

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 Operational Analyses and Real-time Assessments
2. **Number:** IRO-008-1
3. **Purpose:** 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 during the operations horizon.
4. **Applicability**
 - 4.1. Reliability Coordinator.
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.** Each Reliability Coordinator shall perform an Operational Planning Analysis to assess whether the planned operations for the next day within its Wide Area, will exceed any of its Interconnection Reliability Operating Limits (IROLs) during anticipated normal and Contingency event conditions. (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning*)
- R2.** Each Reliability Coordinator shall perform a Real-Time Assessment at least once every 30 minutes to determine if its Wide Area is exceeding any IROLs or is expected to exceed any IROLs. (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)
- R3.** When a Reliability Coordinator determines that the results of an Operational Planning Analysis or Real-Time Assessment indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL, the Reliability Coordinator shall share its results with those entities that are expected to take those actions. (*Violation Risk Factor: Medium*) (*Time Horizon: Real-time Operations or Same Day Operations*)

C. Measures

- M1.** The Reliability Coordinator shall have, and make available upon request, the results of its Operational Planning Analyses.
- M2.** The Reliability Coordinator shall have, and make available upon request, evidence to show it conducted a Real-Time Assessment at least once every 30 minutes. This evidence could include, but is not limited to, dated computer log showing times the assessment was conducted, dated checklists, or other evidence.

- M3.** The Reliability Coordinator shall have and make available upon request, evidence to confirm that it shared the results of its Operational Planning Analyses or Real-Time Assessments with those entities expected to take actions based on that information. This evidence could include, but is not limited to, dated operator logs, dated voice recordings, dated transcripts of voice records, dated facsimiles, or other evidence.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

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

For Reliability Coordinators 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 Reliability Coordinator 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:

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

The Reliability Coordinator shall retain evidence for Requirement R1, Measure M1 and Requirement R2, Measure M2 for a rolling 30 days. The Reliability Coordinator shall keep evidence for Requirement R3, Measure M3 for a rolling three months.

1.5. Additional Compliance Information

None.

2. Violation Severity Levels

Requirement	Lower	Moderate	High	Severe
R1	Performed an Operational Planning Analysis that covers all aspects of the requirement for all except one of 30 days. (R1)	Performed an Operational Planning Analysis that covers all aspects of the requirement for all except two of 30 days. (R1)	Performed an Operational Planning Analysis that covers all aspects of the requirement for all except three of 30 days. (R1)	Missed performing an Operational Planning Analysis that covers all aspects of the requirement for four or more of 30 days. (R1)
R2	For any sample 24 hour period within the 30 day retention period, a Real-time Assessment was not conducted for one 30-minute period. within that 24-hour period (R2)	For any sample 24 hour period within the 30 day retention period, Real-time Assessments were not conducted for two 30-minute periods within that 24-hour period (R2)	For any sample 24 hour period within the 30 day retention period, Real-time Assessments were not conducted for three 30-minute periods within that 24-hour period (R2)	For any sample 24 hour period within the 30 day retention period, Real-time Assessments were not conducted for more than three 30-minute periods within that 24-hour period (R2)
R3		Shared the results with some but not all of the entities that were required to take action (R3)		Did not share the results of its analyses or assessments with any of the entities that were required to take action (R3).

E. Regional Variances

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving IRO-008-1 (approval effective 5/23/11)	

Appendix QC-IRO-008-1
Provisions specific to the standard IRO-008-1 applicable in Québec

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 Operational Analyses and Real-time Assessments
- 2. Number:** IRO-008-1
- 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 (MTS)

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 Timeframe

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

Standard IRO-008-1 — Reliability Coordinator Operational Analyses and Real-time Assessments

Appendix QC-IRO-008-1
Provisions specific to the standard IRO-008-1 applicable in Québec

E. Regional Differences

No specific provision

F. Associated Documents

No specific provision

Version History of the Appendix

Version	Date	Action	Change Tracking
0			New