

Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs

A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-1
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
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.

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B. Requirements

- R1. For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) that can be implemented in time to prevent exceeding those IROLs. (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning or Same Day Operations*)
- R2. For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) to mitigate the magnitude and duration of exceeding that IROL such that the IROL is relieved within the IROL's T_v . (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning or Same Day Operations*)
- R3. When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Reliability Coordinator shall implement one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) to prevent exceeding that IROL. (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

***Mandatory BC effective date: April 15, 2013 per BCUC Order R-1-13**

Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs

- R4.** When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's T_v . (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)
- R5.** If unanimity cannot be reached on the value for an IROL or its T_v , each Reliability Coordinator that monitors that Facility (or group of Facilities) shall, without delay, use the most conservative of the values (the value with the least impact on reliability) under consideration. (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

C. Measures

- M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating instances of exceeding IROLs in accordance with Requirement R1 and Requirement R2. This evidence shall include a list of any IROLs (and each associated T_v) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that that will be used.
- M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3 and Requirement R4. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.
- M3.** For a situation where Reliability Coordinators disagree on the value of an IROL or its T_v the Reliability Coordinator shall have, and make available upon request, evidence to confirm that it used the most conservative of the values under consideration, without delay. Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence. (R5)

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

The British Columbia Utilities Commission

1.2. Compliance Monitoring Period and Reset Time Frame

Not applicable.

1.3. Compliance Monitoring and Enforcement Processes

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Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs

Compliance Audits
Self-Certifications
Spot Checking
Compliance Violation Investigations
Self-Reporting
Complaints
Exception Reporting

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 Reliability Coordinator shall retain evidence of Requirement R1, Requirement R2, and Measure M1, for a rolling 12 months.

The Reliability Coordinator shall retain evidence of Requirement R3, Requirement R4, Requirement R5, Measure M2, and Measure M3 for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all IROL Violation Reports submitted since the last audit.

1.5. Additional Compliance Information

Exception Reporting: For each instance of exceeding an IROL for time greater than IROL T_v , the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.

Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs

2. Violation Severity Levels

Requirement	Lower	Moderate	High	Severe
R1				An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL. (R1)
R2				An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL's T _v . (R2)
R3				An assessment of actual or expected system conditions predicted that an IROL in the Reliability Coordinator's Area would be exceeded, but

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Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs

Requirement	Lower	Moderate	High	Severe
				no Operating Processes, Procedures, or Plans were implemented. (R3)
R4			Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL T_v . (R4)	Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and that IROL was not resolved within the IROL's T_v . (R4)
R5	Not applicable.	Not applicable.	Not applicable.	There was a disagreement on the value of the IROL or its T_v and the most conservative limit under consideration was not used. (R5)

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Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs (Page 6 of 7)

Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs

E. Regional Variances

None

F. Associated Documents

IROL Violation Report

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-009-1 (approval effective 5/23/11)	

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