

## Implementation Plan and Mapping Document

### COM-001-2 Communications

#### Requested Approval

COM-001-2 – Communications

Definition: Interpersonal Communication

Definition: Alternative Interpersonal Communication

#### Requested Retirement

COM-001-1.1 – Telecommunications, except Requirement R4

Requirement R4 is being revised for inclusion in Standard COM-003-1, Operating Personnel Communications Protocols and will be requested for retirement upon the effective date COM-003-1.

#### Prerequisite Approvals

None.

#### Defined Terms in the NERC Glossary

The RCSDT proposes the following new definitions:

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

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

#### Conforming Changes to Requirements in Already Approved Standards

The RCSDT proposes retiring COM-001-1.1 Requirement R5 as it is redundant with EOP-008-0, Requirement R1 as well as EOP-008-1 Requirement R1.

#### Revisions to Approved Standards and Definitions

The RCSDT revised the COM-001-1.1 standard proposes retiring four Requirements (R1, R4, R5, and R6). The COM-001-1.1 standard, Requirement R1 is proposed for replacement with COM-001-2, Requirements R1, R2, R3, R4, R5, R6, R7, and R8 to achieve clarity to which entities are required to have to reliable communications. Requirement R2 in COM-001-1.1 will become Requirement R9 in COM-001-2. Requirement R3 in COM-001-1.1 is included within Requirement R1 of COM-001-2. Requirement R4 will remain effective until its inclusion in COM-003-1 that is currently under development in Project 2007-02 – Operating Personnel Communication Protocols. Requirement R5 in COM-001-1.1 is redundant with EOP-008-0, Requirement R1 and EOP-008-1, Requirement R1 and is

proposed for retirement upon the effective date of COM-001-2. The COM-001-1.1 standard, Requirement R6 is proposed for retirement as it is an ERO procedural requirement and does not impact reliability. Requirements R10 and R11 are new requirements. Changes were made to eliminate redundancies between standards (existing and proposed), to align with the ERO Rules of Procedure and to address known issues and certain directives in FERC Order 693.

### **Applicable Entities**

- Reliability Coordinator
- Balancing Authority
- Transmission Operator
- Generator Operator
- Distribution Provider

### **Effective Date**

#### **New or Revised Standards**

COM-001-2      The first day of the second calendar quarter beyond the date that this standard is approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter beyond the date this standard is approved by the NERC Board of Trustees, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

#### **Standard for Retirement**

COM-001-1.1, Requirements R1, R2, R3, R5, and R6      Midnight of the day immediately prior to the Effective Date of COM-001-2 in the particular Jurisdiction in which the new standard is becoming effective. Note: Requirement R4 will remain effective until its inclusion in the standard COM-003-1 currently under development.

## New or Revised Definitions

**Interpersonal Communication** – The first day of the second calendar quarter beyond the date that this standard is approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter beyond the date this standard is approved by the NERC Board of Trustees, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

**Alternative Interpersonal Communication** – The first day of the second calendar quarter beyond the date that this standard is approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter beyond the date this standard is approved by the NERC Board of Trustees, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

**Revisions or Retirements to Already Approved Standards**

The following tables identify the sections of approved standards that shall be retired or revised when this standard becomes effective. If the drafting team is recommending the retirement or revision of a requirement, that text is [blue](#).

Already Approved Standard	Proposed Replacement Requirement(s)
<p><b>COM-001-1.1</b></p> <p><b>R1.</b> Each Reliability Coordinator, Transmission Operator and Balancing Authority shall provide adequate and reliable telecommunications facilities for the exchange of Interconnection and operating information: <i>[Violation Risk Factor: High]</i></p> <p><b>R1.1.</b> Internally. <i>[Violation Risk Factor: High]</i></p> <p><b>R1.2.</b> Between the Reliability Coordinator and its Transmission Operators and Balancing Authorities. <i>[Violation Risk Factor: High]</i></p> <p><b>R1.3.</b> With other Reliability Coordinators, Transmission Operators, and Balancing Authorities as necessary to maintain reliability. <i>[Violation Risk Factor: High]</i></p> <p><b>R1.4.</b> Where applicable, these facilities shall be redundant and diversely routed. <i>[Violation Risk Factor: High]</i></p>	<p><b>COM-001-2</b></p> <p><b>R1.</b> Each Reliability Coordinator shall have Interpersonal Communication capability with the following entities (unless the Reliability Coordinator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <p><b>R1.1.</b> All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.</p> <p><b>R1.2.</b> Each adjacent Reliability Coordinator within the same Interconnection.</p> <p><b>R2.</b> Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <p><b>R2.1.</b> All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.</p> <p><b>R2.2.</b> Each adjacent Reliability Coordinator within the same Interconnection.</p> <p><b>R3.</b> Each Transmission Operator shall have Interpersonal</p>

Already Approved Standard	Proposed Replacement Requirement(s)
	<p>Communication capability with the following entities (unless the Reliability Coordinator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <ul style="list-style-type: none"> <li><b>R3.1.</b> Its Reliability Coordinator.</li> <li><b>R3.2.</b> Each Balancing Authority within its Transmission Operator Area.</li> <li><b>R3.3.</b> Each Distribution Provider within its Transmission Operator Area.</li> <li><b>R3.4.</b> Each Generator Operator within its Transmission Operator Area.</li> <li><b>R3.5.</b> Each adjacent Transmission Operator synchronously connected.</li> <li><b>R3.6.</b> Each adjacent Transmission Operator asynchronously connected.</li> </ul> <p><b>R4.</b> Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <ul style="list-style-type: none"> <li><b>R4.1.</b> Its Reliability Coordinator.</li> <li><b>R4.2.</b> Each Balancing Authority within its Transmission Operator Area.</li> </ul>

Already Approved Standard	Proposed Replacement Requirement(s)
	<p><b>R4.3.</b> Each adjacent Transmission Operator synchronously connected.</p> <p><b>R4.4.</b> Each adjacent Transmission Operator asynchronously connected.</p>
<p><b>Notes:</b> The requirements were made clearer as to which capabilities specific entities were required to have to reliable communications.</p>	
<p><b>COM-001-1.1</b></p> <p><b>R1.</b> Each Reliability Coordinator, Transmission Operator and Balancing Authority shall provide adequate and reliable telecommunications facilities for the exchange of Interconnection and operating information: <i>[Violation Risk Factor: High]</i></p> <ul style="list-style-type: none"> <li><b>R1.1.</b> Internally. <i>[Violation Risk Factor: High]</i></li> <li><b>R1.2.</b> Between the Reliability Coordinator and its Transmission Operators and Balancing Authorities. <i>[Violation Risk Factor: High]</i></li> <li><b>R1.3.</b> With other Reliability Coordinators, Transmission Operators, and Balancing Authorities as necessary to maintain reliability. <i>[Violation Risk Factor: High]</i></li> <li><b>R1.4.</b> Where applicable, these facilities shall be redundant and diversely routed. <i>[Violation Risk Factor: High]</i></li> </ul>	<p><b>COM-001-2</b></p> <p><b>R5.</b> Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Reliability Coordinator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <ul style="list-style-type: none"> <li><b>R5.1.</b> Its Reliability Coordinator.</li> <li><b>R5.2.</b> Each Transmission Operator that operates Facilities within its Balancing Authority Area.</li> <li><b>R5.3.</b> Each Distribution Provider within its Balancing Authority Area.</li> <li><b>R5.4.</b> Each Generator Operator that operates Facilities within its Balancing Authority Area.</li> <li><b>R5.5.</b> Each Adjacent Balancing Authority.</li> </ul> <p><b>R6.</b> Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: <i>[Violation Risk Factor: High][Time Horizon: Real-time</i></p>

Already Approved Standard	Proposed Replacement Requirement(s)
	<p><i>Operations]</i></p> <p><b>R6.1.</b> Its Reliability Coordinator.</p> <p><b>R6.2.</b> Each Transmission Operator that operates Facilities within its Balancing Authority Area.</p> <p><b>R6.3.</b> Each Adjacent Balancing Authority.</p> <p><b>R7.</b> Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Reliability Coordinator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <p><b>R7.1.</b> Its Transmission Operator.</p> <p><b>R7.2.</b> Its Balancing Authority.</p> <p><b>R8.</b> Each <b>Generator Operator</b> shall have Interpersonal Communication capability with the following entities (unless the Reliability Coordinator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <p><b>R8.1.</b> Its Balancing Authority.</p> <p><b>R8.2.</b> Its Transmission Operator.</p>
<p><b>Notes:</b> The requirements we made clearer as to which capabilities specific entities were required to have for reliable interpersonal communications. Requirements R7 and R8 were created to address the FERC directive (Order No. 693, P508) to “(1) expand the applicability to include generator operators and distribution providers and includes Requirements for their telecommunications facilities;”</p>	

Already Approved Standard	Proposed Replacement Requirement(s)
<p><b>COM-001-1.1</b></p> <p><b>R2.</b> Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall <b>manage, alarm, test and/or actively monitor vital telecommunications facilities. Special attention shall be given to emergency telecommunications facilities and equipment not used for routine communications.</b> <i>[Violation Risk Factor: Medium]</i></p>	<p><b>COM-001-2</b></p> <p><b>R9.</b> Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall <b>test its Alternative Interpersonal Communication capability at least once each calendar month. If the test is unsuccessful, the responsible entity shall initiate action to repair or designate a replacement Alternative Interpersonal Communication capability within 2 hours.</b> <i>[Violation Risk Factor: Medium][Time Horizon: Real-time Operations]</i></p>
<p><b>Notes:</b></p>	
<p><b>COM-001-1.1</b></p> <p><b>R3.</b> Each Reliability Coordinator, Transmission Operator and Balancing Authority shall <b>provide a means to coordinate telecommunications among their respective areas. This coordination shall include the ability to investigate and recommend solutions to telecommunications problems within the area and with other areas.</b> <i>[Violation Risk Factor: Lower]</i></p>	<p><b>COM-001-2</b></p> <p><b>R1.</b> Each Reliability Coordinator shall have Interpersonal Communication capability with the following entities: <i>[Violation Risk Factor: High][Time Horizon: Real-time Operations]</i></p> <p><b>R1.1.</b> All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.</p> <p><b>R1.2.</b> Each adjacent Reliability Coordinator within the same Interconnection.</p>
<p><b>Notes:</b></p>	
<p><b>COM-001-1.1</b></p> <p><b>R4.</b> Unless agreed to otherwise, each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use</p>	<p><b>None - retire</b></p> <ul style="list-style-type: none"> <li>▪ This requirement is being vetted by the OPCPSDT in Project</li> </ul>



Already Approved Standard	Proposed Replacement Requirement(s)
<p>English as the language for all communications between and among operating personnel responsible for the real-time generation control and operation of the interconnected Bulk Electric System. Transmission Operators and Balancing Authorities may use an alternate language for internal operations. <i>[Violation Risk Factor: Medium]</i></p>	<p>2007-02 – Operating Personnel Communication Protocols (COM-003-1). This requirement and measure will be removed from COM-001-1.1 upon the effective date of COM-003-1.</p>
<p><b>Notes:</b></p>	
<p><b>COM-001-1.1</b></p> <p><b>R5.</b> Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have written operating instructions and procedures to enable continued operation of the system during the loss of telecommunications facilities. <i>[Violation Risk Factor: Lower]</i></p>	<p><b>EOP-008-0</b></p> <p><b>R1.</b> Each Reliability Coordinator, Transmission Operator and Balancing Authority shall have a plan to continue reliability operations in the event its control center becomes inoperable. The contingency plan must meet the following requirements:</p> <ul style="list-style-type: none"> <li><b>R1.1.</b> The contingency plan shall not rely on data or voice communication from the primary control facility to be viable.</li> <li><b>R1.2.</b> The plan shall include procedures and responsibilities for providing basic tie line control and procedures and for maintaining the status of all inter-area schedules, such that there is an hourly accounting of all schedules.</li> <li><b>R1.3.</b> The contingency plan must address monitoring and control of critical transmission facilities, generation control, voltage control, time and frequency control, control of critical substation devices, and logging of significant power system events. The plan shall list the critical facilities.</li> </ul>

Already Approved Standard	Proposed Replacement Requirement(s)
	<p><b>R1.4.</b> The plan shall include procedures and responsibilities for maintaining basic voice communication capabilities with other areas.</p> <p><b>R1.5.</b> The plan shall include procedures and responsibilities for conducting periodic tests, at least annually, to ensure viability of the plan.</p> <p><b>R1.6.</b> The plan shall include procedures and responsibilities for providing annual training to ensure that operating personnel are able to implement the contingency plans.</p> <p><b>R1.7.</b> The plan shall be reviewed and updated annually.</p> <p><b>R1.8.</b> Interim provisions must be included if it is expected to take more than one hour to implement the contingency plan for loss of primary control facility.</p> <p><b>EOP-008-1</b></p> <p><b>R1.</b> Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum: [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]</p> <p><b>1.1.</b> The location and method of implementation for providing backup functionality for the time it takes to restore the</p>

Already Approved Standard	Proposed Replacement Requirement(s)
	<p>primary control center functionality.</p> <p><b>1.2.</b> A summary description of the elements required to support the backup functionality. These elements shall include, at a minimum:</p> <p><b>1.2.1.</b> Tools and applications to ensure that System Operators have situational awareness of the BES.</p> <p><b>1.2.2.</b> Data communications.</p> <p><b>1.2.3.</b> Voice communications.</p> <p><b>1.2.4.</b> Power source(s).</p> <p><b>1.2.5.</b> Physical and cyber security.</p> <p><b>1.3.</b> An Operating Process for keeping the backup functionality consistent with the primary control center.</p> <p><b>1.4.</b> Operating Procedures, including decision authority, for use in determining when to implement the Operating Plan for backup functionality.</p> <p><b>1.5.</b> A transition period between the loss of primary control center functionality and the time to fully implement the backup functionality that is less than or equal to two hours.</p> <p><b>1.6.</b> An Operating Process describing the actions to be taken during the transition period between the loss of primary control center functionality and the time to fully implement backup functionality elements identified in Requirement R1, Part 1.2. The Operating Process shall include at a minimum:</p>

Already Approved Standard	Proposed Replacement Requirement(s)
	<p><b>1.6.1.</b> A list of all entities to notify when there is a change in operating locations.</p> <p><b>1.6.2.</b> Actions to manage the risk to the BES during the transition from primary to backup functionality as well as during outages of the primary or backup functionality.</p> <p><b>1.6.3.</b> Identification of the roles for personnel involved during the initiation and implementation of the Operating Plan for backup functionality.</p>
<p><b>Notes:</b> The RCSDT proposes retiring COM-001-1.1, Requirement R5 as it is redundant with EOP-008-0, Requirement R1 as well as EOP-008-1 Requirement R1.</p>	
<p><b>COM-001-1.1</b></p> <p><b>R6.</b> Each NERCNet User Organization shall adhere to the requirements in Attachment 1-COM-001, “NERCNet Security Policy.” <i>[Violation Risk Factor: Lower]</i></p>	<p><b>None – retire</b></p>
<p><b>Notes:</b> The RCSDT is recommending that R6 be retired. This is an ERO procedural issue and should not be in a reliability standard. It should be included in the ERO Rules of Procedure.</p>	
<p><b>None</b></p>	<p><b>New Requirement</b></p> <p><b>R10.</b> Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall notify entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication</p>

Already Approved Standard	Proposed Replacement Requirement(s)
	capability that lasts 30 minutes or longer. <i>[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</i>
None	<p><b>New Requirement</b></p> <p><b>R11.</b>Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capabilities shall consult with their Transmission Operator or Balancing Authority to determine a mutually agreeable action to restore the Interpersonal Communication capability. <i>[Violation Risk Factor: Medium][Time Horizon: Real-time Operations]</i></p>
Notes:	

**Functions that Must Comply with the Requirements in the Standards**

Standard	Functions that Must Comply With the Requirements							
	Reliability Coordinator	Balancing Authority	Purchasing Selling Entity	Transmission Operator	Transmission Service Provider	Load Serving Entity	Generator Operator	Distribution Provider
COM-001-2 Communications	X	X		X	X		X	X