

## 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. Draft SAR Version 1 posted January 15, 2007
2. Draft SAR Version 1 Comment Period ended February 14, 2007
3. Draft SAR Version 2 and comment responses on SAR version 1 posted March 19, 2007
4. Draft Version 2 SAR comment period ended April 17, 2007
5. SAR version 2 and comment responses for SAR version 2 accepted by SC and SDT appointed in June 2007.
6. First posting of revised standards on August 5, 2008 with comment period closed on September 16, 2008.
7. Draft Version 2 of standards and response to comments September 16, 2008–May 26, 2009.
8. Second posting of revised standards on July 10, 2009 with comment period closed on August 9, 2009.
9. RC SDT coordinated with OPCP SDT and RTO SDT on definitions relating to directives and three part communication and Draft Version 3 of standards and response to comments August 9–November 20, 2009.
10. Third posting of revised standards on January 4, 2010 with comment period closed on February 3, 2010.

11. Initial Ballot conducted February 25 through March 7, 2011.

### Proposed Action Plan and Description of Current Draft:

The SDT began working on revisions to the standards in August 2007. The current posting contains revisions based on stakeholder comments on the ~~third draft~~ initial ballot. The team is posting for a ~~30 day pre-successive ballot review~~.

### Future Development Plan:

Anticipated Actions	Anticipated Date
1. <del>Respond to comments on third posting</del> <u>Post Standards for a successive ballot.</u>	<del>March 2010</del> <u>January-February 2012</u>
2. <del>Post Standards for pre-</del> <u>Respond to comments on Successive</u> ballot <del>period.</del>	<del>January 2011</del> <u>March - April 2012</u>

3. Standards posted for <del>initial and</del> recirculation <del>ballots</del> . <u>ballot</u>	<del>February 2011</del> <u>May 2012</u>
4. Standards <u>to be</u> sent to BOT for approval.	<del>March 2011</del> <u>June 2012</u>
5. Standards filed with regulatory authorities.	<del>June 2011</del> <u>August 2012</u>

### 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.*

**Interpersonal Communication:** Any ~~medium~~method~~medium~~ that allows two or more individuals to interact, consult, or exchange information.

**Alternative Interpersonal Communication:** Any ~~method~~ Interpersonal Communication that is able to serve as a substitute for, and ~~is redundant to normal Interpersonal Communication and~~ does not utilize the same infrastructure (medium) as, ~~normal~~ Interpersonal Communications used for day-to-day operation.

## A. Introduction

1. **Title:** Communications
2. **Number:** COM-001-2
3. **Purpose:** To ~~ensure that operating entities have adequate~~establish Interpersonal Communication capabilities for the exchange of Interconnection and operating information necessary to maintain reliability.
4. **Applicability:**
  - 4.1. Transmission ~~Operators.~~Operator
  - 4.2. Balancing ~~Authorities.~~Authority
  - 4.3. Reliability ~~Coordinators.~~Coordinator
  - 4.4. Distribution ~~Providers.~~Provider
  - 4.5. Generator ~~Operators.~~Operator
5. **Effective Date:** The first day of the ~~first~~second calendar quarter following applicable regulatory approval – or in those jurisdictions where no regulatory approval is required, the first day of the first calendar quarter following Board of Trustees adoption.

## B. Requirements

- ~~**R1.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall identify and test, on a quarterly basis, its Alternative Interpersonal Communications capability used for communicating real-time operating information. If the test is unsuccessful, the entity shall take action within 60 minutes to restore the identified alternative or identify a substitute Alternative Interpersonal Communications capability. [Violation Risk Factor: High][Time Horizon: Real-time Operations]~~
- R1.** Each Reliability Coordinator shall have Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information:~~  
[Violation Risk Factor: High][Time Horizon: Real-time Operations]:]
- R1.1.** All Transmission Operators, and Balancing Authorities ~~and Interchange Coordinators~~ within its Reliability Coordinator Area.
- R1.2.** Adjacent Reliability Coordinators within the same Interconnection.
- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information:~~ [Violation Risk Factor: High][Time Horizon: Real-time Operations]:]
- R2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
- R2.2.** Adjacent Reliability Coordinators within the same Interconnection.

- R3.** Each Transmission Operator shall have Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information;~~ *[Violation Risk Factor: High][Time Horizon: Real-time Operations]:*
- R3.1.** Its Reliability Coordinator.
  - R3.2.** Each Balancing Authority within its Transmission Operator Area.
  - R3.3.** Each Distribution Provider within its Transmission Operator Area.
  - R3.4.** Each Generator Operator within its Transmission Operator Area.
  - R3.5.** Adjacent Transmission Operators synchronously connected within the same Interconnection.
- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information;~~ *[Violation Risk Factor: High][Time Horizon: Real-time Operations]:*
- R4.1.** Its Reliability Coordinator.
  - R4.2.** Each Balancing Authority within its Transmission Operator Area.
  - R4.3.** Adjacent Transmission Operators synchronously connected within the same Interconnection.
- R5.** Each Balancing Authority shall have Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information;~~ *[Violation Risk Factor: High][Time Horizon: Real-time Operations]:*
- R5.1.** Its Reliability Coordinator.
  - R5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
  - R5.3.** Each Distribution Provider within its Balancing Authority Area.
  - R5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
  - ~~**R5.5.** Each Interchange Coordinator within its Balancing Authority area as well as adjacent Interchange Coordinators.~~
  - R5.5.** Adjacent Balancing Authorities.
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information;~~ *[Violation Risk Factor: High][Time Horizon: Real-time Operations]:*
- R6.1.** Its Reliability Coordinator.
  - R6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area).
  - R6.3.** Adjacent Balancing Authorities.

- R7.** Each Distribution Provider shall have Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information;~~ *[Violation Risk Factor: High][Time Horizon: Real-time Operations]*
- R7.1.** Its Transmission Operator.
- R7.2.** Its Balancing Authority.
- R8.** Each Generator Operator shall have Interpersonal Communications capability with the following entities ~~to exchange Interconnection and operating information;~~ *[Violation Risk Factor: High][Time Horizon: Real-time Operations]*
- R8.1.** ~~Its Balancing Authority.~~
- R8.2.** Its Transmission Operator.
- R9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall; ~~on at least a monthly basis;~~ test its Alternative Interpersonal Communications capability; at least once per calendar month. If the test is unsuccessful, the responsible entity shall initiate action to repair or designate a replacement Alternative Interpersonal Communications capability within 2 hours. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations]*
- R10.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority; ~~Distribution Provider, and Generator Operator~~ shall notify ~~impacted~~ entities as identified in Requirements R1 through R6 within 60 minutes of the detection of a failure of its Interpersonal Communications capabilities that lasts 30 minutes or longer. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations]*
- R11.** ~~Unless dictated by law or otherwise agreed to, each Reliability Coordinator, Each Distribution Provider and Generator Operator that experiences a failure of any of its Interpersonal Communication capabilities shall consult with their Transmission Operator; or Balancing Authority; Generator Operator, Transmission Service Provider, Load-Serving Entity, Purchasing-Selling Entity and Distribution Provider shall use English as the language applicable to determine a mutually agreeable time for communications between functional entities. the restoration of Interpersonal Communication capability.~~ *[Violation Risk Factor: Medium]++[Time Horizon: -Real-time Operations]* ~~[SCH]~~

### C. Measures

- M1.** Each Reliability Coordinator; ~~Transmission Operator, and Balancing Authority~~ shall have and provide upon request evidence that it has Interpersonal Communications capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with adjacent Reliability Coordinators within the same Interconnection. Evidence could include, but is not limited to:
- physical assets
  - dated equipment specifications and installation documentation
  - dated test records;
  - dated operator logs;

- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings;
- electronic communications;

~~M1.~~ \_\_\_\_\_ or equivalent, ~~that it identified and tested, on a quarterly basis, alternative Interpersonal Communications capabilities used for communicating real-time operating information. If the test was unsuccessful, the entity shall have and provide upon request evidence that it took action within 60 minutes to restore the identified alternative or identified a substitute Interpersonal Communications capability.~~ (R1.)

~~M1.~~ ~~Each Reliability Coordinator shall have and provide upon request evidence that could include, but is not limited to physical assets, dated equipment specifications and installation documentation, dated test records, dated operator logs, dated and timestamped voice recordings or dated and timestamped transcripts of voice recordings, electronic communications, or equivalent, that it has Interpersonal Communications capability with all Transmission Operators, Balancing Authorities and Interchange Coordinators within its Reliability Coordinator Area and with adjacent Reliability Coordinators within the same Interconnection.~~ (R1.)

~~M1.~~ M2. \_\_\_\_\_ Each Reliability Coordinator shall have and provide upon request evidence that could include, but is not limited to physical assets, dated equipment specifications and installation documentation, dated test records, dated operator logs, dated and timestamped voice recordings or dated and timestamped transcripts of voice recordings, electronic communications, or equivalent. Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communications capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with adjacent Reliability Coordinators within the same Interconnection. ~~(R2.)~~ Evidence could include, but is not limited to

- ~~Each Transmission Operator shall have and provide upon request evidence that could include, but is not limited to~~ physical assets;
- dated equipment specifications and installation documentation;
- dated test records;
- dated operator logs;
- dated and ~~timestamped~~ time-stamped voice recordings or dated and ~~timestamped~~ time-stamped transcripts of voice recordings;
- electronic communications;
- or equivalent; evidence. (R2.)

~~M2.~~ M3. \_\_\_\_\_ Each Transmission Operator shall have and provide upon request evidence that it has ~~a~~ Interpersonal Communications capability with its Reliability Coordinator, ~~with each Balancing Authority and each Distribution Provider and each Generator Operator and~~ within its Transmission Operator Area. ~~(R3.)~~ each Balancing

Authority, Distribution Provider and Generator Operator. Evidence could include, but is not limited to

- ~~Each Transmission Operator shall have and provide upon request evidence that could include, but is not limited to~~ physical assets;
- dated equipment specifications and installation documentation;
- dated test records;
- dated operator logs;
- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings,
- electronic communications;
- or equivalent, ~~that evidence.~~ (R3.)

~~M3.~~M4. Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communications capability with its Reliability Coordinator, and with each Balancing Authority within its Transmission Operator Area. ~~(R4.) and adjacent Transmission Operators synchronously connected within the same Interconnection. Evidence could include, but is not limited to~~

- ~~Each Balancing Authority shall have and provide upon request evidence that could include, but is not limited to~~ physical assets;
- dated equipment specifications and installation documentation;
- dated test records;
- dated operator logs;
- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings;
- electronic communications;
- or equivalent, evidence. (R4.)

M5. Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communications capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, each Generator Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority. Evidence could include, but is not limited to

- physical assets
- dated equipment specifications and installation documentation
- dated test records
- dated operator logs



- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings
- electronic communications
- or equivalent evidence . (R5)

~~M4.M6.~~ Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communications capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each Generator Operator that operates Facilities within its Balancing Authority Area and each Distribution Provider within its Balancing Authority Area, and each Interchange Coordinator within its Balancing Authority area as well as adjacent Interchange Coordinators. (R5)adjacent Balancing Authorities. Evidence could include, but is not limited to

- ~~Each Balancing Authority shall have and provide upon request evidence that could include, but is not limited to~~ physical assets;
- dated equipment specifications and installation documentation;
- dated test records;
- dated operator logs;
- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings;
- electronic communications;

~~M5.~~• \_\_\_\_\_ or equivalent, that it designated an Alternative Interpersonal Communications capability with its Reliability Coordinator and each Transmission Operator that operates Facilities within its Balancing Authority Area. evidence (R6)

~~M6.M7.~~ Each Distribution Provider shall have and provide upon request evidence that ~~could include, but is not limited to physical assets, dated equipment specifications and installation documentation, dated test records, dated operator logs, dated voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent,~~ that it has Interpersonal Communications capability with its Transmission Operator and its Balancing Authority. (R7) Evidence could include, but is not limited to

- ~~Each Generator Operator shall have and provide upon request evidence that could include, but is not limited to~~ physical assets;
- dated equipment specifications and installation documentation;
- dated test records;
- dated operator logs;
- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings;

- electronic communications;
- or equivalent; evidence (R7)

~~M7.~~M8. Each Generator Operator shall have and provide upon request evidence that that it has Interpersonal Communications capability with its Balancing Authority and its Transmission Operator. ~~(R8)~~ Evidence could include, but is not limited to

- ~~Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that could include, but is not limited to~~ physical assets
- dated equipment specifications and installation documentation
- dated test records;
- dated operator logs;
- dated and time-stamped voice recordings or dated and time-stamped transcripts of voice recordings;
- electronic communications;
- or equivalent; that evidence (R8)

~~M8.~~M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least on a monthly basis, its Alternative Interpersonal Communications capabilities designated in R2, R4 or R6. If the test was unsuccessful, the entity shall have and provide upon request evidence that it initiated action to repair or designated a replacement Alternative Interpersonal Communications ~~within 2 hours; capability within 2 hours.~~ Evidence could include, but is not limited to dated test records, dated operator logs, dated voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent evidence. (R9.)

M10. Each Reliability Coordinator, Transmission Operator, and Balancing Authority, shall have and provide upon request evidence that it notified impacted entities within 60 minutes of the detection of a failure of its Interpersonal Communications capabilities that lasted 30 minutes or longer. Evidence could include, but is not limited to dated operator logs, dated voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent evidence. (R10.)

~~M9.~~M11. Each Distribution Provider and Generator Operator shall have and provide upon request evidence that it consulted with their Transmission Operator or Balancing Authority as applicable to determine a mutually agreeable time to restore the Interpersonal Communication capability. Evidence could include, but is not limited to dated operator logs, dated voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent, ~~it notified impacted entities within 60 minutes of the detection of a failure of its Interpersonal Communications capabilities that lasted 30 minutes or longer.~~ (R10) evidence. (R11.)

M12.

## D. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority

##### ~~Regional Entity~~

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

For Reliability Coordinators that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

#### 1.2. Compliance Monitoring and Enforcement Processes

Compliance ~~Audits~~Audit

Self-~~Certifications~~Certification

Spot Checking

Compliance Violation ~~Investigations~~Investigation

Self-Reporting

~~Complaints~~

Complaint

#### 1.3. Data Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

The Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider and Generator Operator 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:

- o Each Reliability Coordinator, shall keep the most recent twelve months of historical data (evidence) for Requirements R1, R2, R9 and R10, Measures M1, M2, M9, and M10.
- o Each Transmission Operator, and shall keep the most recent twelve months of historical data (evidence) for Requirements R3, R4, R9 and R10, Measures M3, M4, M9 and M10.
- o Each Balancing Authority shall keep the most recent twelve months of historical data (evidence) for Requirements ~~R1, R2, R3, R4,~~ R5, R6, R9,

and R10, Measures ~~M1, M2, M3, M4~~, M5, M6, M9, and M10 ~~as applicable.~~

- Each Distribution Provider shall keep the most recent twelve months of historical data (evidence) for Requirements R7 and ~~R10~~R11, Measures M7 and ~~M10~~M11.
- Each Generator Operator shall keep the most recent twelve months of historical data (evidence) for Requirements R8 and ~~R10~~R11, Measures M8 and ~~M10~~M11.

If a Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider or Generator Operator is found non-compliant with a requirement, it shall keep information related to the noncompliance until the Compliance Enforcement Authority finds it compliant or for the time period specified above, whichever is longer.

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

#### **1.4. Additional Compliance Information**

None

**2. Violation Severity Levels**

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R4	<del>The responsible entity tested Alternative Interpersonal Communications capability but failed to take action within 60 minutes to restore the identified alternative</del>  OR <del>Failed to identify a substitute Alternative Interpersonal Communications capability</del>	N/A	N/A	<del>The responsible entity failed to test its Alternative Interpersonal Communications capability on a quarterly basis.</del>
R1	N/A	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 1.1 or 1.2.
R2	N/A	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communications capability with one or more of the entities listed in Parts 2.1 or 2.2.
R3	N/A	N/A	N/A	The Transmission Operator failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 3.1, 3.2, 3.3, <del>3.4</del> , or 3.45.
R4	N/A	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communications capability with one or more of the entities listed in Parts 4.1 or 4.2.

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	N/A	N/A	N/A	The Balancing Authority failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 5.1, 5.2, 5.3, 5.4 or 5.5.
R6	N/A	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communications capability with one or more of the entities listed in Parts 6.1, <del>6.2</del> or <del>6.23</del> .
R7	N/A	N/A	N/A	The Distribution Provider failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 7.1 or 7.2.
R8	N/A	N/A	N/A	The Generator Operator failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 8.1 or 8.2.
R9	The responsible entity tested the Alternative Interpersonal Communications capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communications <del>within</del> <u>in more than 2 hours and less than or equal to 4 hours.</u>	The responsible entity tested the Alternative Interpersonal Communications capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communications <del>within 42 hours</del> <u>in more than 4 hours and less than or equal to 6 hours.</u>	The responsible entity tested the Alternative Interpersonal Communications capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communications <del>within 24 hours</del> <u>in more than 6 hours and less than or equal to 8 hours.</u>	The responsible entity failed to test the Alternative Interpersonal Communications capability on at least a monthly basis.  OR The responsible entity tested the Alternative Interpersonal Communications capability and identified a problem but didn't initiate action to repair or designate a replacement Alternative Interpersonal Communications <del>within 2</del> <u>in more than</u>

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R10	<p>The responsible entity failed to notify the impacted entities in more than 60 minutes but less than or equal to 70 minutes.</p>	<p><del>The responsible entity notified at least one, but not all, impacted entities of the failure of its normal Interpersonal Communications capabilities within 60 minutes.</del></p> <p>OR</p> <p>The responsible entity failed to notify the impacted entities in more than 70 minutes but less than or equal to 80 minutes.</p> <p>OR</p> <p><u>The responsible entity notified at least one, but not all, impacted entities of the failure of its Interpersonal Communications capabilities within 60 minutes.</u></p>	<p>The responsible entity failed to notify the impacted entities in more than 80 minutes but less than or equal to 90 minutes.</p>	<p><u>8</u> hours.</p> <p><del>The responsible entity failed to notify any impacted entities of the failure of its normal Interpersonal Communications capabilities.</del></p> <p>OR</p> <p>The responsible entity failed to notify the impacted entities in more than 90 minutes.</p> <p>OR</p> <p><u>The responsible entity failed to notify any impacted entities of the failure of its Interpersonal Communications capabilities.</u></p>
<u>R11</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<p><u>The responsible entity failed to consult with their Transmission Operator or Balancing Authority as applicable to determine a mutually agreeable time to restore the Interpersonal Communication capability.</u></p>

**E. Regional Differences**

None identified.

**F. Associated Documents**

**Version History**

<b>Version</b>	<b>Date</b>	<b>Action</b>	<b>Change Tracking</b>
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1	November 1, 2006	Adopted by Board of Trustees	Revised
1	April 4, 2007	Regulatory Approval — Effective Date	New
1	April 6, 2007	Requirement 1, added the word “for” between “facilities” and “the exchange.”	Errata
2	TBD	Revised per SAR for Project 2006-06, RC SDT	Revised