reliability Coordinator Actions to Operate within IROLs****IRO-010-1a – Reliability Coordinator Data Specification and Collection****A. Relevance of the standards to be filed**

This assessment applies to the standards IRO-008-1, IRO-009-1 and IRO-010-1a. The purpose of these standards is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the interconnection by ensuring that the bulk electric system is assessed in real-time and short-term operating environments, that prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs) is taken, and that the reliability coordinator has the data it needs to monitor and assess the operation of its reliability coordinator area.

To achieve these objectives, the requirements of the standards shall address the following aspects :

- Performing short-term and real-time transmission reliability analyses relative to the identified operating limits;
- Operating processes, procedures or plans that identify actions to mitigate an instance of exceeding operating limits;
- Respect of the established operating limits;
- The reliability coordinator's documented specification for data and information to build and maintain models to support real-time monitoring, operational planning analyses, and real-time assessments of its reliability coordinator area;
- Communication and dissemination of specific operational actions that are needed to prevent or mitigate an instance of exceeding an IROL with those entities that are expected to take action.

B. Applicability

The standards IRO-008 and IRO-009 apply to the reliability coordinator.

The standard IRO-010-1a applies to the reliability coordinator, the balancing authority, the generator owners, the generator operators, the interchange authorities, the load-serving entities, the transmission operator and the transmission owners.

C. Relevance for special provisions for Quebec (Appendix QC-IRO-008-1, Appendix QC-IRO-009-1, Appendix QC-IRO-010-1a)

These standards apply to the main transmission system which represents the network monitored by the reliability coordinator in Quebec.

D. Preliminary assessment of the impact of the adoption of the standard in Quebec

The standards IRO-008-1 and IRO-009-1 apply to the reliability coordinator; only the System Control Direction of Hydro-Québec TransÉnergie is affected by its application in Quebec.

The impact of the standard IRO-010-1 is low to moderate given that the documented specification for data and information used to build and maintain the models is generally an established practice with the entities covered in this standard.

Summary of impacts

This summary establishes in a condensed and preliminary manner, the impacts on material, human or financial resources of the proposed standard compared to the latest revision studied or adopted by the Régie de l'énergie. The impact may vary depending on the actual applicability of the standard with certain entities whose impact is lower on the reliability on the bulk electric system in Quebec.

IRO-008-1

	Low	Moderate	Important
Implementation of the standard	●		
Maintenance of the standard	●		
Compliance Monitoring	●		

IRO-009-1

	Low	Moderate	Important
Implementation of the standard		●	
Maintenance of the standard	●		
Compliance Monitoring	●		

IRO-010-1a

	Low	Moderate	Important
Implementation of the standard		●	
Maintenance of the standard	●		
Compliance Monitoring	●		

Legend:

Low:	Normal industry practice or standard involving minor adjustments to processes or practices in place.
Moderate:	Changes that require an allocation of certain material, human or financial resources to implement, maintain and monitor compliance of the proposed standard.
Important:	Changes that require significant provision and allocation of material, human or financial resources to implement, maintain and monitor compliance of the proposed standard.

A more accurate assessment will be developed from forms "Evaluation of the impacts of proposed standards" to be received from the registered entities during the comment period. This assessment will be submitted with the standard to the Régie de l'énergie.

A. Introduction

- 1. Title:** Reliability Coordinator Data Specification and Collection
- 2. Number:** IRO-010-1a
- 3. Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection 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.** Interchange Authority.
 - 4.6.** Load-Serving Entity.
 - 4.7.** Transmission Operator.
 - 4.8.** Transmission Owner.
- 5. Proposed Effective Date:** In those jurisdictions where no regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after BOT adoption.

In those jurisdictions where regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after applicable regulatory approval.

B. Requirements

- R1.** The Reliability Coordinator shall have a documented specification for data and information to build and maintain models to support Real-time monitoring, Operational Planning Analyses, and Real-time Assessments of its Reliability Coordinator Area to prevent instability, uncontrolled separation, and cascading outages. The specification shall include the following: (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
 - R1.1.** List of required data and information needed by the Reliability Coordinator to support Real-Time Monitoring, Operational Planning Analyses, and Real-Time Assessments.
 - R1.2.** Mutually agreeable format.
 - R1.3.** Timeframe and periodicity for providing data and information (based on its hardware and software requirements, and the time needed to do its Operational Planning Analyses).
 - R1.4.** Process for data provision when automated Real-Time system operating data is unavailable.

- R2.** The Reliability Coordinator shall distribute its data specification to entities that have Facilities monitored by the Reliability Coordinator and to entities that provide Facility status to the Reliability Coordinator. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- R3.** Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning; Same-day Operations; Real-time Operations*)

C. Measures

- M1.** The Reliability Coordinator shall have, and make available upon request, a documented data specification that contains all elements identified in Requirement R1.
- M2.** The Reliability Coordinator shall have, and make available upon request, evidence that it distributed its data specification to entities that have Facilities monitored by the Reliability Coordinator and to entities that provide Facility status to the Reliability Coordinator. This evidence could include, but is not limited to, dated paper or electronic notice used to distribute its data specification showing recipient, and data or information requested or other equivalent evidence. (R2)
- M3.** The Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Reliability Coordinator, Transmission Operator and Transmission Owner shall each have, and make available upon request, evidence to confirm that it provided data and information, as specified in Requirement R3. This evidence could include, but is not limited to, dated operator logs, dated voice recordings, dated computer printouts, dated SCADA data, or other equivalent evidence.

D. Compliance

1. Compliance Monitoring Process

1.1.Compliance Enforcement Authority

For Reliability Coordinators and other functional entities that work for the Regional Entity, the ERO shall serve as the Compliance Enforcement Authority.

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

1.2.Compliance Monitoring Period and Reset Time Frame

Not applicable.

1.3. Compliance Monitoring and Enforcement Processes

Compliance Audits

Self-Certifications

Spot Checking

Compliance Violation Investigations

Self-Reporting

Complaints

1.4.Data Retention

The Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Reliability Coordinator, Transmission Operator and Transmission Owner, 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 current, in force data specification for Requirement R1, Measure M1.

The Reliability Coordinator shall keep evidence of its most recent distribution of its data specification and evidence to show the data supplied in response to that specification for Requirement R2, Measure M2 and Requirement R3 Measure M3.

For data that is requested in accordance with Requirement R2, the Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Reliability Coordinator, Transmission Operator and Transmission Owner shall keep evidence used to show compliance with Requirement R3 Measure M3 for the Reliability Coordinator's most recent data specification for a rolling 90 calendar days.

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

1.5. Additional Compliance Information

1.5.1 None.

2. Violation Severity Levels

Requirement	Lower	Moderate	High	Severe
R1	Data specification is complete with the following exception: Missing the mutually agreeable format. (R1.2)	Data specification is complete with the following exception – no process for data provision when automated Real-Time system operating data is unavailable. (R1.4)	Data specification incomplete (missing either the list of required data (R1.1), or the timeframe for providing data. (R1.3)	No data specification (R1)
R2	Distributed its data specification to greater than or equal to 95% but less than 100% of the entities that have Facilities monitored by the Reliability Coordinator and the entities that provide the Reliability Coordinator with Facility status.	Distributed its data specification to greater than or equal to 85% but less than 95% of the entities that have Facilities monitored by the Reliability Coordinator and the entities that provide the Reliability Coordinator with Facility status. (R2)	Distributed its data specification to greater than or equal to 75% - but less than 85% of the entities that have Facilities monitored by the Reliability Coordinator and the entities that provide the Reliability Coordinator with Facility status. (R2)	Data specification distributed to less than 75% of the entities that have Facilities monitored by the Reliability Coordinator and the entities that provide the Reliability Coordinator with Facility status. (R2)
R3	Provided greater than or equal to 95% but less than 100% of the data and information as specified. (R3)	Provided greater than or equal to 85% but less than 95% of the data and information as specified. (R3)	Provided greater than or equal to 75% but less than 85% of the data and information as specified. (R3)	Provided less than 75% of the data and information as specified. (R3)

E. Regional Variances

None

F. Associated Documents

1. Appendix 1 – Interpretation of Requirements R1.2 and R3

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)	

Appendix 1

Interpretation of Requirements R1.2 and R3

Text of Requirements R1.2 and R3

- R1.** The Reliability Coordinator shall have a documented specification for data and information to build and maintain models to support Real-time monitoring, Operational Planning Analyses, and Real-time Assessments of its Reliability Coordinator Area to prevent instability, uncontrolled separation, and cascading outages. The specification shall include the following:
- R1.1.** List of required data and information needed by the Reliability Coordinator to support Real-Time Monitoring, Operational Planning Analyses, and Real-Time Assessments.
 - R1.2.** Mutually agreeable format.
 - R1.3.** Timeframe and periodicity for providing data and information (based on its hardware and software requirements, and the time needed to do its Operational Planning Analyses).
 - R1.4.** Process for data provision when automated Real-Time system operating data is unavailable.
- R3.** Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship.

Question 1

Does the phrase, “as specified” in Requirement R3 reference the documented data and information specification in IRO-010-1 Requirement R1, or is the data and information in Requirement R3 “any” data and information that the Reliability Coordinator might request?

Response: The data to be supplied in Requirement R3 applies to the documented specification for data and information referenced in Requirement R1.

Question 2

Is the intent of Requirement R3 to have each responsible entity provide its own data and information to its Reliability Coordinator, or is the intent to have responsible entities provide aggregated data (collected and compiled from other entities at the direction of the Reliability Coordinator) to the Reliability Coordinator?

Response: The intent of Requirement R3 is for each responsible entity to ensure that its data and information (as stated in the documented specification in Requirement R1) are provided to the Reliability Coordinator.

Another entity may provide that data or information to the Reliability Coordinator on behalf of the responsible entity, but the responsibility remains with the responsible entity. There is neither intent nor obligation for any entity to compile information from other entities and provide it to the Reliability Coordinator.

Question 3

Under Requirement R1.2, what actions (on the part of the Reliability Coordinator) are expected to support the “mutually acceptable format” for submission of data and information?

Response: Requirement R1.2 mandates that the parties will reach a mutual agreement with respect to the format of the data and information. If the parties can not mutually agree on the format, it is expected that they will negotiate to reach agreement or enter into dispute resolution to resolve the disagreement.

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-010-1a
- 3. Purpose:** No specific provision
- 4. Applicability:** No specific provision
- 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: Month xx 201x
- 6. Scope:** Main Transmission System

B. Requirements

No specific provision

C. Measures

No specific provision

D. Compliance

1. Compliance Monitoring Process

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 Period and Reset Time Frame

No specific provision

1.3. Compliance Monitoring and Enforcement Processes

No specific provision

1.4. Data Retention

No specific provision

1.5. Additional Compliance Information

No specific provision

2. Violation Severity Levels

No specific provision

E. Regional Differences

No specific provision

F. Associated Documents

No specific provision

Version History of the Appendix

Version	Date	Action	Change Tracking
0			New