

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.

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 ~~first~~third draft. The team is ~~seeking comments on the revised standards~~posting for a 30 day pre-ballot review.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Respond to comments on third posting	March 2010
2. Post Standards for pre-ballot period.	April 2010 <u>January 2011</u>
3. Standards posted for initial and recirculation ballots.	May 2010 <u>February 2011</u>
4. Standards sent to BOT for approval.	July 2010 <u>March</u>

Standard COM-001-2 — Communications

	<u>2011</u>
5. Standards filed with regulatory authorities.	September 2010 <u>June 2011</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 ~~method~~medium~~the~~ 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 Interpersonal Communication capabilities for the exchange of Interconnection and operating information necessary to maintain reliability.
4. **Applicability:**
 - 4.1. Transmission Operators.
 - 4.2. Balancing Authorities.
 - 4.3. Reliability Coordinators.
 - 4.4. Distribution Providers.
 - 4.5. Generator Operators.
 - ~~4.6. Transmission Service Providers.~~
 - ~~4.7. Load Serving Entities.~~
 - ~~4.8. Purchasing Selling Entities.~~
5. **Effective Date:** The first day of the first 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, 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 ~~and~~ 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.
- 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.
- 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.
- 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)
- 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. If the test is unsuccessful, the entity shall initiate action to repair or designate a replacement Alternative Interpersonal Communications within 2 hours. [Violation Risk Factor: Medium][Time Horizon: Real-time Operations]

R2,R10. Each Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider, and Generator Operator shall notify impacted entities within 60 minutes of the detection of a failure of its ~~normal~~ Interpersonal Communications capabilities that lasts 30 minutes or longer. [Violation Risk Factor: Medium][Time Horizon: Real-time Operations]

R3,R11. Unless dictated by law or otherwise agreed to, each Reliability Coordinator, Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load Serving Entity, Purchasing Selling Entity and Distribution Provider shall use English as the language for ~~all inter-entity Bulk Electric System (BES) reliability communications between and among operating personnel responsible for the real time generation control or operation of the interconnected BES functional entities.~~ [Violation Risk Factor: Medium] [Time Horizon: Real time Operations]

R4. Each Distribution Provider and Generator Operator shall have Interpersonal Communications capability with its Transmission Operator and Balancing Authority for the exchange of Interconnection and operating information. [Violation Risk Factor: High][Time Horizon: Real-time Operations]

Comment [SC1]: This requirement is being vetted by the OPCPSDT in COM-003. This requirement and measure will be removed from COM-001.

C. Measures

M1. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that could include, but is not limited to dated test records, operator logs, voice recordings or transcripts of voice recordings, electronic communications, 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, 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 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.)
- 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, 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.)
- M3.** 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 voice recordings or dated and timestamped transcripts of voice recordings, electronic communications, or equivalent, that it has a Interpersonal Communications capability with its Reliability Coordinator, with each Balancing Authority and each Distribution Provider and each Generator Operator within its Transmission Operator Area. (R3.)
- M4.** 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 voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent, that it designated an Alternative Interpersonal Communications capability with its Reliability Coordinator, and with each Balancing Authority within its Transmission Operator Area. (R4.)
- M5.** 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 voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent, that it has 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)
- M6.** 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 voice recordings or dated transcripts of voice recordings, electronic communications, 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. (R6)
- 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)

M8. 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 voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent, that it has Interpersonal Communications capability with its Balancing Authority and its Transmission Operator. (R8)

M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that 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, 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. (R9.)

M2-M10. Each Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider and Generator Operator shall have and provide upon request evidence that 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 ~~normal~~ Interpersonal Communications capabilities that lasted 30 minutes or longer. (R2R10.)

~~**M3.** Each Reliability Coordinator, Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load Serving Entity, Purchasing Selling Entity, and Distribution Provider shall have and provide upon request evidence that could include, but is not limited to operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent, that will be used to determine that its personnel used English as the language for all inter-entity BES reliability communications between and among operating personnel responsible for the real-time generation control or operation of the interconnected BES. If a language other than English is used, each party shall have and provide upon request evidence that could include, but is not limited to operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent, of agreement to use the alternate language or the law that requires the use of an alternate language. (R3.)~~

~~**M4.** Each Distribution Provider and Generator Operator shall have and provide upon request evidence that could include, but is not limited to operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent that it had Interpersonal Communications capabilities with its Transmission Operator and Balancing Authority for the exchange of Interconnection and operating information. (R4.)~~

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

Regional Entity

1.2. Compliance Monitoring and Enforcement Processes

Compliance Audits

Self-Certifications

Spot Checking

Compliance Violation Investigations

Self-Reporting

Complaints

1.3. Data Retention

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:

~~Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall keep the most recent three years of historical data (evidence) for Requirement R1, Measure M1.~~

Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall keep the most recent twelve months of historical data (evidence) for ~~Requirement R2, Measure M2,~~ Requirements R1, R2, R3, R4, R5, R6, R9 and R10, Measures M1, M2, M3, M4, M5, M6, M9 and M10 as applicable..

~~Each Reliability Coordinator, Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load Serving Entity, Purchasing-Selling Entity, and Distribution Provider shall keep evidence for Requirement R3, Measure M3 for the most recent 3twelve months- of historical data (evidence) for Requirements R7 and R10, Measures M7 and M10.~~

Each Generator Operator shall keep the most recent twelve months of historical data (evidence) for Requirements R8 and R10, Measures M8 and M10.

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.

~~Each Distribution Provider and Generator Operator shall keep the most recent three years of historical data (evidence) for Requirement R4, Measure M4.~~

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	The responsible entity tested Alternative Interpersonal Communications capability but failed to take action within 60 minutes to restore the identified alternative OR Failed to identify a substitute Alternative Interpersonal Communications capability	N/A	N/A	The responsible entity failed to test its Alternative Interpersonal Communications capability on a quarterly basis.
R1	N/A	N/A	N/A	<u>The Reliability Coordinator failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 1.1 or 1.2.</u>
R2	N/A	N/A	N/A	<u>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.</u>
R3	N/A	N/A	N/A	<u>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 or 3.4.</u>
R4	N/A	N/A	N/A	<u>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.</u>

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
<u>R5</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>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.</u>
<u>R6</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Balancing Authority failed to designate Alternative Interpersonal Communications capability with one or more of the entities listed in Parts 6.1 or 6.2.</u>
<u>R7</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Distribution Provider failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 7.1 or 7.2.</u>
<u>R8</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Generator Operator failed to have Interpersonal Communications capability with one or more of the entities listed in Parts 8.1 or 8.2.</u>
<u>R9</u>	<u>The responsible entity tested the Alternative Interpersonal Communications capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communications within 2 hours.</u>	<u>The responsible entity tested the Alternative Interpersonal Communications capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communications within 12 hours.</u>	<u>The responsible entity tested the Alternative Interpersonal Communications capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communications within 24 hours.</u>	<u>The responsible entity failed to test the Alternative Interpersonal Communications capability on at least a monthly basis.</u> <u>OR</u> <u>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 within</u>

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
				<u>2 hours.</u>
R2 <u>R10</u>	The responsible entity failed to notify the impacted entities in more than 60 minutes but less than or equal to 70 minutes.	The responsible entity notified at least one, but not all, impacted entities of the failure of its normal Interpersonal Communications capabilities within 60 minutes. OR The responsible entity failed to notify the impacted entities in more than 70 minutes but less than or equal to 80 minutes.	The responsible entity failed to notify the impacted entities in more than 80 minutes but less than or equal to 90 minutes.	The responsible entity failed to notify any impacted entities of the failure of its normal Interpersonal Communications capabilities within 60 minutes. OR The responsible entity failed to notify the impacted entities in more than 90 minutes.
R3	N/A	N/A	N/A	The responsible entity failed to provide evidence of legal requirements or concurrence to use a language other than English for communications between and among operating personnel responsible for the real-time generation control or operation of the interconnected BES when a language other than English was used.
R4	N/A	N/A	The responsible entity failed to have Interpersonal Communications capability with its Transmission Operator or Balancing Authority.	The responsible entity failed to have Interpersonal Communications capability with its Transmission Operator and Balancing Authority.

E. Regional Differences

None identified.

F. Associated Documents

Version History

Version	Date	Action	Change Tracking
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