

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

1. SAC approves SAR for posting (March 20, 2002).
2. Drafting team posts draft SAR for comment periods (April 2–May 3, 2002) (February 14–March 17, 2003)
3. SAC approves development of standard (May 21, 2003)
4. JIC assigns development of standard to NERC (June 2, 2003)
5. Drafting team posts drafts for comment (January 16–March 1, 2004) (June 2–July 2, 2004)
6. Drafting team posts Implementation Plan for comment (July 8–August 8, 2005)

Description of Current Draft:

The drafting team is posting draft 5 for a 30-day pre-ballot review.

Future Development Plan:

Anticipated Actions

Anticipated Date

- | | |
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| 1. Final versions of standards, V0 retirements/revisions and implementation plan posted for 30-day pre-ballot review. | September 1–30, 2005 |
| 2. First ballot. | October 1–10, 2005 |
| 3. Drafting team considers comments and makes any revisions indicated. | October 11–October 20, 2005 |
| 4. Recirculation ballot. | October 21–October 31, 2005 |
| 5. Thirty-day posting before board adoption. | October 1–30, 2005 |
| 6. Board adopts standard. | November 1, 2005 |
| 7. Effective date. | November 1, 2006 |

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

Adverse Reliability Impact: The impact of an event that results in frequency-related instability; unplanned tripping of load or generation; or uncontrolled separation or cascading outages that affects a widespread area of the Interconnection. (From Balance Resources and Demand standard.)

Operating Plan: A document that identifies a group of activities that may be used to achieve some goal. An Operating Plan may contain Operating Procedures and Operating Processes. A company-specific system restoration plan that includes an Operating Procedure for black-starting units, Operating Processes for communicating restoration progress with other entities, etc., is an example of an Operating Plan.

Operating Procedure: A document that identifies specific steps or tasks that should be taken by one or more specific operating positions to achieve specific operating goal(s). The steps in an Operating Procedure should be followed in the order in which they are presented, and should be performed by the position(s) identified. A document that lists the specific steps for a system operator to take in removing a specific transmission line from service is an example of an Operating Procedure.

Operating Process: A document that identifies general steps for achieving a generic operating goal. An Operating Process includes steps with options that may be selected depending upon real-time conditions. A guideline for controlling high voltage is an example of an Operating Process.

Real-time: Present time as opposed to future time. (From Interconnection Reliability Operating Limits standard.)

Reliability Coordinator Area: The collection of generation, transmission, and loads within the boundaries of the Reliability Coordinator. Its boundary coincides with one or more Balancing Authority Areas.

Scenario: Possible event.

A. Introduction

- 1. Title:** Procedures, Processes, or Plans to Support Coordination Between Reliability Coordinators
- 2. Number:** IRO-014-1
- 3. Purpose:** To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.
- 4. Applicability**
 - 4.1. Reliability Coordinator**
- 5. Proposed Effective Date:** November 1, 2006

B. Requirements

- R1.** The Reliability Coordinator shall have Operating Procedures, Processes, or Plans in place for activities that require notification, exchange of information or coordination of actions with one or more other Reliability Coordinators to support Interconnection reliability. These Operating Procedures, Processes, or Plans shall address Scenarios that affect other Reliability Coordinator Areas as well as those developed in coordination with other Reliability Coordinators.
 - R1.1.** These Operating Procedures, Processes, or Plans shall collectively address, as a minimum, the following:
 - R1.1.1.** Communications and notifications, including the conditions¹ under which one Reliability Coordinator notifies other Reliability Coordinators; the process to follow in making those notifications; and the data and information to be exchanged with other Reliability Coordinators.
 - R1.1.2.** Energy and capacity shortages.
 - R1.1.3.** Planned or unplanned outage information.
 - R1.1.4.** Voltage control, including the coordination of reactive resources for voltage control.
 - R1.1.5.** Coordination of information exchange to support reliability assessments.
 - R1.1.6.** Authority to act to prevent and mitigate instances of causing Adverse Reliability Impacts to other Reliability Coordinator Areas.
- R2.** Each Reliability Coordinator's Operating Procedure, Process, or Plan that requires one or more other Reliability Coordinators to take action (e.g., make notifications, exchange information, or coordinate actions) shall be:
 - R2.1.** Agreed to by all the Reliability Coordinators required to take the indicated action(s).
 - R2.2.** Distributed to all Reliability Coordinators that are required to take the indicated action(s).

¹ Examples of conditions when one Reliability Coordinator may need to notify another Reliability Coordinator may include (but aren't limited to) sabotage events, Interconnection Reliability Operating Limit violations, voltage reductions, insufficient resources, arming of special protection systems, etc.

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- R3.** A Reliability Coordinator's Operating Procedures, Processes, or Plans developed to support a Reliability Coordinator-to-Reliability Coordinator Operating Procedure, Process, or Plan shall include:
 - R3.1.** A reference to the associated Reliability Coordinator-to-Reliability Coordinator Operating Procedure, Process, or Plan.
 - R3.2.** The agreed-upon actions from the associated Reliability Coordinator-to-Reliability Coordinator Operating Procedure, Process, or Plan.
- R4.** Each of the Operating Procedures, Processes, and Plans addressed in Reliability Standard IRO-014 Requirement 1 and Requirement 3 shall:
 - R4.1.** Include version control number or date.
 - R4.2.** Include a distribution list.
 - R4.3.** Be reviewed, at least once every three years, and updated if needed.

C. Measures

- M1.** The Reliability Coordinator's System Operators shall have available for real-time use, the latest approved version of Operating Procedures, Processes, or Plans that require notifications, information exchange or the coordination of actions between Reliability Coordinators.
 - M1.1** These Operating Procedures, Processes, or Plans shall address:
 - M1.1.1** Communications and notifications, including the conditions under which one Reliability Coordinator notifies other Reliability Coordinators; the process to follow in making those notifications; and the data and information to be exchanged with other Reliability Coordinators.
 - M1.1.2** Energy and capacity shortages.
 - M1.1.3** Planned or unplanned outage information.
 - M1.1.4** Voltage control, including the coordination of reactive resources for voltage control.
 - M1.1.5** Coordination of information exchange to support reliability assessments.
 - M1.1.6** Authority to act to prevent and mitigate instances of causing Adverse Reliability Impacts to other Reliability Coordinator Areas.
- M2.** The Reliability Coordinator shall have evidence that these Operating Procedures, Processes, or Plans were:
 - M2.1** Agreed to by all the Reliability Coordinators required to take the indicated action(s).
 - M2.2** Distributed to all Reliability Coordinators that are required to take the indicated action(s).
- M3.** The Reliability Coordinator's Operating Procedures, Processes, or Plans developed (for its System Operators' internal use) to support a Reliability Coordinator-to-Reliability Coordinator Operating Procedure, Process, or Plan received from another Reliability Coordinator shall:
 - M3.1** Be available to the Reliability Coordinator's System Operators for real-time use,
 - M3.2** Include a reference to the associated source document, and
 - M3.3** Support the agreed-upon actions from the source document.

- M4.** The Reliability Coordinator’s Operating Procedures, Processes, or Plans that addresses Reliability Coordinator-to-Reliability Coordinator coordination shall each include a version control number or date and a distribution list. The Reliability Coordinator shall have evidence that these Operating Procedures, Processes, or Plans were reviewed within the last three years.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organization

1.2. Compliance Monitoring Period and Reset Time Frame

The Performance-Reset Period shall be one calendar year.

1.3. Data Retention

The Reliability Coordinator shall keep documentation for the prior calendar year and the current calendar year. The Compliance Monitor shall keep compliance data for a minimum of three years or until the Reliability Coordinator has achieved full compliance, whichever is longer.

1.4. Additional Compliance Information

The Reliability Coordinator shall demonstrate compliance through self-certification submitted to its Compliance Monitor annually. The Compliance Monitor shall also use a scheduled on-site review at least once every three years and investigations upon complaint. The Compliance Monitor shall conduct an investigation upon a complaint within 30 days of the alleged infraction’s discovery date. The Compliance Monitor shall complete the investigation within 45 days after the start of the investigation. As part of an audit or investigation, the Compliance Monitor shall interview other Reliability Coordinators to identify Operating Procedures, Processes or Plans that were distributed to the Reliability Coordinator being audited to verify that these documents are available for real-time use by the receiving Reliability Coordinator’s System Operators.

The Reliability Coordinator shall have the following documents available for inspection during an on-site audit or within five business days of a request as part of an investigation upon a complaint:

- 1.4.1** The latest version of its Operating Procedures, Processes, or Plans that require notification, exchange of information, or coordination of actions with one or more other Reliability Coordinators to support Interconnection reliability.
- 1.4.2** Evidence of distribution of Operating Procedures, Processes, or Plans.

2. Levels of Non-Compliance

- 2.1. Level 1:** There shall be a level one non-compliance if either of the following conditions is present:
 - 2.1.1** The latest versions of Operating Procedures, Processes, or Plans (identified through self-certification) that require notification, exchange of information, or coordination of actions with one or more other Reliability Coordinators to support Interconnection reliability do not include a version control number or date, and a distribution list.
 - 2.1.2** The latest versions of Reliability Coordinator internal documents developed to support action(s) required as a result of other Reliability Coordinators do not include

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both a reference to the source Operating Procedure, Process, or Plan and the agreed-upon actions from the source Operating Procedure, Process, or Plan.

- 2.2. **Level 2:** There shall be a level two non-compliance if any of the following conditions is present:
 - 2.2.1 Documents required by this standard were not distributed to all entities on the distribution list.
 - 2.2.2 Documents required by this standard were not available for System Operators’ real-time use.
 - 2.2.3 Documents required by this standard do not address all required topics.
- 2.3. **Level 3:** Documents required by this standard do not address any of the six required topics in Reliability Standard IRO-014 R1.
- 2.4. **Level 4:** Not Applicable.

E. Regional Differences

None Identified.

Version History

Version	Date	Action	Change Tracking
Version 1	08/10/05	1. Changed incorrect use of certain hyphens (-) to “en dash (–).” 2. Changed Anticipated Action #5, page 1, from “30-day” to “Thirty-day.” 3. Hyphenated “30-day” when used as adjective. 4. Changed standard header to be consistent with standard “Title.” 5. Initial capped heading “Definitions of Terms Used in Standard.” 6. Added “periods” to items where appropriate. 7. Changed “Timeframe” to “Time Frame” in item D, 1.2. 8. Lower cased all words that are not “defined” terms — drafting team, real-time, self-certification. 9. Changed apostrophes to “smart” symbols. 10. Added comma in all word strings “Procedures, Processes, or Plans,” etc. 11. Added hyphens to “Reliability Coordinator-to-Reliability Coordinator” where used as adjective. 12. Removed comma in item 2.1.2.	01/20/06

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		13. Removed extra spaces between words where appropriate.	

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Anticipated Actions

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None introduced in this standard.

A. Introduction

- 1. Title:** Notifications and Information Exchange Between Reliability Coordinators
- 2. Number:** IRO-015-1
- 3. Purpose:** To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an adverse reliability impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.
- 4. Applicability**
 - 4.1. Reliability Coordinators**
- 5. Proposed Effective Date:** November 1, 2006

B. Requirements

- R1.** The Reliability Coordinator shall follow its Operating Procedures, Processes, or Plans for making notifications and exchanging reliability-related information with other Reliability Coordinators.
 - R1.1.** The Reliability Coordinator shall make notifications to other Reliability Coordinators of conditions in its Reliability Coordinator Area that may impact other Reliability Coordinator Areas.
- R2.** The Reliability Coordinator shall participate in agreed upon conference calls and other communication forums with adjacent Reliability Coordinators.
 - R2.1.** The frequency of these conference calls shall be agreed upon by all involved Reliability Coordinators and shall be at least weekly.
- R3.** The Reliability Coordinator shall provide reliability-related information as requested by other Reliability Coordinators.

C. Measures

- M1.** The Reliability Coordinator shall have evidence (such as operator logs or other data sources) it has followed its Operating Procedures, Processes, or Plans for notifying other Reliability Coordinators of conditions in its Reliability Coordinator Area that may impact other Reliability Coordinator Areas.
- M2.** The Reliability Coordinator shall have evidence (such as operator logs or other data sources) that it participated in agreed upon (at least weekly) conference calls and other communication forums with adjacent Reliability Coordinators.
- M3.** The Reliability Coordinator shall have evidence that it provided requested reliability-related information to other Reliability Coordinators.

D. Compliance

- 1. Compliance Monitoring Process**
 - 1.1. Compliance Monitoring Responsibility**

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1.2. Compliance Monitoring Period and Reset Time Frame

The performance reset period shall be one calendar year.

1.3. Data Retention

The Reliability Coordinator shall keep auditable documentation for a rolling 12 months. The Compliance Monitor shall keep compliance data for a minimum of three years or until the Reliability Coordinator has achieved full compliance — whichever is longer.

1.4. Additional Compliance Information

The Reliability Coordinator shall demonstrate compliance through self-certification submitted to its Compliance Monitor annually. The Compliance Monitor shall also use a scheduled on-site review at least once every three years and investigations upon complaint. The Compliance Monitor shall conduct an investigation upon a complaint within 30 days of the alleged infraction’s discovery date. The Compliance Monitor shall complete the investigation within 45 days after the start of the investigation. As part of an audit or an investigation, the Compliance Monitor shall interview other Reliability Coordinators within the Interconnection and verify that the Reliability Coordinator being audited or investigated has been making notifications and exchanging reliability-related information according to agreed Operating Procedures, Processes, or Plans.

The Reliability Coordinator shall have the following available for its Compliance Monitor to inspect during a scheduled, on-site review or within five days of a request as part of an investigation upon complaint:

- 1.4.1** Evidence it has participated in agreed-upon conference calls or other communications forums.
- 1.4.2** Operating logs or other data sources that document notifications made to other Reliability Coordinators.

2. Levels of Non-Compliance

- 2.1. Level 1:** Did not participate in agreed upon (at least weekly) conference calls and other communication forums with adjacent Reliability Coordinators.
- 2.2. Level 2:** Did not notify other Reliability Coordinators as specified in its Operating Procedures, Processes, or Plans for making notifications but no Adverse Reliability Impacts resulted from the incident.
- 2.3. Level 3:** Did not provide requested reliability-related information to other Reliability Coordinators.
- 2.4. Level 4:** Did not notify other Reliability Coordinators as specified in its Operating Procedures, Processes, or Plans for making notifications and adverse reliability impacts resulted from the incident.

E. Regional Differences

None Identified.

Version History

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		<p>dash (-).”</p> <ol style="list-style-type: none"> 2. Changed Anticipated Action #5, page 1, from “30-day” to “Thirty-day.” 3. Hyphenated “30-day” and reliability-related when used as adjective. 4. Changed standard header to be consistent with standard “Title.” 5. Added “periods” to items where appropriate. 6. Initial capped heading “Definitions of Terms Used in Standard.” 7. Changed “Timeframe” to “Time Frame” in item D, 1.2. 8. Lower cased all words that are not “defined” terms — drafting team, real-time, self-certification, adverse reliability impact, and performance reset period. 9. Changed apostrophes to “smart” symbols. 10. Added comma in all word strings “Procedures, Processes, or Plans,” etc. 11. Added hyphens to “Reliability Coordinator-to-Reliability Coordinator” where used as adjective. 12. Removed comma in item 2.1.2. 13. Removed extra spaces between words where appropriate. 	

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None introduced in this standard.

A. Introduction

1. **Title:** Coordination of Real-time Activities Between Reliability Coordinators
2. **Number:** IRO-016-1
3. **Purpose:** To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an adverse reliability impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.
4. **Applicability**
 - 4.1. Reliability Coordinator
5. **Proposed Effective Date:** November 1, 2006

B. Requirements

- R1. The Reliability Coordinator that identifies a potential, expected, or actual problem that requires the actions of one or more other Reliability Coordinators shall contact the other Reliability Coordinator(s) to confirm that there is a problem and then discuss options and decide upon a solution to prevent or resolve the identified problem.
 - R1.1. If the involved Reliability Coordinators agree on the problem and the actions to take to prevent or mitigate the system condition, each involved Reliability Coordinator shall implement the agreed-upon solution, and notify the involved Reliability Coordinators of the action(s) taken.
 - R1.2. If the involved Reliability Coordinators cannot agree on the problem(s) each Reliability Coordinator shall re-evaluate the causes of the disagreement (bad data, status, study results, tools, etc.).
 - R1.2.1. If time permits, this re-evaluation shall be done before taking corrective actions.
 - R1.2.2. If time does not permit, then each Reliability Coordinator shall operate as though the problem(s) exist(s) until the conflicting system status is resolved.
 - R1.3. If the involved Reliability Coordinators cannot agree on the solution, the more conservative solution shall be implemented.
- R2. The Reliability Coordinator shall document (via operator logs or other data sources) its actions taken for either the event or for the disagreement on the problem(s) or for both.

C. Measures

- M1. For each event that requires Reliability Coordinator-to-Reliability Coordinator coordination, each involved Reliability Coordinator shall have evidence (operator logs or other data sources) of the actions taken for either the event or for the disagreement on the problem or for both.

D. Compliance

1. **Compliance Monitoring Process**
 - 1.1. **Compliance Monitoring Responsibility**

Regional Reliability Organization
 - 1.2. **Compliance Monitoring Period and Reset Time Frame**

The performance reset period shall be one calendar year.

1.3. Data Retention

The Reliability Coordinator shall keep auditable evidence for a rolling 12 months. In addition, entities found non-compliant shall keep information related to the non-compliance until it has been found compliant. The Compliance Monitor shall keep compliance data for a minimum of three years or until the Reliability Coordinator has achieved full compliance, whichever is longer.

1.4. Additional Compliance Information

The Reliability Coordinator shall demonstrate compliance through self-certification submitted to its Compliance Monitor annually. The Compliance Monitor shall use a scheduled on-site review at least once every three years. The Compliance Monitor shall conduct an investigation upon a complaint that is received within 30 days of an alleged infraction’s discovery date. The Compliance Monitor shall complete the investigation and report back to all involved Reliability Coordinators (the Reliability Coordinator that complained as well as the Reliability Coordinator that was investigated) within 45 days after the start of the investigation. As part of an audit or investigation, the Compliance Monitor shall interview other Reliability Coordinators within the Interconnection and verify that the Reliability Coordinator being audited or investigated has been coordinating actions to prevent or resolve potential, expected, or actual problems that adversely impact the Interconnection.

The Reliability Coordinator shall have the following available for its Compliance Monitor to inspect during a scheduled, on-site review or within five working days of a request as part of an investigation upon complaint:

- 1.4.1 Evidence (operator log or other data source) to show coordination with other Reliability Coordinators.

2. Levels of Non-Compliance

- 2.1. **Level 1:** For potential, actual or expected events which required Reliability Coordinator-to-Reliability Coordinator coordination, the Reliability Coordinator did coordinate, but did not have evidence that it coordinated with other Reliability Coordinators.
- 2.2. **Level 2:** Not applicable.
- 2.3. **Level 3:** Not applicable.
- 2.4. **Level 4:** For potential, actual or expected events which required Reliability Coordinator-to-Reliability Coordinator coordination, the Reliability Coordinator did not coordinate with other Reliability Coordinators.

E. Regional Differences

None identified.

Version History

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Version 1	August 10, 2005	1. Changed incorrect use of certain hyphens (-) to “en dash (–).” 2. Changed Anticipated Action #5, page 1, from “30-day” to “Thirty-day.” 3. Hyphenated “30-day” and “Reliability	01/20/06

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